



Seneca Road

AIR QUALITY IMPACT ANALYSIS

CITY OF ADELANTO

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LIST OF ABBREVIATED TERMS

| | |
|--------------------------|---|
| (1) | Reference |
| $\mu\text{g}/\text{m}^3$ | Microgram per Cubic Meter |
| AQIA | Air Quality Impact Analysis |
| AQMD | Air Quality Management District |
| AQMP | Air Quality Management Plan |
| BACM | Best Available Control Measures |
| CAA | Federal Clean Air Act |
| CAAQS | California Ambient Air Quality Standards |
| CalEEMod | California Emissions Estimator Model |
| CAPCOA | California Air Pollution Control Officers Association |
| CARB | California Air Resources Board |
| CCR | California Code of Regulations |
| CEQA | California Environmental Quality Act |
| CO | Carbon Monoxide |
| EPA | Environmental Protection Agency |
| MDAQMD | Mojave Desert Air Quality Management District |
| MDAB | Mojave Desert Air Basin |
| 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 | Seneca Road |
| ROG | Reactive Organic Gases |
| SCAQMD | South Coast Air Quality Management District |
| SIPs | State Implementation Plans |
| TAC | Toxic Air Contaminant |

EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Seneca Road 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 before and after any required mitigation measures (MM) described below.

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

MDAQMD Rules that are currently applicable during construction activity for this Project include but are not limited to: Rule 403 (Fugitive Dust) (2); Rule 1113 (Architectural Coatings) (3). It should be noted that these Rules represent Best Available Control Measures (BACMs) and are not mitigation since they are regulatory requirements.

RULE 403

The following measures shall be incorporated into Project plans and specifications as implementation of Rule 403 (2).

- 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.

RULE 1113

The following measures shall be incorporated into Project plans and specifications as implementation of MDAQMD Rule 1113 (3).

- Only “Low-Volatile Organic Compounds (VOC)” paints consistent with MDAQMD Rule 1113 shall be used.

ES.3 CONSTRUCTION-SOURCE MITIGATION MEASURES

Project construction emissions would not exceed applicable MDAQMD regional thresholds of significance. Therefore, Project construction-source emissions would be considered less than significant on a project-specific and cumulative basis.

ES.4 OPERATIONAL-SOURCE MITIGATION MEASURES

Project operational emissions would not exceed applicable MDAQMD regional or local thresholds of significance. Therefore, Project operational-source emissions would be considered less than significant on a project-specific and cumulative basis.

1 INTRODUCTION

This report presents the results of the air quality impact analysis (AQIA) prepared by Urban Crossroads, Inc., for the proposed Seneca Road (“Project”). The purpose of this AQIA is to evaluate the potential air quality impacts associated with construction and operation of the proposed Project and identify measures, as necessary, to reduce emissions in comparison to thresholds established by the Mojave Desert Air Quality Management District (MDAQMD).

1.1 SITE LOCATION

The proposed Seneca Road Project is located at the southeast corner of Pearmain Street and Seneca Road (APN 3103-511-08) in the City of Adelanto as shown on Exhibit 1-A.

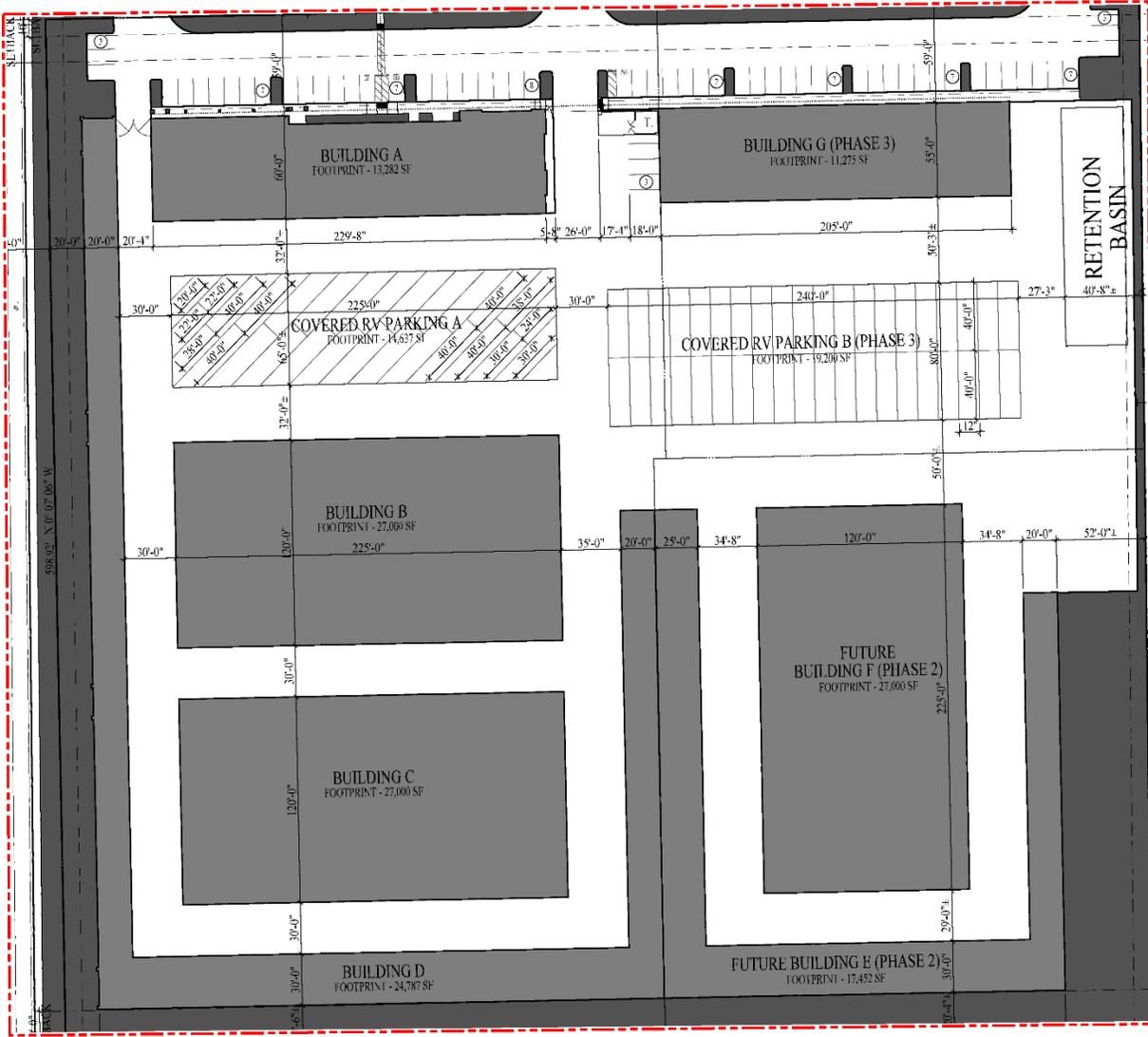
1.2 PROJECT DESCRIPTION

The proposed Project is to consist of a 4,700-sf strip retail plaza, a 4,700-sf office, a 139,000-sf self-storage building, and 68 RV parking spaces on approximately 8.75 acres, as shown in Exhibit 1-B. The Project is anticipated to have an Opening Year of 2026.

EXHIBIT 1-A: LOCATION MAP



EXHIBIT 1-B: SITE PLAN



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 Site Boundary

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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 CRITERIA POLLUTANTS

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 (4):

TABLE 2-1: CRITERIA POLLUTANTS

| Criteria Pollutant | Description | Sources | Health Effects |
|----------------------|--|--|--|
| Carbon Monoxide (CO) | 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 (O ₃), motor vehicles operating at slow speeds are the primary source of CO in the MDAB. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections. | Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating. | Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with oxygen transport and competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia |

| Criteria Pollutant | Description | Sources | Health Effects |
|-----------------------------------|---|---|--|
| | | | (oxygen deficiency) as seen at high altitudes. |
| Sulfur Dioxide (SO ₂) | SO ₂ 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 SO ₂ oxidizes in the atmosphere, it forms sulfates (SO ₄). Collectively, these pollutants are referred to as sulfur oxides (SO _x) | Coal or oil burning power plants and industries, refineries, diesel engines | <p>A few minutes of exposure to low levels of SO₂ can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO₂. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO₂.</p> <p>Animal studies suggest that despite SO₂ being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.</p> <p>Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO₂ levels. In these studies, efforts to separate the effects of SO₂ from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically, or one pollutant alone is the predominant factor.</p> |

| Criteria Pollutant | Description | Sources | Health Effects |
|--------------------|---|---|--|
| NO _x | <p>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 monitoring stations.</p> | <p>Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.</p> | <p>Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants) is associated with long-term exposure to NO₂ at levels found in homes with gas stoves, which can result in concentrations that are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO₂ in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups.</p> <p>In animals, exposure to levels of NO₂ considerably higher than ambient concentrations result in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of O₃ exposure increases when animals are exposed to a combination of O₃ and NO₂.</p> |
| O ₃ | <p>Ozone (O₃) is a highly reactive and unstable gas that is formed when volatile organic compounds (VOCs) and NO_x, both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. O₃</p> | <p>Formed when reactive organic gases (ROG) and nitrogen oxides react in the presence of sunlight. ROG sources</p> | <p>Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible sub-groups for O₃ effects. Short-</p> |

| Criteria Pollutant | Description | Sources | Health Effects |
|--------------------|---|---|---|
| | <p>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.</p> | <p>include any source that burns fuels, (e.g., gasoline, natural gas, wood, or oil) as well as the use of solvents, petroleum processing and storage, and pesticides.</p> | <p>term exposure (lasting for a few hours) to O₃ at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated O₃ levels are associated with increased school absences. In recent years, a correlation between elevated ambient O₃ levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple outdoor sports and live in communities with high O₃ levels.</p> <p>O₃ exposure under exercising conditions is known to increase the severity of the responses described above. Animal studies suggest that exposure to a combination of pollutants that includes O₃ may be more toxic than exposure to O₃ alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.</p> |
| Particulate Matter | <p>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. Particulate matter pollution is a</p> | <p>Sources of PM₁₀ include road dust, windblown dust and construction. Also formed from other pollutants (acid</p> | <p>A consistent correlation between elevated ambient fine particulate matter (PM₁₀ and PM_{2.5}) levels and an increase in mortality rates, respiratory infections,</p> |

| Criteria Pollutant | Description | Sources | Health Effects |
|----------------------------------|---|---|--|
| | <p>major cause of reduced visibility (haze) which is caused by the scattering of light and consequently the significant reduction air clarity. 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. Additionally, it should be noted that PM₁₀ is considered a criteria air pollutant.</p> <p>PM_{2.5} (Particulate Matter less than 2.5 microns): A similar air pollutant to PM₁₀ 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 released from power plants and industrial facilities and nitrates that are formed from NO_x released 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.</p> | <p>rain, NO_x, SO_x, organics). Incomplete combustion of any fuel.</p> <p>PM_{2.5} comes from fuel combustion in motor vehicles, equipment and industrial sources, residential and agricultural burning. Also formed from reaction of other pollutants (acid rain, NO_x, SO_x, organics).</p> | <p>number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in lifespan, and an increased mortality from lung cancer.</p> <p>Daily fluctuations in PM_{2.5} concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in healthy children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long term exposure to particulate matter.</p> <p>The elderly, people with pre-existing respiratory or cardiovascular disease, and children appear to be more susceptible to the effects of high levels of PM₁₀ and PM_{2.5}.</p> |
| Volatile Organic Compounds (VOC) | <p>VOCs 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</p> | <p>Organic chemicals are widely used as ingredients in household products. Paints, varnishes and wax all contain organic solvents, as do many cleaning, disinfecting, cosmetic, degreasing and</p> | <p>Breathing VOCs can irritate the eyes, nose and throat, can cause difficulty breathing and nausea, and can damage the central nervous system as well as other organs. Some VOCs can cause cancer. Not all VOCs have all these health effects, though many have several.</p> |

| Criteria Pollutant | Description | Sources | Health Effects |
|--------------------|---|---|--|
| | <p>react at the same speed or do not form O₃ 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. VOCs are a criteria pollutant since they are a precursor to O₃, which is a criteria pollutant. The terms VOC and ROG interchangeable.</p> | <p>hobby products. Fuels are made up of organic chemicals. All of these products can release organic compounds while you are using them, and, to some degree, when they are stored.</p> | |
| <p>Lead (Pb)</p> | <p>Lead is a heavy metal that is highly persistent in the environment and is considered a criteria pollutant. In the past, the primary source of lead in the air was emissions from vehicles burning leaded gasoline. The major sources of lead emissions are ore and metals processing, particularly lead smelters, and piston-engine aircraft operating on leaded aviation gasoline. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. It should be noted that the Project does not include operational activities such as metal processing or lead acid battery manufacturing. As such, the Project is not anticipated to generate a quantifiable amount of lead emissions.</p> | <p>Metal smelters, resource recovery, leaded gasoline, deterioration of lead paint.</p> | <p>Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased Pb levels are associated with increased blood pressure.</p> <p>Pb poisoning can cause anemia, lethargy, seizures, and death; although it appears that there are no direct effects of Pb on the respiratory system. Pb can be stored in the bone from early age environmental exposure, and elevated blood Pb levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of Pb because of previous environmental Pb exposure of their mothers.</p> |

| Criteria Pollutant | Description | Sources | Health Effects |
|--------------------|---|---|--|
| Odor | Odor means the perception experienced by a person when one or more chemical substance in the air come into contact with the human olfactory nerves. | Odors can come from many sources including animals, human activities, industry, nature, and vehicles. | Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, studies have shown that the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress. |

2.4 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 2-2 (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 2-2. 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. All others are not to be equaled or exceeded. It should be noted that the three-year period is presented for informational purposes and is not the basis for how the State assigns attainment status. Attainment status for a pollutant means that the Air District meets the standards set by the United States EPA or the California EPA (CalEPA). Conversely, nonattainment means that an area has monitored air quality that does not meet the NAAQS or CAAQS standards. In order to improve air quality in nonattainment areas, a State Implementation Plan (SIP) is drafted by CARB. The SIP outlines the measures that the State will take to improve air quality. Once nonattainment areas meet the standards and additional redesignation requirements, the EPA will designate the area as a maintenance area (6).

TABLE 2-2: 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 2-2: 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)

2.5 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 (7). On January 25, 2024, California Air Resources Board (CARB) adopted the 2023 amendments to the State and national area designations. See Table 2-3 for attainment designations for the MDAB (8). Appendix 2.1 provides geographic representation of the state and federal attainment status for applicable criteria pollutants within the MDAB.

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

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

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

2.6 LOCAL AIR QUALITY

Relative to the Project site, the nearest long-term air quality monitoring site for O₃, NO₂, PM₁₀ and PM_{2.5} was obtained from the MDAQMD Victorville-Park Avenue, located approximately 4.33 miles east of the project site in Victorville. It should be noted that the data for CO was not available at MDAQMD Victorville-Park Avenue nor the nearest alternative monitoring station, MDAQMD Hesperia-Olive Street.

The most recent three (3) years of data available is shown on Table 2-4 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, 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) (9) (10). Data for SO₂ has been omitted as attainment is regularly met and few monitoring stations measure SO₂ concentrations.

TABLE 2-4: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2020-2022

| Pollutant | Standard | Year | | |
|--|-------------------------|-------|-------|-------|
| | | 2020 | 2021 | 2022 |
| O ₃ | | | | |
| Maximum Federal 1-Hour Concentration (ppm) | | 0.112 | 0.112 | 0.100 |
| Maximum Federal 8-Hour Concentration (ppm) | | 0.094 | 0.098 | 0.090 |
| Number of Days Exceeding State 1-Hour Standard | > 0.09 ppm | 4 | 8 | 3 |
| Number of Days Exceeding State/Federal 8-Hour Standard | > 0.070 ppm | 38 | 35 | 49 |
| CO | | | | |
| Maximum Federal 1-Hour Concentration | > 35 ppm | -- | -- | -- |
| Maximum Federal 8-Hour Concentration | > 20 ppm | -- | -- | -- |
| NO ₂ | | | | |
| Maximum Federal 1-Hour Concentration | > 0.100 ppm | 59.4 | 56.6 | 53.5 |
| Annual Federal Standard Design Value | | 13 | 13 | 13 |
| PM ₁₀ | | | | |
| Maximum Federal 24-Hour Concentration (µg/m ³) | > 150 µg/m ³ | 261.4 | 591.6 | 372.1 |
| Annual Federal Arithmetic Mean (µg/m ³) | | 34.0 | 33.9 | 33.6 |
| Number of Days Exceeding Federal 24-Hour Standard | > 150 µg/m ³ | 2 | 1 | 2 |
| Number of Days Exceeding State 24-Hour Standard | > 50 µg/m ³ | -- | -- | -- |
| PM _{2.5} | | | | |
| Maximum Federal 24-Hour Concentration (µg/m ³) | > 35 µg/m ³ | 48.4 | 87.1 | 24.6 |
| Annual Federal Arithmetic Mean (µg/m ³) | > 12 µg/m ³ | 9.7 | 10.2 | 8.9 |
| Number of Days Exceeding Federal 24-Hour Standard | > 35 µg/m ³ | 4 | 1 | 0 |

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

2.7 REGULATORY BACKGROUND

2.7.1 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) (13) (14). 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 Pb. The NAAQS were amended in July 1997 to include an additional standard for O₃ and to adopt a NAAQS for PM_{2.5}. Table 2-3 (previously presented) provides the NAAQS within the MDAB. 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 NO_x. NO_x is a collective term that includes all forms of NO_x which are emitted as byproducts of the combustion process.

2.7.2 CALIFORNIA REGULATIONS

CARB

CARB, which became part of the CalEPA 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. AB 2595 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. CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for SO₄, visibility, hydrogen sulfide (H₂S), and vinyl chloride (C₂H₃Cl). However, at this time, H₂S and C₂H₃Cl 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 (15) (16).

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 (AQMP) 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

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code 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 August 1, 2009, and is administered by the California Building Standards Commission (BSC).

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards, effective as of January 1, 2023. The California Energy Commission (CEC) anticipates that the 2022 California Green Building Code will provide \$1.5 billion in consumer benefits and reduce GHG emissions by 10 million metric tons (17). The Project would be required to comply with the applicable California Green Building Code Standards in place at the time plan check submittals for the Project are made. These require, among other items (18):

NONRESIDENTIAL MANDATORY MEASURES

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- EV charging stations. New construction shall facilitate the future installation of EV supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. The number of spaces to be provided for is contained in Table 5.106.5.3.3 (5.106.5.3). Additionally, Table 5.106.5.4.1 specifies requirements for the installation of raceway conduit and panel power requirements for medium- and heavy-duty EV supply equipment for warehouses, grocery stores, and retail stores.
- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, upright and glare ratings per Table 5.106.8 (5.106.8).

-
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1). It should be noted that pursuant to PDF Solid Waste Reduction, the project would exceed this measure by implementing a 75% waste diversion program.
 - Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reuse or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
 - Recycling by Occupants. 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 (5.410.1).
 - 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 (5.303.3.1)
 - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
 - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). 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 (5.303.3.3.2).
 - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).
 - Outdoor potable water uses in landscaped areas. Nonresidential developments 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 (5.304.1).
 - Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 square feet (sf) or for excess consumption where any tenant within a new building or within an addition that is project to consume more than 1,000 gallons per day (GPD) (5.303.1.1 and 5.303.1.2).
 - Outdoor water uses in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).

-
- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

2.7.3 AIR QUALITY MANAGEMENT PLANNING

Currently, the NAAQS and CAAQS are exceeded in most parts of the MDAB. The NAAQS, the Project region within the MDAB is in nonattainment for O₃ (8-hour) and PM₁₀. For the CAAQS, the Project region within the MDAB is in nonattainment for O₃ (1-hour and 8-hour) and PM₁₀. In response, the MDAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards (19). 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 (20):

- 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 (21).

TABLE 3-1: MAXIMUM REGIONAL DAILY EMISSIONS THRESHOLDS

| Pollutant | Daily Threshold (lbs/day) |
|-------------------|---------------------------|
| 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 MODELS EMPLOYED TO ANALYZE AIR QUALITY EMISSIONS

3.3.1 CALHEMOD

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

In May 2022 California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including MDAQMD, released the latest version of CalHEMOD version 2022.1. 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 measures (22). Accordingly, the latest version of CalHEMOD 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 Appendix 3.1.

3.4 CONSTRUCTION EMISSIONS

3.4.1 CONSTRUCTION ACTIVITIES

Construction activities associated with the Project will result in emissions of VOCs, NO_x, CO, 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

GRADING ACTIVITIES

Dust is typically a major concern during 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.). CalHEMOD was utilized to calculate fugitive dust emissions resulting from this phase of activity. Per client provided data, this analysis assumes that earthwork activities are expected to balance on site and no import or export of soils would be required.

ON-ROAD TRIPS

Construction generates on-road vehicle emissions from vehicle usage for workers, hauling, and vendors commuting to and from the site. The number of workers, hauling, and vendor trips are presented below in Table 3-2. It should be noted that for vendor trips, specifically, CalHEMOD only assigns vendor trips to the Building Construction phase. Vendor trips would likely occur during all

phases of construction. As such, the CalEEMod defaults for vendor trips have been adjusted based on a ratio of the total vendor trips to the number of days of each subphase of activity.

TABLE 3-2: CONSTRUCTION TRIP ASSUMPTIONS

| Construction Activity | Worker Trips Per Day | Vendor Trips Per Day | Hauling Trips Per Day |
|-----------------------|----------------------|----------------------|-----------------------|
| Site Preparation | 28 | 1 | 0 |
| Grading | 23 | 2 | 0 |
| Building Construction | 61 | 21 | 0 |
| Paving | 15 | 0 | 0 |
| Architectural Coating | 12 | 0 | 0 |

3.4.2 CONSTRUCTION DURATION

Construction is expected to commence in April 2025 and will last through December 2026. Construction duration by phase is shown on Table 3-3. 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.

TABLE 3-3: CONSTRUCTION DURATION

| Construction Activity | Start Date | End Date | Days |
|-----------------------|------------|------------|------|
| Site Preparation | 4/1/2025 | 4/24/2025 | 18 |
| Grading | 4/25/2025 | 6/13/2025 | 36 |
| Building Construction | 6/16/2025 | 12/30/2026 | 403 |
| Paving | 11/10/2026 | 12/30/2026 | 37 |
| Architectural Coating | 11/10/2026 | 12/30/2026 | 37 |

Source: Construction schedule based on CalEEMod default parameters.

3.4.3 CONSTRUCTION EQUIPMENT

Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 3-4 would operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the City Code.

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 3-4: CONSTRUCTION EQUIPMENT ASSUMPTIONS

| Construction Activity | Equipment ¹ | Amount | Hours Per Day |
|-----------------------|---------------------------|--------|---------------|
| Site Preparation | Rubber Tired Dozers | 3 | 8 |
| | Crawler Tractors | 4 | 8 |
| Grading | Excavators | 2 | 8 |
| | Graders | 1 | 8 |
| | Rubber Tired Dozers | 1 | 8 |
| | Crawler Tractors | 2 | 8 |
| Building Construction | Cranes | 1 | 8 |
| | Forklifts | 3 | 8 |
| | Generator Sets | 1 | 8 |
| | Tractors/Loaders/Backhoes | 3 | 8 |
| | Welders | 1 | 8 |
| Paving | Pavers | 2 | 8 |
| | Paving Equipment | 2 | 8 |
| | Rollers | 2 | 8 |
| Architectural Coating | Air Compressors | 1 | 8 |

¹ In order to account for fugitive dust emissions, Crawler Tractors were used in lieu of Tractors/Loaders/Backhoes during the site preparation and grading phases of Project construction.

3.4.4 CONSTRUCTION EMISSIONS SUMMARY

IMPACTS WITHOUT MITIGATION

The estimated maximum daily construction emissions without mitigation are summarized on Table 3-5. Detailed construction model outputs are presented in Appendix 3.1. Under the assumed scenarios, emissions resulting from the Project construction would not exceed criteria pollutant thresholds established by the MDAQMD.

TABLE 3-5: EMISSIONS SUMMARY OF CONSTRUCTION (WITHOUT MITIGATION)

| Year | Emissions (lbs/day) | | | | | |
|--------|---------------------|-----------------|-------|-----------------|------------------|-------------------|
| | VOC | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| Summer | | | | | | |
| 2025 | 4.15 | 37.58 | 33.90 | 0.05 | 7.83 | 4.52 |
| 2026 | 1.47 | 11.60 | 19.08 | 0.03 | 1.40 | 0.62 |

| Year | Emissions (lbs/day) | | | | | |
|--------------------------------|---------------------|-----------------|--------------|-----------------|------------------|-------------------|
| | VOC | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| Winter | | | | | | |
| 2025 | 1.51 | 12.36 | 17.87 | 0.03 | 1.46 | 0.68 |
| 2026 | 23.20 | 20.06 | 30.36 | 0.05 | 2.11 | 1.03 |
| Maximum Daily Emissions | 23.20 | 37.58 | 33.90 | 0.05 | 7.83 | 4.52 |
| SCAQMD Regional Threshold | 75 | 100 | 550 | 150 | 150 | 55 |
| Threshold Exceeded? | NO | NO | NO | NO | NO | NO |

Source: CalEEMod construction-source (unmitigated) emissions are presented in Appendix 3.1.

3.5 OPERATIONAL EMISSIONS

Operational activities associated with the 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 will be subject to emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings as part of Project maintenance. The emissions associated with architectural coatings were calculated using CalEEMod standard assumptions for the Project and the allowed land use.

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. It should be noted that as October 9, 2021, Governor Gavin Newsom signed AB 1346. The bill aims to ban the sale of new gasoline-powered equipment under 25 gross horsepower (known as small off-road engines [SOREs]) by January 1, 2024, which is now in effect.

For purposes of analysis, 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 are excluded from the evaluation of significance. Electricity and natural gas usage associated with the Project were calculated by CalEEMod using default parameters.

3.5.3 MOBILE SOURCE EMISSIONS

The Project-related operational air quality emissions derive primarily from vehicle trips generated by the Project, including employee trips to and from the site associated with the proposed uses. Trip characteristics available from the *Adelanto Trip Generation Analysis* (Translutions) were utilized in this analysis (23).

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 standard assumptions.

3.5.4 OPERATIONAL EMISSIONS SUMMARY

Operational-source emissions are summarized on Table 3-6. Detailed operational model outputs are presented in Appendix 3.1. 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 3-6: SUMMARY OF PEAK OPERATIONAL EMISSIONS

| Source | Emissions (lbs/day) | | | | | |
|--|---------------------|-----------------|--------------|-----------------|------------------|-------------------|
| | VOC | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| Summer | | | | | | |
| Mobile Source | 3.51 | 2.90 | 26.57 | 0.06 | 5.06 | 1.32 |
| Area Source | 4.46 | 0.05 | 6.45 | 0.00 | 0.01 | 0.01 |
| Energy Source | 0.06 | 1.07 | 0.90 | 0.01 | 0.08 | 0.08 |
| Project Maximum Daily Emissions | 8.02 | 4.02 | 33.92 | 0.07 | 5.15 | 1.41 |
| SCAQMD Regional Threshold | 55 | 55 | 550 | 150 | 150 | 55 |

| Source | Emissions (lbs/day) | | | | | |
|--|---------------------|-----------------|--------------|-----------------|------------------|-------------------|
| | VOC | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| Threshold Exceeded? | NO | NO | NO | NO | NO | NO |
| Winter | | | | | | |
| Mobile Source | 3.07 | 3.12 | 20.84 | 0.05 | 5.06 | 1.32 |
| Area Source | 3.40 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy Source | 0.06 | 1.07 | 0.90 | 0.01 | 0.08 | 0.08 |
| Project Maximum Daily Emissions | 6.53 | 4.19 | 21.74 | 0.06 | 5.14 | 1.40 |
| SCAQMD Regional Threshold | 55 | 55 | 550 | 150 | 150 | 55 |
| Threshold Exceeded? | NO | NO | NO | NO | NO | NO |

Source: CalEEMod operational-source emissions are presented in 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 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 MDAB was designated nonattainment under the CAAQS and NAAQS for CO (24).

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 MDAB is now designated as attainment. To establish a more accurate record of baseline CO concentrations affecting the MDAB, 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 3-7.

TABLE 3-7: CO MODEL RESULTS

| Intersection Location | CO Concentrations (ppm) | | |
|--|-------------------------|------------------|--------|
| | Morning 1-hour | Afternoon 1-hour | 8-hour |
| Wilshire Boulevard/Veteran Avenue | 4.6 | 3.5 | 3.7 |
| Sunset Boulevard/Highland Avenue | 4 | 4.5 | 3.5 |
| La Cienega Boulevard/Century Boulevard | 3.7 | 3.1 | 5.2 |
| Long Beach Boulevard/Imperial Highway | 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.

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (*1992 CO Plan*)², peak carbon monoxide concentrations in the MDAB 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 8-hr 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 (25). In contrast, an adverse CO concentration, known as a “hot spot”, would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

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 (vph)—or 24,000 vph where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (26). Traffic volumes generating the CO concentrations for the “hot spot” analysis is shown on Table 3-8. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vph and AM/PM traffic volumes of 8,062 vph and 7,719 vph respectively (25). 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)³.

TABLE 3-8: TRAFFIC VOLUMES

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

Source: 2003 AQMP

² The 1992 and 2003 analyses from SCAQMD are the most current CO hotspot evaluations they have conducted.

³ Based on the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm)

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 City of Adelanto General Plan designates the Project site for “General Commercial (C)” uses. The “C” designation allows for retail centers that serve community-wide needs and neighborhood needs such as “big box” stores, furniture stores, appliance and home electronics retailers, movie theatres, service commercial businesses, professional business offices, restaurants, etc. (27).

As the proposed Project will consist of a 4,700-sf strip retail plaza, a 4,700-sf office, a 139,000-sf self-storage building, and 68 RV parking spaces on approximately 8.75 acres, the Project’s proposed uses are consistent with the site’s land use designations.

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, childcare centers, and athletic facilities can also be considered as sensitive receptors. The nearest sensitive receptor is an existing residence located at 11894 Cambridge Street, approximately 79 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 (21):

- 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 a 4,700-sf strip retail plaza, a 4,700-sf office, a 139,000-sf self-storage building, and 68 RV parking spaces on approximately 8.75 acres. 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 O₃, 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* (28). 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 (29). Consistent with City of Adelanto 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 Seneca Road 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 hqureshi@urbanxroads.com.

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Master of Science in Environmental Studies
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AEP – Association of Environmental Planners
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PROFESSIONAL CERTIFICATIONS

Environmental Site Assessment – American Society for Testing and Materials • June, 2013
Planned Communities and Urban Infill – Urban Land Institute • June, 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April, 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August, 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

Appendix C
Maps and Tables of Area Designations for State and National
Ambient Air Quality Standards

Appendix C

Maps and Tables of Area Designations for State and National Ambient Air Quality Standards

This attachment fulfills the requirement of Health and Safety Code section 40718 for CARB to publish maps that identify areas where one or more violations of any State ambient air quality standard (State standard) or national ambient air quality standard (national standard) have been measured. The national standards are those promulgated under section 109 of the federal Clean Air Act (42 U.S.C. 7409).

This attachment is divided into three parts. The first part comprises a table showing the levels, averaging times, and measurement methods for each of the State and national standards. This is followed by a section containing maps and tables showing the area designations for each pollutant for which there is a State standard in the California Code of Regulations, title 17, section 70200. The last section contains maps and tables showing the most current area designations for the national standards.

| 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 | 15 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 ...

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 CARB 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 SO₂ 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 SO₂ 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 CARB 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 CARB 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.

Area Designations for the State Ambient Air Quality Standards

The following maps and tables show the area designations for each pollutant with a State standard set forth in the California Code of Regulations, title 17, section 60200. Each area is identified as attainment, nonattainment, nonattainment-transitional, or unclassified for each pollutant, as shown below:

| Designation | Abbreviation |
|----------------------------|---------------------|
| Attainment | A |
| Nonattainment | N |
| Nonattainment-Transitional | NA-T |
| Unclassified | U |

In general, CARB designates areas by air basin for pollutants with a regional impact and by county for pollutants with a more local impact. However, when there are areas within an air basin or county with distinctly different air quality deriving from sources and conditions not affecting the entire air basin or county, CARB may designate a smaller area. Generally, when boundaries of the designated area differ from the air basin or county boundaries, the description of the specific area is referenced at the bottom of the summary table.

Figure 1

2023 Area Designations for State Ambient Air Quality Standards OZONE



Last Updated: November 2023
Air Quality Planning and Science Division, CARB

**Table 1
California Ambient Air Quality Standards Area Designations for
Ozone¹**

| Area | N | NA-T | U | A |
|-------------------------------|---|------|---|---|
| GREAT BASIN VALLEYS AIR BASIN | | | | |
| Alpine County | | | U | |
| Inyo County | N | | | |
| Mono County | N | | | |
| LAKE COUNTY AIR BASIN | | | | A |
| LAKE TAHOE AIR BASIN | | NA-T | | |
| MOJAVE DESERT AIR BASIN | N | | | |
| MOUNTAIN COUNTIES AIR BASIN | | | | |
| Amador County | | NA-T | | |
| Calaveras County | | NA-T | | |
| El Dorado County (portion) | N | | | |
| Mariposa County | N | | | |
| Nevada County | N | | | |
| Placer County (portion) | | NA-T | | |
| Plumas County | | | U | |
| Sierra County | | | U | |
| Tuolumne County | | NA-T | | |
| NORTH CENTRAL COAST AIR BASIN | | | | A |
| NORTH COAST AIR BASIN | | | | A |
| NORTHEAST PLATEAU AIR BASIN | | | | A |

| Area | N | NA-T | U | A |
|----------------------------------|---|------|---|---|
| SACRAMENTO VALLEY AIR BASIN | | | | |
| Butte County | | NA-T | | |
| Colusa and Glenn Counties | | | | A |
| Shasta County | N | | | |
| Sutter/Yuba Counties | | | | |
| Sutter Buttes | | NA-T | | |
| Remainder of Sutter County | | NA-T | | |
| Yuba County | | NA-T | | |
| Yolo/Solano Counties | | NA-T | | |
| Remainder of Air Basin | N | | | |
| SALTON SEA AIR BASIN | N | | | |
| SAN DIEGO AIR BASIN | N | | | |
| SAN FRANCISCO BAY AREA AIR BASIN | | NA-T | | |
| SAN JOAQUIN VALLEY AIR BASIN | N | | | |
| SOUTH CENTRAL COAST AIR BASIN | | | | |
| San Luis Obispo County | N | | | |
| Santa Barbara County | | NA-T | | |
| Ventura County | N | | | |
| SOUTH COAST AIR BASIN | N | | | |

¹ AB 3048 (Olberg) and AB 2525 (Miller) signed into law in 1996, made changes to Health and Safety Code, section 40925.5. One of the changes allows nonattainment districts to become nonattainment-transitional for ozone by operation of law.

Figure 2

**2023
Area Designations for State
Ambient Air Quality Standards
PM10**



Last Updated: November 2023
Air Quality Planning and Science Division, CARB

**Table 2
California Ambient Air Quality Standards Area Designations for
Suspended Particulate Matter (PM₁₀)**

| Area | N | U | A |
|-------------------------------|---|---|---|
| GREAT BASIN VALLEYS AIR BASIN | N | | |
| LAKE COUNTY AIR BASIN | | | A |
| LAKE TAHOE AIR BASIN | N | | |
| MOJAVE DESERT AIR BASIN | N | | |
| MOUNTAIN COUNTIES AIR BASIN | | | |
| Amador County | | U | |
| Calaveras County | N | | |
| El Dorado County (portion) | N | | |
| Mariposa County | | | |
| - Yosemite National Park | N | | |
| - Remainder of County | | U | |
| Nevada County | N | | |
| Placer County (portion) | N | | |
| Plumas County | N | | |
| Sierra County | N | | |
| Tuolumne County | | U | |

| Area | N | U | A |
|---|---|---|---|
| NORTH CENTRAL COAST AIR BASIN | N | | |
| NORTH COAST AIR BASIN | | | |
| Del Norte, Mendocino, Sonoma (portion) and Trinity Counties | | | A |
| Remainder of Air Basin | N | | |
| NORTHEAST PLATEAU AIR BASIN | | | |
| Siskiyou County | | | A |
| Remainder of Air Basin | | U | |
| SACRAMENTO VALLEY AIR BASIN | | | |
| Shasta County | | | A |
| Remainder of Air Basin | N | | |
| SALTON SEA AIR BASIN | N | | |
| SAN DIEGO AIR BASIN | N | | |
| SAN FRANCISCO BAY AREA AIR BASIN | N | | |
| SAN JOAQUIN VALLEY AIR BASIN | N | | |
| SOUTH CENTRAL COAST AIR BASIN | N | | |
| SOUTH COAST AIR BASIN | N | | |

Figure 3

**2023
Area Designations for State
Ambient Air Quality Standards
PM_{2.5}**



Last Updated: November 2023
Air Quality Planning and Science Division, CARB

**Table 3
California Ambient Air Quality Standards Area Designations for
Fine Particulate Matter (PM_{2.5})**

| Area | N | U | A |
|-------------------------------|---|---|---|
| GREAT BASIN VALLEYS AIR BASIN | | | A |
| LAKE COUNTY AIR BASIN | | | A |
| LAKE TAHOE AIR BASIN | | | A |
| MOJAVE DESERT AIR BASIN | | | A |
| MOUNTAIN COUNTIES AIR BASIN | | | |
| Plumas County | | | |
| - Portola Valley ¹ | N | | |
| - Remainder Plumas County | | U | |
| Remainder of Air Basin | | U | |
| NORTH CENTRAL COAST AIR BASIN | | | A |
| NORTH COAST AIR BASIN | | | A |
| NORTHEAST PLATEAU AIR BASIN | | | A |
| SACRAMENTO VALLEY AIR BASIN | | | |
| Butte County | | | A |
| Colusa County | | | A |
| Glenn County | | | A |
| Placer County (portion) | | | A |
| Sacramento County | | | A |
| Shasta County | | | A |
| Sutter and Yuba Counties | N | | |
| Remainder of Air Basin | | U | |

| Area | N | U | A |
|----------------------------------|---|---|---|
| SALTON SEA AIR BASIN | | | |
| Imperial County | | | |
| - City of Calexico ² | N | | |
| Remainder of Air Basin | | | A |
| SAN DIEGO AIR BASIN | N | | |
| SAN FRANCISCO BAY AREA AIR BASIN | N | | |
| SAN JOAQUIN VALLEY AIR BASIN | N | | |
| SOUTH CENTRAL COAST AIR BASIN | | | A |
| SOUTH COAST AIR BASIN | N | | |

¹ California Code of Regulations, title 17, section 60200(c)

² California Code of Regulations, title 17, section 60200(a)

Figure 4

**2023
Area Designations for State
Ambient Air Quality Standards
CARBON MONOXIDE**



Last Updated: November 2023
Air Quality Planning and Science Division, CARB

**Table 4
California Ambient Air Quality Standards Area Designations for
Carbon Monoxide***

| Area | N | NA-T | U | A |
|----------------------------------|---|------|---|---|
| GREAT BASIN VALLEYS AIR BASIN | | | | |
| Alpine County | | | U | |
| Inyo County | | | | A |
| Mono County | | | | A |
| LAKE COUNTY AIR BASIN | | | | A |
| LAKE TAHOE AIR BASIN | | | | A |
| MOJAVE DESERT AIR BASIN | | | | |
| Kern County (portion) | | | U | |
| Los Angeles County (portion) | | | | A |
| Riverside County (portion) | | | U | |
| San Bernardino County (portion) | | | | A |
| MOUNTAIN COUNTIES AIR BASIN | | | | |
| Amador County | | | U | |
| Calaveras County | | | U | |
| El Dorado County (portion) | | | U | |
| Mariposa County | | | U | |
| Nevada County | | | U | |
| Placer County (portion) | | | U | |
| Plumas County | | | | A |
| Sierra County | | | U | |
| Tuolumne County | | | | A |
| NORTH CENTRAL COAST AIR BASIN | | | | |
| Monterey County | | | | A |
| San Benito County | | | U | |
| Santa Cruz County | | | U | |
| NORTH COAST AIR BASIN | | | | |
| Del Norte County | | | U | |
| Humboldt County | | | | A |
| Mendocino County | | | | A |
| Sonoma County (portion) | | | U | |
| Trinity County | | | U | |
| NORTHEAST PLATEAU AIR BASIN | | | U | |
| SACRAMENTO VALLEY AIR BASIN | | | | |
| Butte County | | | | A |
| Colusa County | | | U | |
| Glenn County | | | U | |
| Placer County (portion) | | | | A |
| Sacramento County | | | | A |
| Shasta County | | | U | |
| Solano County (portion) | | | | A |
| Sutter County | | | | A |
| Tehama County | | | U | |
| Yolo County | | | | A |
| Yuba County | | | U | |
| SALTON SEA AIR BASIN | | | | A |
| SAN DIEGO AIR BASIN | | | | A |
| SAN FRANCISCO BAY AREA AIR BASIN | | | | A |
| SAN JOAQUIN VALLEY AIR BASIN | | | | |
| Fresno County | | | | A |
| Kern County (portion) | | | | A |
| Kings County | | | U | |
| Madera County | | | U | |
| Merced County | | | U | |
| San Joaquin County | | | | A |
| Stanislaus County | | | | A |
| Tulare County | | | | A |
| SOUTH CENTRAL COAST AIR BASIN | | | | A |
| SOUTH COAST AIR BASIN | | | | A |

* The area designated for carbon monoxide is a county or portion of a county

Figure 5

**2023
Area Designations for State
Ambient Air Quality Standards
NITROGEN DIOXIDE**



Last Updated: November 2023
Air Quality Planning and Science Division, CARB

**Table 5
California Ambient Air Quality Standards Area Designations for
Nitrogen Dioxide**

| Area | N | U | A |
|-------------------------------|---|---|---|
| GREAT BASIN VALLEYS AIR BASIN | | | A |
| LAKE COUNTY AIR BASIN | | | A |
| LAKE TAHOE AIR BASIN | | | A |
| MOJAVE DESERT AIR BASIN | | | A |
| MOUNTAIN COUNTIES AIR BASIN | | | A |
| NORTH CENTRAL COAST AIR BASIN | | | A |
| NORTH COAST AIR BASIN | | | A |
| NORTHEAST PLATEAU AIR BASIN | | | A |

| Area | N | U | A |
|--|---|---|---|
| SACRAMENTO VALLEY AIR BASIN | | | A |
| SALTON SEA AIR BASIN | | | A |
| SAN DIEGO AIR BASIN | | | A |
| SAN FRANCISCO BAY AREA AIR BASIN | | | A |
| SAN JOAQUIN VALLEY AIR BASIN | | | A |
| SOUTH CENTRAL COAST AIR BASIN | | | A |
| SOUTH COAST AIR BASIN | | | |
| CA 60 Near-road Portion of San Bernardino, Riverside, and Los Angeles Counties | | | A |
| Remainder of Air Basin | | | A |

Figure 6

2023
Area Designations for State
Ambient Air Quality Standards
SULFUR DIOXIDE



Last Updated: November 2023
Air Quality Planning and Science Division, CARB

**Table 6
California Ambient Air Quality Standards Area Designations for
Sulfur Dioxide***

| Area | N | A |
|-------------------------------|---|---|
| GREAT BASIN VALLEYS AIR BASIN | | A |
| LAKE COUNTY AIR BASIN | | A |
| LAKE TAHOE AIR BASIN | | A |
| MOJAVE DESERT AIR BASIN | | A |
| MOUNTAIN COUNTIES AIR BASIN | | A |
| NORTH CENTRAL COAST AIR BASIN | | A |
| NORTH COAST AIR BASIN | | A |
| NORTHEAST PLATEAU AIR BASIN | | A |

| Area | N | A |
|----------------------------------|---|---|
| SACRAMENTO VALLEY AIR BASIN | | A |
| SALTON SEA AIR BASIN | | A |
| SAN DIEGO AIR BASIN | | A |
| SAN FRANCISCO BAY AREA AIR BASIN | | A |
| SAN JOAQUIN VALLEY AIR BASIN | | A |
| SOUTH CENTRAL COAST AIR BASIN | | A |
| SOUTH COAST AIR BASIN | | A |

* The area designated for sulfur dioxide is a county or portion of a county. Since all areas in the State are in attainment for this standard, air basins are indicated here for simplicity.

Figure 7

2023
Area Designations for State
Ambient Air Quality Standards
SULFATES



Last Updated: November 2023
Air Quality Planning and Science Division, CARB

**Table 7
California Ambient Air Quality Standards Area Designations for
Sulfates**

| Area | N | U | A |
|-------------------------------|---|---|---|
| GREAT BASIN VALLEYS AIR BASIN | | | A |
| LAKE COUNTY AIR BASIN | | | A |
| LAKE TAHOE AIR BASIN | | | A |
| MOJAVE DESERT AIR BASIN | | | A |
| MOUNTAIN COUNTIES AIR BASIN | | | A |
| NORTH CENTRAL COAST AIR BASIN | | | A |
| NORTH COAST AIR BASIN | | | A |
| NORTHEAST PLATEAU AIR BASIN | | | A |

| Area | N | U | A |
|----------------------------------|---|---|---|
| SACRAMENTO VALLEY AIR BASIN | | | A |
| SALTON SEA AIR BASIN | | | A |
| SAN DIEGO AIR BASIN | | | A |
| SAN FRANCISCO BAY AREA AIR BASIN | | | A |
| SAN JOAQUIN VALLEY AIR BASIN | | | A |
| SOUTH CENTRAL COAST AIR BASIN | | | A |
| SOUTH COAST AIR BASIN | | | A |

Figure 8



Last Updated: November 2023
Air Quality Planning and Science Division, CARB

**Table 8
California Ambient Air Quality Standards Area Designations for
Lead (particulate)***

| Area | N | U | A |
|-------------------------------|---|---|---|
| GREAT BASIN VALLEYS AIR BASIN | | | A |
| LAKE COUNTY AIR BASIN | | | A |
| LAKE TAHOE AIR BASIN | | | A |
| MOJAVE DESERT AIR BASIN | | | A |
| MOUNTAIN COUNTIES AIR BASIN | | | A |
| NORTH CENTRAL COAST AIR BASIN | | | A |
| NORTH COAST AIR BASIN | | | A |
| NORTHEAST PLATEAU AIR BASIN | | | A |
| SACRAMENTO VALLEY AIR BASIN | | | A |

| Area | N | U | A |
|----------------------------------|---|---|---|
| SALTON SEA AIR BASIN | | | A |
| SAN DIEGO AIR BASIN | | | A |
| SAN FRANCISCO BAY AREA AIR BASIN | | | A |
| SAN JOAQUIN VALLEY AIR BASIN | | | A |
| SOUTH CENTRAL COAST AIR BASIN | | | A |
| SOUTH COAST AIR BASIN | | | A |

* The area designated for lead is a county or portion of a county. Since all areas in the State are in attainment for this standard, air basins are indicated here for simplicity.

**Table 9
California Ambient Air Quality Standards Area Designations for
Hydrogen Sulfide***

| Area | N | NA-T | U | A |
|---|---|------|---|---|
| GREAT BASIN VALLEYS AIR BASIN | | | | |
| Alpine County | | | U | |
| Inyo County | | | | A |
| Mono County | | | | A |
| LAKE COUNTY AIR BASIN | | | | A |
| LAKE TAHOE AIR BASIN | | | U | |
| MOJAVE DESERT AIR BASIN | | | | |
| Kern County (portion) | | | U | |
| Los Angeles County (portion) | | | U | |
| Riverside County (portion) | | | U | |
| San Bernardino County (portion) | | | | |
| - Searles Valley Planning Area ¹ | N | | | |
| - Remainder of County | | | U | |
| MOUNTAIN COUNTIES AIR BASIN | | | | |
| Amador County | | | | |
| - City of Sutter Creek | N | | | |
| - Remainder of County | | | U | |
| Calaveras County | | | U | |
| El Dorado County (portion) | | | U | |
| Mariposa County | | | U | |
| Nevada County | | | U | |
| Placer County (portion) | | | U | |
| Plumas County | | | U | |
| Sierra County | | | U | |
| Tuolumne County | | | U | |

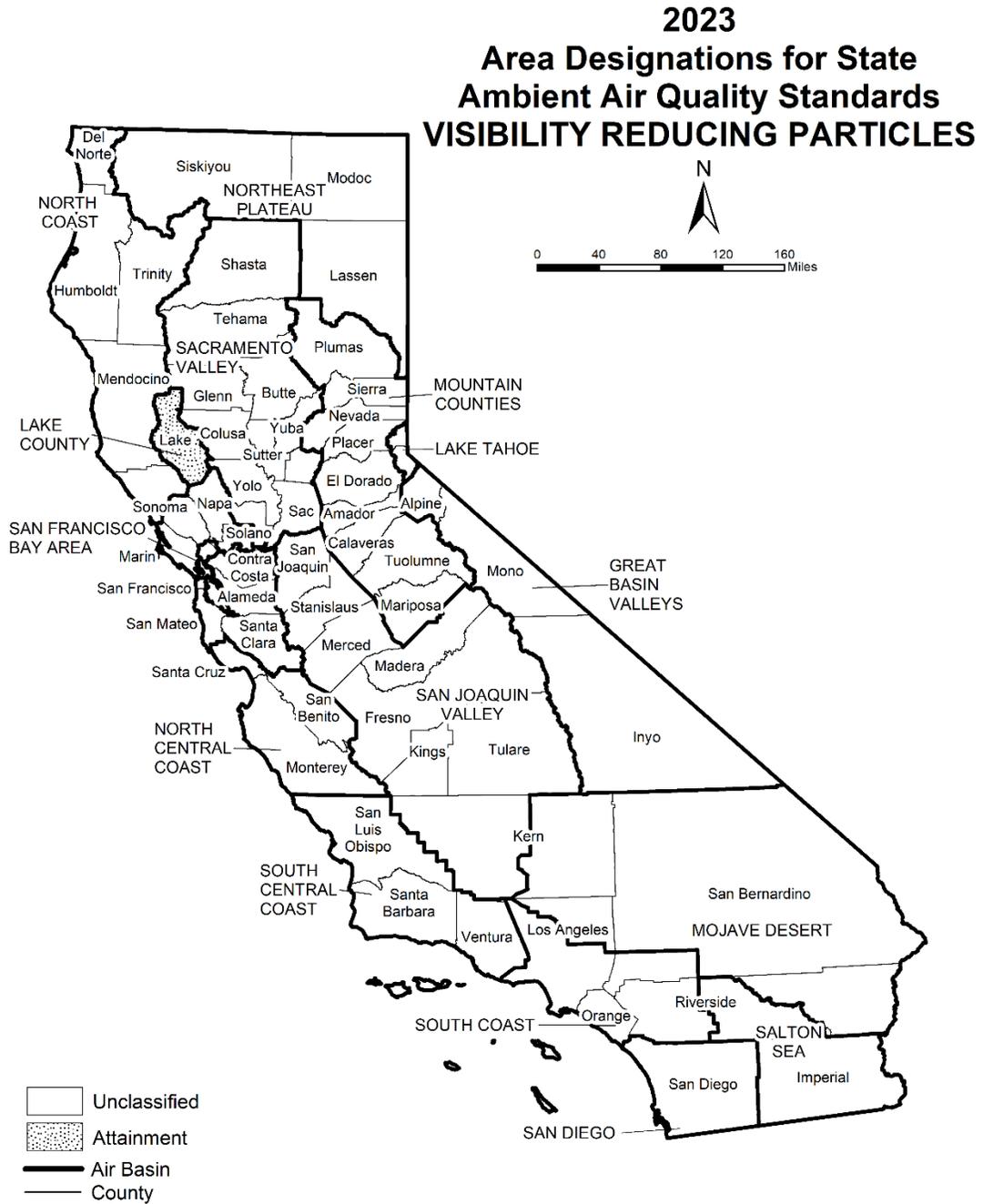
| Area | N | NA-T | U | A |
|---|---|------|---|---|
| NORTH CENTRAL COAST AIR BASIN | | | U | |
| NORTH COAST AIR BASIN | | | | |
| Del Norte County | | | U | |
| Humboldt County | | | | A |
| Mendocino County | | | U | |
| Sonoma County (portion) | | | | |
| - Geyser Geothermal Area ² | | | | A |
| - Remainder of County | | | U | |
| Trinity County | | | U | |
| NORTHEAST PLATEAU AIR BASIN | | | U | |
| SACRAMENTO VALLEY AIR BASIN | | | U | |
| SALTON SEA AIR BASIN | | | | |
| Riverside County (portion) | N | | | |
| Imperial County | | | U | |
| SAN DIEGO AIR BASIN | | | U | |
| SAN FRANCISCO BAY AREA AIR BASIN | | | U | |
| SAN JOAQUIN VALLEY AIR BASIN | | | U | |
| SOUTH CENTRAL COAST AIR BASIN | | | | |
| San Luis Obispo County | | | | A |
| Santa Barbara County | | | | A |
| Ventura County | | | U | |
| SOUTH COAST AIR BASIN | | | U | |

* The area designated for hydrogen sulfide is a county or portion of a county

¹ 52 Federal Register 29384 (August 7, 1987)

² California Code of Regulations, title 17, section 60200(d)

Figure 10



Last Updated: November 2023
Air Quality Planning and Science Division, CARB

**Table 10
California Ambient Air Quality Standards Area Designations for
Visibility Reducing Particles**

| Area | N | NA-T | U | A |
|-------------------------------|---|------|---|---|
| GREAT BASIN VALLEYS AIR BASIN | | | U | |
| LAKE COUNTY AIR BASIN | | | | A |
| LAKE TAHOE AIR BASIN | | | U | |
| MOJAVE DESERT AIR BASIN | | | U | |
| MOUNTAIN COUNTIES AIR BASIN | | | U | |
| NORTH CENTRAL COAST AIR BASIN | | | U | |
| NORTH COAST AIR BASIN | | | U | |
| NORTHEAST PLATEAU AIR BASIN | | | U | |

| Area | N | NA-T | U | A |
|----------------------------------|---|------|---|---|
| SACRAMENTO VALLEY AIR BASIN | | | U | |
| SALTON SEA AIR BASIN | | | U | |
| SAN DIEGO AIR BASIN | | | U | |
| SAN FRANCISCO BAY AREA AIR BASIN | | | U | |
| SAN JOAQUIN VALLEY AIR BASIN | | | U | |
| SOUTH CENTRAL COAST AIR BASIN | | | U | |
| SOUTH COAST AIR BASIN | | | U | |

Area Designations for the National Ambient Air Quality Standards

The following maps and tables show the area designations for each pollutant with a national ambient air quality standard. Additional information about the federal area designations is available on the U.S. EPA website:

<https://www.epa.gov/green-book>

Over the last several years, U.S. EPA has been reviewing the levels of the various national standards. The agency has already promulgated new standard levels for some pollutants and is considering revising the levels for others. Information about the status of these reviews is available on the U.S. EPA website:

<https://www.epa.gov/criteria-air-pollutants>

Designation Categories

Suspended Particulate Matter (PM₁₀). The U.S. EPA uses three categories to designate areas with respect to PM₁₀:

- Attainment (A)
- Nonattainment (N)
- Unclassifiable (U)

Ozone, Fine Suspended Particulate Matter (PM_{2.5}), Carbon Monoxide (CO), and Nitrogen Dioxide (NO₂). The U.S. EPA uses two categories to designate areas with respect to these standards:

- Nonattainment (N)
- Unclassifiable/Attainment (U/A)

The national 1-hour ozone standard was revoked effective June 15, 2005, and the area designations map reflects the 2015 national 8-hour ozone standard of 0.070 ppm. Area designations were finalized on August 3, 2018.

On December 14, 2012, the U.S. EPA established a new national annual primary PM_{2.5} standard of 12.0 µg/m³. Area designations were finalized in December 2014. The current designation map reflects the most recently revised (2012) annual average standard of 12.0 µg/m³ as well as the 24-hour standard of 35 µg/m³, revised in 2006.

On January 22, 2010, the U.S. EPA established a new national 1-hour NO₂ standard of 100 parts per billion (ppb) and retained the annual average standard of 53 ppb. Designations for the primary NO₂ standard became effective on February 29, 2012. All areas of California meet this standard.

Sulfur Dioxide (SO₂). The U.S. EPA uses three categories to designate areas with respect to the 24-hour and annual average sulfur dioxide standards. These designation categories are:

- Nonattainment (N),
- Unclassifiable (U), and
- Unclassifiable/Attainment (U/A).

On June 2, 2010, the U.S. EPA established a new primary 1-hour SO₂ standard of 75 parts per billion (ppb). At the same time, U.S. EPA revoked the 24-hour and annual average standards. Area designations for the 1-hour SO₂ standard were finalized on December 21, 2017 and are reflected in the area designations map.

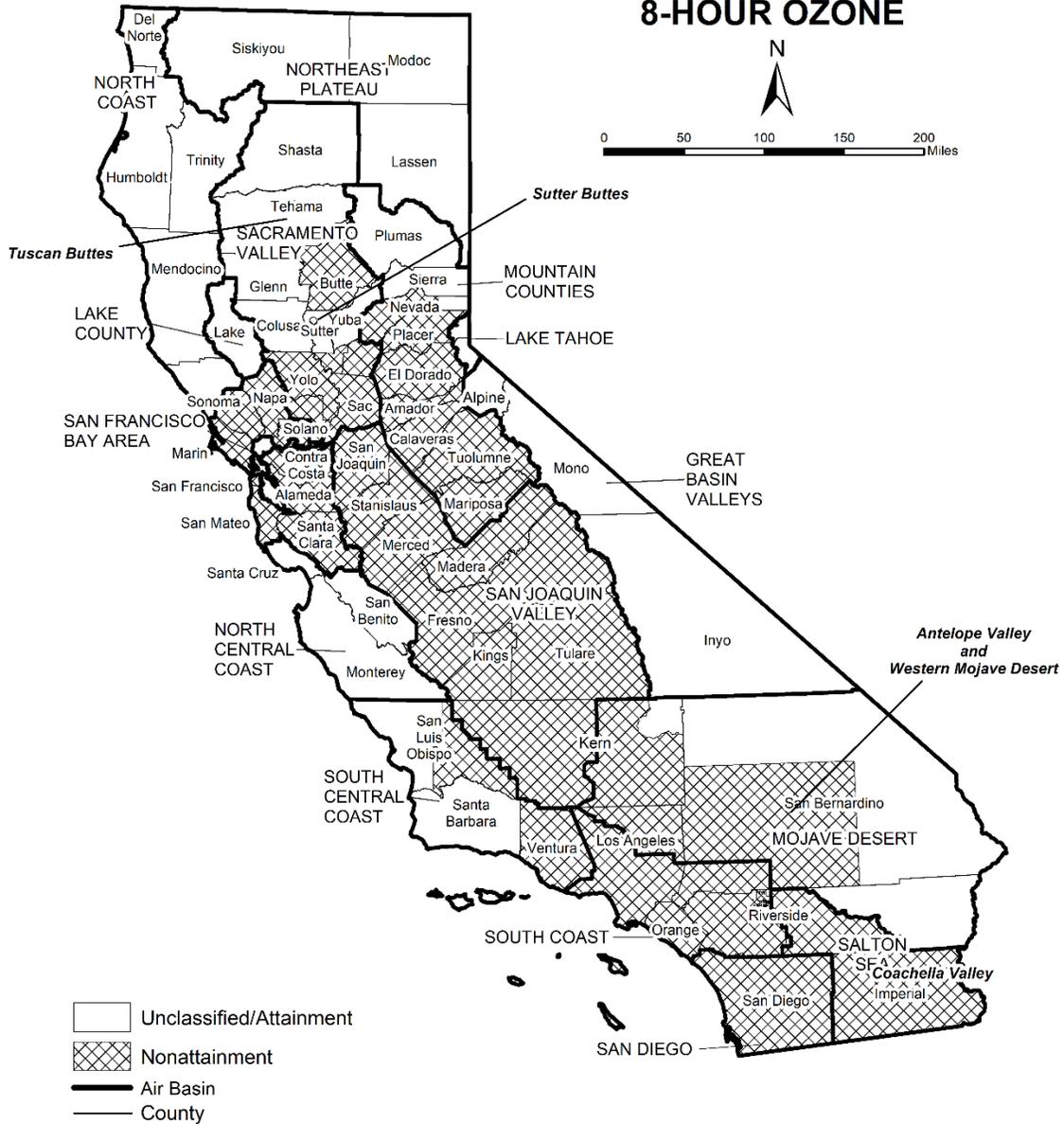
Lead (particulate). The U.S. EPA promulgated a new rolling 3-month average lead standard in October 2008 of 0.15 µg/m³. Designations were made for this standard in November 2010.

Designation Areas

From time to time, the boundaries of the California air basins have been changed to facilitate the planning process. CARB generally initiates these changes, and they are not always reflected in the U.S. EPA's area designations. For purposes of consistency, the maps in this attachment reflect area designation boundaries and nomenclature as promulgated by the U.S. EPA. In some cases, these may not be the same as those adopted by CARB. For example, the national area designations reflect the former Southeast Desert Air Basin. In accordance with Health and Safety Code section 39606.1, CARB redefined this area in 1996 to be the Mojave Desert Air Basin and Salton Sea Air Basin. The definitions and boundaries for all areas designated for the national standards can be found in Title 40, Code of Federal Regulations (CFR), Chapter I, Subchapter C, Part 81.305. They are available on the web at: https://ecfr.io/Title-40/se40.20.81_1305

Figure 11

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



Last Updated: November 2023
 Map reflects the 2015 8-hour ozone standard of 0.070 ppm
 Air Quality Planning and Science Division, CARB

**Table 11
National Ambient Air Quality Standards Area Designations for
8-Hour Ozone***

| Area | N | U/A |
|--|---|-----|
| GREAT BASIN VALLEYS AIR BASIN | | U/A |
| LAKE COUNTY AIR BASIN | | U/A |
| LAKE TAHOE AIR BASIN | | U/A |
| MOUNTAIN COUNTIES AIR BASIN | | |
| Amador County | N | |
| Calaveras County | N | |
| El Dorado County (portion) ¹ | N | |
| Mariposa County | N | |
| Nevada County | | |
| - Western Nevada County | N | |
| - Remainder of County | | U/A |
| Placer County (portion) ¹ | N | |
| Plumas County | | U/A |
| Sierra County | | U/A |
| Tuolumne County | N | |
| NORTH CENTRAL COAST AIR BASIN | | U/A |
| NORTH COAST AIR BASIN | | U/A |
| NORTHEAST PLATEAU AIR BASIN | | U/A |
| SACRAMENTO VALLEY AIR BASIN | | |
| Butte County | N | |
| Colusa County | | U/A |
| Glenn County | | U/A |
| Sacramento Metro Area ¹ | N | |
| Shasta County | | U/A |
| Sutter County | | |
| - Sutter Buttes | N | |
| - Southern portion of Sutter County ¹ | N | |
| - Remainder of Sutter County | | U/A |
| Tehama County | | |
| - Tuscan Buttes | N | |
| - Remainder of Tehama County | | U/A |

| Area | N | U/A |
|--|---|-----|
| SACRAMENTO VALLEY AIR BASIN (cont.) | | |
| Yolo County ¹ | N | |
| Yuba County | | U/A |
| SAN DIEGO COUNTY | N | |
| SAN FRANCISCO BAY AREA AIR BASIN | N | |
| SAN JOAQUIN VALLEY AIR BASIN | N | |
| SOUTH CENTRAL COAST AIR BASIN ² | | |
| San Luis Obispo County | | |
| - Eastern San Luis Obispo County | N | |
| - Remainder of County | | U/A |
| Santa Barbara County | | U/A |
| Ventura County | | |
| - Area excluding Anacapa and San Nicolas Islands | N | |
| - Channel Islands ² | | U/A |
| SOUTH COAST AIR BASIN ² | N | |
| SOUTHEAST DESERT AIR BASIN | | |
| Kern County (portion) | N | |
| - Indian Wells Valley | | U/A |
| Imperial County | N | |
| Los Angeles County (portion) | N | |
| Riverside County (portion) | | |
| - Coachella Valley | N | |
| - Non-AQMA portion | | U/A |
| San Bernardino County | | |
| - Western portion (AQMA) | N | |
| - Eastern portion (non-AQMA) | | U/A |

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

NOTE: This map and Table reflect the 2015 8-hour ozone standard of 0.070 ppm.

¹ For this purpose, the Sacramento Metro Area comprises all of Sacramento and Yolo Counties, the Sacramento Valley Air Basin portion of Solano County, the southern portion of Sutter County, and the Sacramento Valley and Mountain Counties Air Basins portions of Placer and El Dorado counties.

² South Central Coast Air Basin Channel Islands:

Santa Barbara County includes Santa Cruz, San Miguel, Santa Rosa, and Santa Barbara Islands.

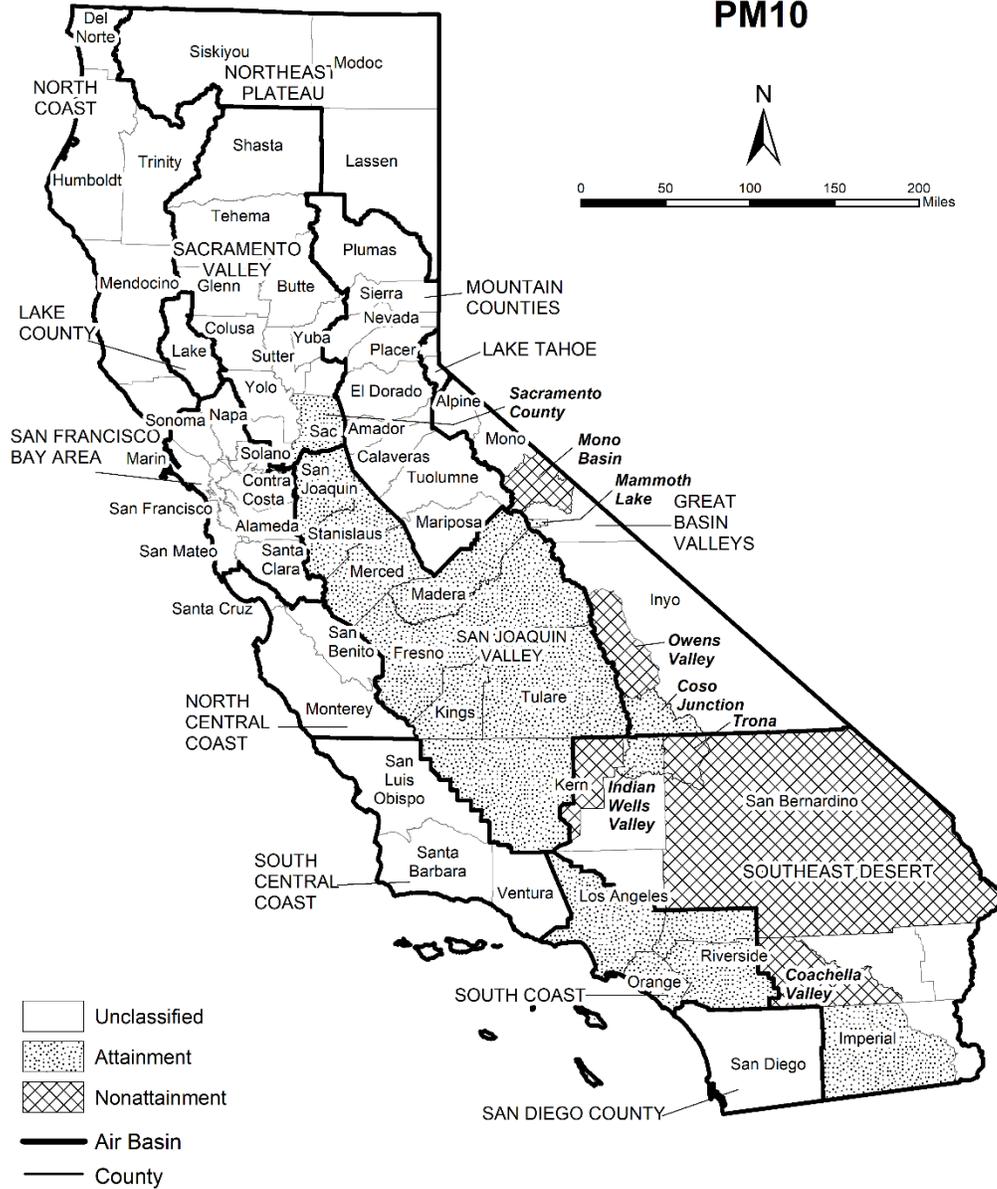
Ventura County includes Anacapa and San Nicolas Islands.

South Coast Air Basin:

Los Angeles County includes San Clemente and Santa Catalina Islands.

Figure 12

**Area Designations for National Ambient Air Quality Standards
PM10**



Last Updated: November 2023
 Air Quality Planning and Science Division

**Table 12
National Ambient Air Quality Standards Area Designations for
Suspended Particulate Matter (PM₁₀)***

| Area | N | U | A |
|--------------------------------|---|---|---|
| GREAT BASIN VALLEYS AIR BASIN | | | |
| Alpine County | | U | |
| Inyo County | | | |
| - Owens Valley Planning Area | N | | |
| - Coso Junction | | | A |
| - Remainder of County | | U | |
| Mono County | | | |
| - Mammoth Lake Planning Area | | | A |
| - Mono Lake Basin | N | | |
| - Remainder of County | | U | |
| LAKE COUNTY AIR BASIN | | U | |
| LAKE TAHOE AIR BASIN | | U | |
| MOUNTAIN COUNTIES AIR BASIN | | U | |
| NORTH CENTRAL COAST AIR BASIN | | U | |
| NORTH COAST AIR BASIN | | U | |
| NORTHEAST PLATEAU AIR BASIN | | U | |
| SACRAMENTO VALLEY AIR BASIN | | | |
| Sacramento County ¹ | | | A |
| Remainder of Air Basin | | U | |
| SAN DIEGO COUNTY | | U | |

| Area | N | U | A |
|---|---|---|---|
| SAN FRANCISCO BAY AREA AIR BASIN | | U | |
| SAN JOAQUIN VALLEY AIR BASIN | | | A |
| SOUTH CENTRAL COAST AIR BASIN | | U | |
| SOUTH COAST AIR BASIN | | | A |
| SOUTHEAST DESERT AIR BASIN | | | |
| Eastern Kern County | | | |
| - Indian Wells Valley | | | A |
| - Portion within San Joaquin Valley Planning Area | N | | |
| - Remainder of County | | U | |
| Imperial County | | | |
| - Imperial Valley Planning Area ² | | | A |
| - Remainder of County | | U | |
| Los Angeles County (portion) | | U | |
| Riverside County (portion) | | | |
| - Coachella Valley | N | | |
| - Non-AQMA portion | | U | |
| San Bernardino County | | | |
| - Trona | N | | |
| - Remainder of County | N | | |

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

¹ Air quality in Sacramento County meets the national PM₁₀ standards. The request for redesignation to attainment was approved by U.S. EPA in September 2013.

² The request for redesignation to attainment for the Imperial Valley Planning Area was approved by U.S. EPA in September 2020, effective October 2020.

**Table 13
National Ambient Air Quality Standards Area Designations for
Fine Particulate Matter (PM_{2.5})**

| Area | N | U/A |
|---|---|-----|
| GREAT BASIN VALLEYS AIR BASIN | | U/A |
| LAKE COUNTY AIR BASIN | | U/A |
| LAKE TAHOE AIR BASIN | | U/A |
| MOUNTAIN COUNTIES AIR BASIN | | |
| Plumas County | | |
| - Portola Valley Portion of Plumas County | N | |
| - Remainder of Plumas County | | U/A |
| Remainder of Air Basin | | U/A |
| NORTH CENTRAL COAST AIR BASIN | | U/A |
| NORTH COAST AIR BASIN | | U/A |
| NORTHEAST PLATEAU AIR BASIN | | U/A |
| SACRAMENTO VALLEY AIR BASIN | | |
| Sacramento Metro Area ¹ | N | |
| Remainder of Air Basin | | U/A |

| Area | N | U/A |
|---|---|-----|
| SAN DIEGO COUNTY | | U/A |
| SAN FRANCISCO BAY AREA AIR BASIN ² | N | |
| SAN JOAQUIN VALLEY AIR BASIN | N | |
| SOUTH CENTRAL COAST AIR BASIN | | U/A |
| SOUTH COAST AIR BASIN ³ | N | |
| SOUTHEAST DESERT AIR BASIN | | |
| Imperial County (portion) ⁴ | N | |
| Remainder of Air Basin | | U/A |

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305. This map reflects the 2006 24-hour PM_{2.5} standard as well as the 1997 and 2012 PM_{2.5} annual standards.

¹ For this purpose, Sacramento Metro Area comprises all of Sacramento and portions of El Dorado, Placer, Solano, and Yolo Counties. Air quality in this area meets the national PM_{2.5} standards. A Determination of Attainment for the 2006 24-hour PM_{2.5} standard was made by U.S. EPA in June 2017.

² Air quality in this area meets the national PM_{2.5} standards. A Determination of Attainment for the 2006 24-hour PM_{2.5} standard was made by U.S. EPA in June 2017.

³ Those lands of the Santa Rosa Band of Cahulla Mission Indians in Riverside County are designated Unclassifiable/Attainment.

⁴ That portion of Imperial County encompassing the urban and surrounding areas of Brawley, Calexico, El Centro, Heber, Holtville, Imperial, Seeley, and Westmorland. Air quality in this area meets the national PM_{2.5} standards. A Determination of Attainment for the 2006 24-hour PM_{2.5} standard was made by U.S. EPA in June 2017.

Figure 14

**Area Designations for National Ambient Air Quality Standards
CARBON MONOXIDE**



Last Updated: November 2023
Air Quality Planning and Science Division

**Table 14
National Ambient Air Quality Standards Area Designations for
Carbon Monoxide***

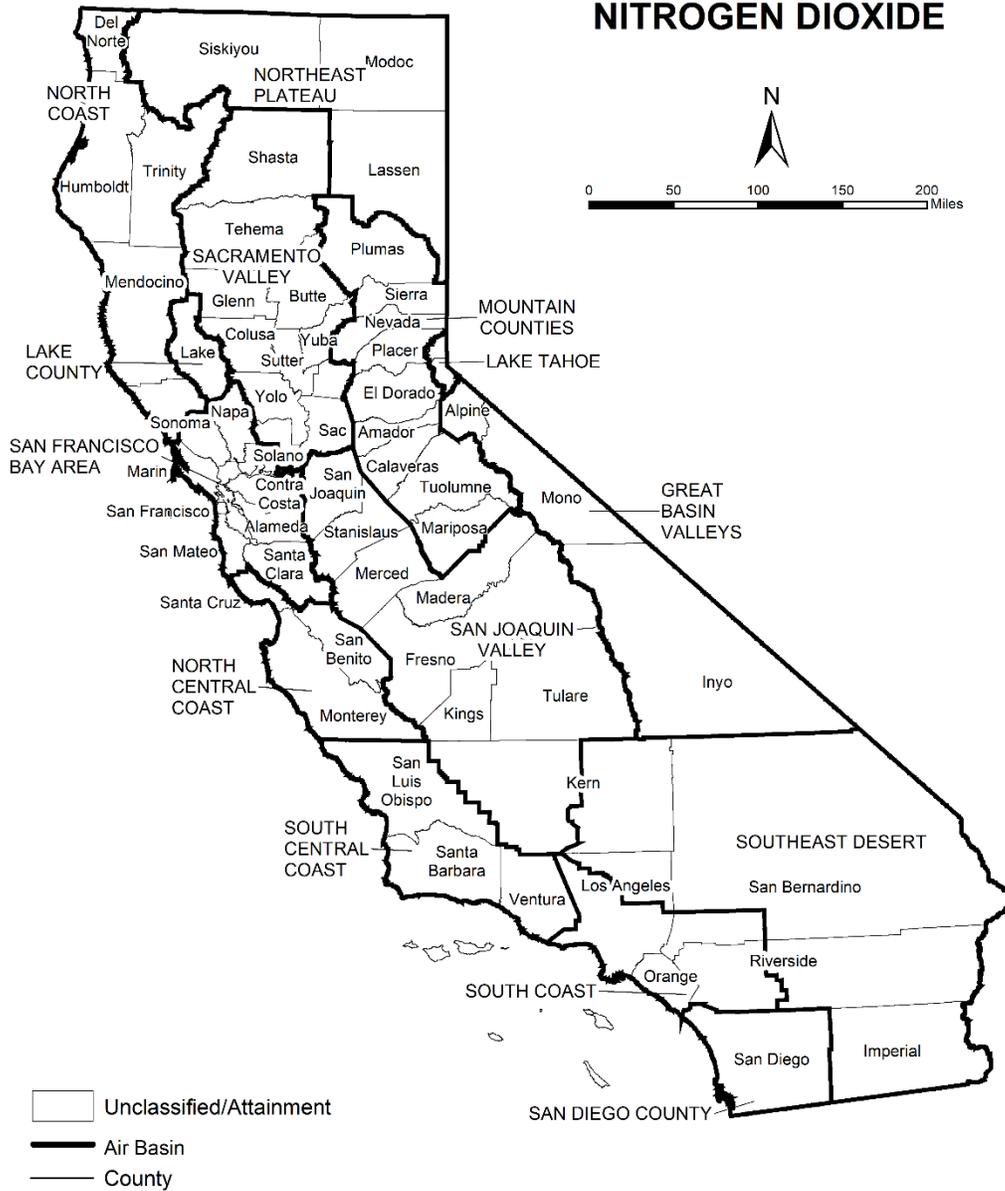
| Area | N | U/A |
|-------------------------------|---|-----|
| GREAT BASIN VALLEYS AIR BASIN | | U/A |
| LAKE COUNTY AIR BASIN | | U/A |
| LAKE TAHOE AIR BASIN | | U/A |
| MOUNTAIN COUNTIES AIR BASIN | | U/A |
| NORTH CENTRAL COAST AIR BASIN | | U/A |
| NORTH COAST AIR BASIN | | U/A |
| NORTHEAST PLATEAU AIR BASIN | | U/A |

| Area | N | U/A |
|----------------------------------|---|-----|
| SACRAMENTO VALLEY AIR BASIN | | U/A |
| SAN DIEGO COUNTY | | U/A |
| SAN FRANCISCO BAY AREA AIR BASIN | | U/A |
| SAN JOAQUIN VALLEY AIR BASIN | | U/A |
| SOUTH CENTRAL COAST AIR BASIN | | U/A |
| SOUTH COAST AIR BASIN | | U/A |
| SOUTHEAST DESERT AIR BASIN | | U/A |

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

Figure 15

**Area Designations for National Ambient Air Quality Standards
NITROGEN DIOXIDE**



Last Updated: November 2023
Air Quality Planning and Science Division

**Table 15
National Ambient Air Quality Standards Area Designations for
Nitrogen Dioxide***

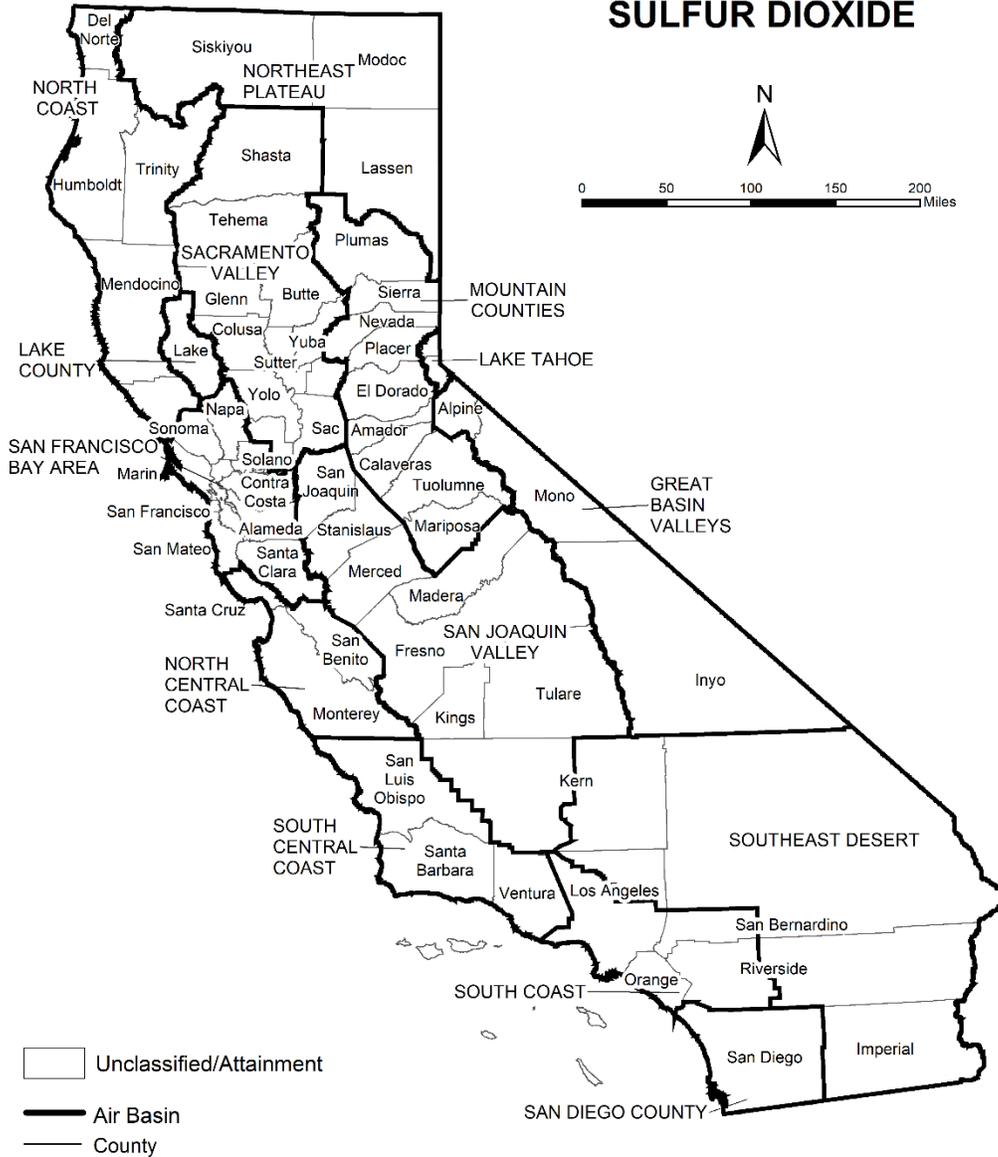
| Area | N | U/A |
|-------------------------------|---|-----|
| GREAT BASIN VALLEYS AIR BASIN | | U/A |
| LAKE COUNTY AIR BASIN | | U/A |
| LAKE TAHOE AIR BASIN | | U/A |
| MOUNTAIN COUNTIES AIR BASIN | | U/A |
| NORTH CENTRAL COAST AIR BASIN | | U/A |
| NORTH COAST AIR BASIN | | U/A |
| NORTHEAST PLATEAU AIR BASIN | | U/A |

| Area | N | U/A |
|----------------------------------|---|-----|
| SACRAMENTO VALLEY AIR BASIN | | U/A |
| SAN DIEGO COUNTY | | U/A |
| SAN FRANCISCO BAY AREA AIR BASIN | | U/A |
| SAN JOAQUIN VALLEY AIR BASIN | | U/A |
| SOUTH CENTRAL COAST AIR BASIN | | U/A |
| SOUTH COAST AIR BASIN | | U/A |
| SOUTHEAST DESERT AIR BASIN | | U/A |

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

Figure 16

**Area Designations for National Ambient Air Quality Standards
SULFUR DIOXIDE**



Last Updated: November 2023
 Air Quality Planning and Science Division

Table 16
National Ambient Air Quality Standards Area Designations for Sulfur Dioxide*

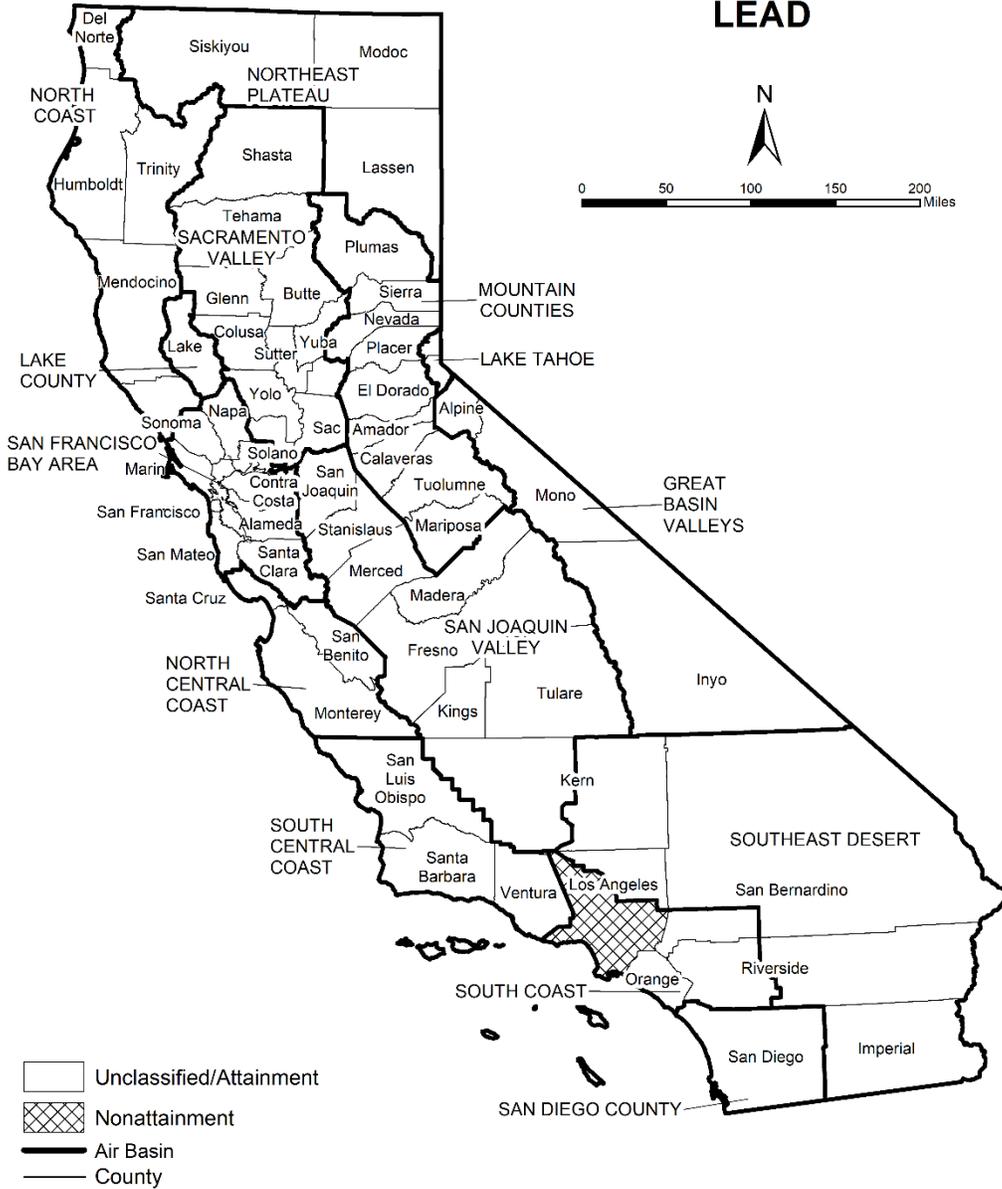
| Area | N | U/A |
|--|---|-----|
| GREAT BASIN VALLEYS AIR BASIN | | U/A |
| LAKE COUNTY AIR BASIN | | U/A |
| LAKE TAHOE AIR BASIN | | U/A |
| MOUNTAIN COUNTIES AIR BASIN | | U/A |
| NORTH CENTRAL COAST AIR BASIN | | U/A |
| NORTH COAST AIR BASIN | | U/A |
| NORTHEAST PLATEAU AIR BASIN | | U/A |
| SACRAMENTO VALLEY AIR BASIN | | U/A |
| SAN DIEGO COUNTY | | U/A |
| SAN FRANCISCO BAY AREA AIR BASIN | | U/A |
| SAN JOAQUIN VALLEY AIR BASIN | | U/A |
| SOUTH CENTRAL COAST AIR BASIN ¹ | | U/A |
| SOUTH COAST AIR BASIN | | U/A |
| SOUTHEAST DESERT AIR BASIN | | U/A |

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.
 NOTE: This map and table reflect the 2010 1-hour SO₂ standard of 75 ppb.

¹ South Central Coast Air Basin Channel Islands:
 Santa Barbara County includes Santa Cruz, San Miguel, Santa Rosa, and Santa Barbara Islands.
 Ventura County includes Anacapa and San Nicolas Islands.
 Note that the San Clemente and Santa Catalina Islands are considered part of Los Angeles County, and therefore, are included as part of the South Coast Air Basin.

Figure 17

Area Designations for National Ambient Air Quality Standards LEAD



Last Updated: November 2023
Air Quality Planning and Science Division

Table 17
National Ambient Air Quality Standards Area Designations for
Lead (particulate)

| Area | N | U/A |
|-------------------------------|---|-----|
| GREAT BASIN VALLEYS AIR BASIN | | U/A |
| LAKE COUNTY AIR BASIN | | U/A |
| LAKE TAHOE AIR BASIN | | U/A |
| MOUNTAIN COUNTIES AIR BASIN | | U/A |
| NORTH CENTRAL COAST AIR BASIN | | U/A |
| NORTH COAST AIR BASIN | | U/A |
| NORTHEAST PLATEAU AIR BASIN | | U/A |
| SACRAMENTO VALLEY AIR BASIN | | U/A |

| Area | N | U/A |
|---|---|-----|
| SAN DIEGO COUNTY | | U/A |
| SAN FRANCISCO BAY AREA AIR BASIN | | U/A |
| SAN JOAQUIN VALLEY AIR BASIN | | U/A |
| SOUTH CENTRAL COAST AIR BASIN | | U/A |
| SOUTH COAST AIR BASIN | | |
| Los Angeles County (portion) ¹ | N | |
| Remainder of Air Basin | | U/A |
| SOUTHEAST DESERT AIR BASIN | | U/A |

¹ Portion of County in Air Basin, not including Channel Islands

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APPENDIX 3.1:

CALEEMOD EMISSIONS MODEL OUTPUTS

15092 - Seneca Road Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

| Data Field | Value |
|-----------------------------|------------------------------|
| Project Name | 15092 - Seneca Road |
| Construction Start Date | 4/1/2025 |
| Operational Year | 2026 |
| Lead Agency | — |
| Land Use Scale | Project/site |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 2.80 |
| Precipitation (days) | 1.40 |
| Location | 34.51325, -117.402923 |
| County | San Bernardino-Mojave Desert |
| City | Adelanto |
| Air District | Mojave Desert AQMD |
| Air Basin | Mojave Desert |
| TAZ | 5180 |
| EDFZ | 10 |
| Electric Utility | Southern California Edison |
| Gas Utility | Southwest Gas Corp. |
| App Version | 2022.1.1.21 |

1.2. Land Use Types

| Land Use Subtype | Size | Unit | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|------------------|------|------|-------------|-----------------------|------------------------|--------------------------------|------------|-------------|
|------------------|------|------|-------------|-----------------------|------------------------|--------------------------------|------------|-------------|

| | | | | | | | | |
|-------------------------|------|----------|------|---------|--------|---|---|--------------|
| Strip Mall | 4.70 | 1000sqft | 0.11 | 4,700 | 43,992 | — | — | — |
| General Office Building | 4.70 | 1000sqft | 0.11 | 4,700 | 0.00 | — | — | — |
| Parking Lot | 68.0 | Space | 0.78 | 0.00 | 0.00 | — | — | RV Parking |
| Industrial Park | 139 | 1000sqft | 3.19 | 139,000 | 0.00 | — | — | Self Storage |
| Parking Lot | 59.0 | Space | 0.53 | 0.00 | 0.00 | — | — | — |
| Other Asphalt Surfaces | 4.03 | Acre | 4.03 | 0.00 | 0.00 | — | — | — |

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 4.93 | 4.15 | 37.6 | 33.9 | 0.05 | 1.93 | 5.90 | 7.83 | 1.78 | 2.74 | 4.52 | — | 5,815 | 5,815 | 0.23 | 0.14 | 5.10 | 5,840 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 2.93 | 23.2 | 20.1 | 30.4 | 0.05 | 0.77 | 1.34 | 2.11 | 0.71 | 0.32 | 1.03 | — | 6,098 | 6,098 | 0.19 | 0.17 | 0.15 | 6,153 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.34 | 3.23 | 9.17 | 14.1 | 0.02 | 0.39 | 0.92 | 1.31 | 0.36 | 0.32 | 0.69 | — | 3,118 | 3,118 | 0.09 | 0.10 | 1.48 | 3,153 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|--------|------|------|------|------|---------|------|------|------|------|------|------|---|-----|-----|------|------|------|-----|
| Unmit. | 0.24 | 0.59 | 1.67 | 2.57 | < 0.005 | 0.07 | 0.17 | 0.24 | 0.07 | 0.06 | 0.13 | — | 516 | 516 | 0.02 | 0.02 | 0.25 | 522 |
|--------|------|------|------|------|---------|------|------|------|------|------|------|---|-----|-----|------|------|------|-----|

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Daily - Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2025 | 4.93 | 4.15 | 37.6 | 33.9 | 0.05 | 1.93 | 5.90 | 7.83 | 1.78 | 2.74 | 4.52 | — | 5,815 | 5,815 | 0.23 | 0.14 | 5.10 | 5,840 |
| 2026 | 1.73 | 1.47 | 11.6 | 19.1 | 0.03 | 0.42 | 0.98 | 1.40 | 0.39 | 0.24 | 0.62 | — | 4,163 | 4,163 | 0.14 | 0.14 | 4.63 | 4,214 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2025 | 1.78 | 1.51 | 12.4 | 17.9 | 0.03 | 0.48 | 0.98 | 1.46 | 0.44 | 0.24 | 0.68 | — | 4,093 | 4,093 | 0.15 | 0.14 | 0.13 | 4,139 |
| 2026 | 2.93 | 23.2 | 20.1 | 30.4 | 0.05 | 0.77 | 1.34 | 2.11 | 0.71 | 0.32 | 1.03 | — | 6,098 | 6,098 | 0.19 | 0.17 | 0.15 | 6,153 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2025 | 1.22 | 1.03 | 8.73 | 10.8 | 0.02 | 0.39 | 0.92 | 1.31 | 0.36 | 0.32 | 0.69 | — | 2,224 | 2,224 | 0.08 | 0.06 | 0.92 | 2,245 |
| 2026 | 1.34 | 3.23 | 9.17 | 14.1 | 0.02 | 0.33 | 0.74 | 1.07 | 0.31 | 0.18 | 0.49 | — | 3,118 | 3,118 | 0.09 | 0.10 | 1.48 | 3,153 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2025 | 0.22 | 0.19 | 1.59 | 1.97 | < 0.005 | 0.07 | 0.17 | 0.24 | 0.07 | 0.06 | 0.13 | — | 368 | 368 | 0.01 | 0.01 | 0.15 | 372 |
| 2026 | 0.24 | 0.59 | 1.67 | 2.57 | < 0.005 | 0.06 | 0.13 | 0.20 | 0.06 | 0.03 | 0.09 | — | 516 | 516 | 0.02 | 0.02 | 0.25 | 522 |

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|--------|--------|------|------|------|--------|
| Unmit. | 5.00 | 8.02 | 4.02 | 33.9 | 0.07 | 0.14 | 5.01 | 5.15 | 0.13 | 1.27 | 1.41 | 162 | 10,029 | 10,190 | 16.9 | 0.45 | 33.8 | 10,782 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 3.42 | 6.53 | 4.19 | 21.7 | 0.06 | 0.13 | 5.01 | 5.14 | 0.13 | 1.27 | 1.40 | 162 | 9,471 | 9,633 | 16.9 | 0.46 | 13.5 | 10,208 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 3.63 | 6.72 | 3.92 | 24.0 | 0.06 | 0.13 | 4.43 | 4.55 | 0.12 | 1.12 | 1.25 | 162 | 8,946 | 9,108 | 16.9 | 0.43 | 20.9 | 9,681 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.66 | 1.23 | 0.72 | 4.38 | 0.01 | 0.02 | 0.81 | 0.83 | 0.02 | 0.20 | 0.23 | 26.8 | 1,481 | 1,508 | 2.80 | 0.07 | 3.46 | 1,603 |

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Sector | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|--------|--------|---------|---------|------|--------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 3.74 | 3.51 | 2.90 | 26.6 | 0.06 | 0.05 | 5.01 | 5.06 | 0.04 | 1.27 | 1.32 | — | 6,074 | 6,074 | 0.22 | 0.26 | 20.8 | 6,179 |
| Area | 1.15 | 4.46 | 0.05 | 6.45 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 26.5 | 26.5 | < 0.005 | < 0.005 | — | 26.6 |
| Energy | 0.12 | 0.06 | 1.07 | 0.90 | 0.01 | 0.08 | — | 0.08 | 0.08 | — | 0.08 | — | 3,742 | 3,742 | 0.35 | 0.03 | — | 3,760 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 63.9 | 186 | 250 | 6.57 | 0.16 | — | 461 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 97.9 | 0.00 | 97.9 | 9.79 | 0.00 | — | 343 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 13.0 | 13.0 |
| Total | 5.00 | 8.02 | 4.02 | 33.9 | 0.07 | 0.14 | 5.01 | 5.15 | 0.13 | 1.27 | 1.41 | 162 | 10,029 | 10,190 | 16.9 | 0.45 | 33.8 | 10,782 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 3.30 | 3.07 | 3.12 | 20.8 | 0.05 | 0.05 | 5.01 | 5.06 | 0.04 | 1.27 | 1.32 | — | 5,543 | 5,543 | 0.23 | 0.27 | 0.54 | 5,632 |

| | | | | | | | | | | | | | | | | | | |
|---------------|------|------|---------|------|---------|---------|------|---------|---------|------|---------|------|-------|-------|---------|---------|------|--------|
| Area | — | 3.40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Energy | 0.12 | 0.06 | 1.07 | 0.90 | 0.01 | 0.08 | — | 0.08 | 0.08 | — | 0.08 | — | 3,742 | 3,742 | 0.35 | 0.03 | — | 3,760 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 63.9 | 186 | 250 | 6.57 | 0.16 | — | 461 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 97.9 | 0.00 | 97.9 | 9.79 | 0.00 | — | 343 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 13.0 | 13.0 |
| Total | 3.42 | 6.53 | 4.19 | 21.7 | 0.06 | 0.13 | 5.01 | 5.14 | 0.13 | 1.27 | 1.40 | 162 | 9,471 | 9,633 | 16.9 | 0.46 | 13.5 | 10,208 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 2.94 | 2.74 | 2.83 | 19.9 | 0.05 | 0.04 | 4.43 | 4.47 | 0.04 | 1.12 | 1.16 | — | 5,005 | 5,005 | 0.21 | 0.25 | 7.92 | 5,091 |
| Area | 0.57 | 3.92 | 0.03 | 3.18 | < 0.005 | 0.01 | — | 0.01 | < 0.005 | — | < 0.005 | — | 13.1 | 13.1 | < 0.005 | < 0.005 | — | 13.1 |
| Energy | 0.12 | 0.06 | 1.07 | 0.90 | 0.01 | 0.08 | — | 0.08 | 0.08 | — | 0.08 | — | 3,742 | 3,742 | 0.35 | 0.03 | — | 3,760 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 63.9 | 186 | 250 | 6.57 | 0.16 | — | 461 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 97.9 | 0.00 | 97.9 | 9.79 | 0.00 | — | 343 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 13.0 | 13.0 |
| Total | 3.63 | 6.72 | 3.92 | 24.0 | 0.06 | 0.13 | 4.43 | 4.55 | 0.12 | 1.12 | 1.25 | 162 | 8,946 | 9,108 | 16.9 | 0.43 | 20.9 | 9,681 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 0.54 | 0.50 | 0.52 | 3.64 | 0.01 | 0.01 | 0.81 | 0.82 | 0.01 | 0.20 | 0.21 | — | 829 | 829 | 0.03 | 0.04 | 1.31 | 843 |
| Area | 0.10 | 0.72 | < 0.005 | 0.58 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 2.17 | 2.17 | < 0.005 | < 0.005 | — | 2.17 |
| Energy | 0.02 | 0.01 | 0.19 | 0.16 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 620 | 620 | 0.06 | 0.01 | — | 623 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 10.6 | 30.8 | 41.4 | 1.09 | 0.03 | — | 76.3 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 16.2 | 0.00 | 16.2 | 1.62 | 0.00 | — | 56.7 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.15 | 2.15 |
| Total | 0.66 | 1.23 | 0.72 | 4.38 | 0.01 | 0.02 | 0.81 | 0.83 | 0.02 | 0.20 | 0.23 | 26.8 | 1,481 | 1,508 | 2.80 | 0.07 | 3.46 | 1,603 |

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|-----------------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|-------|---------|---------|------|-------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 4.82 | 4.05 | 37.5 | 32.4 | 0.05 | 1.93 | — | 1.93 | 1.78 | — | 1.78 | — | 5,528 | 5,528 | 0.22 | 0.04 | — | 5,547 |
| Dust From Material Movement | — | — | — | — | — | — | 5.66 | 5.66 | — | 2.69 | 2.69 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.24 | 0.20 | 1.85 | 1.60 | < 0.005 | 0.10 | — | 0.10 | 0.09 | — | 0.09 | — | 273 | 273 | 0.01 | < 0.005 | — | 274 |
| Dust From Material Movement | — | — | — | — | — | — | 0.28 | 0.28 | — | 0.13 | 0.13 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.04 | 0.04 | 0.34 | 0.29 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 45.1 | 45.1 | < 0.005 | < 0.005 | — | 45.3 |
| Dust From Material Movement | — | — | — | — | — | — | 0.05 | 0.05 | — | 0.02 | 0.02 | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|---------|------|
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.10 | 0.10 | 0.08 | 1.45 | 0.00 | 0.00 | 0.23 | 0.23 | 0.00 | 0.05 | 0.05 | — | 255 | 255 | 0.01 | 0.01 | 0.93 | 259 |
| Vendor | < 0.005 | < 0.005 | 0.03 | 0.01 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 31.9 | 31.9 | < 0.005 | < 0.005 | 0.09 | 33.2 |
| Hauling | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.05 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 11.5 | 11.5 | < 0.005 | < 0.005 | 0.02 | 11.6 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.57 | 1.57 | < 0.005 | < 0.005 | < 0.005 | 1.64 |
| Hauling | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.90 | 1.90 | < 0.005 | < 0.005 | < 0.005 | 1.93 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.26 | 0.26 | < 0.005 | < 0.005 | < 0.005 | 0.27 |
| Hauling | 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 | 0.00 |

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|-----------------------------|------|------|------|------|---------|------|------|------|------|------|------|---|-------|-------|---------|---------|------|-------|
| Off-Road Equipment | 2.73 | 2.30 | 20.6 | 19.6 | 0.03 | 1.15 | — | 1.15 | 1.05 | — | 1.05 | — | 3,134 | 3,134 | 0.13 | 0.03 | — | 3,145 |
| Dust From Material Movement | — | — | — | — | — | — | 2.26 | 2.26 | — | 0.94 | 0.94 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.27 | 0.23 | 2.04 | 1.93 | < 0.005 | 0.11 | — | 0.11 | 0.10 | — | 0.10 | — | 309 | 309 | 0.01 | < 0.005 | — | 310 |
| Dust From Material Movement | — | — | — | — | — | — | 0.22 | 0.22 | — | 0.09 | 0.09 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.05 | 0.04 | 0.37 | 0.35 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 51.2 | 51.2 | < 0.005 | < 0.005 | — | 51.4 |
| Dust From Material Movement | — | — | — | — | — | — | 0.04 | 0.04 | — | 0.02 | 0.02 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.09 | 0.08 | 0.07 | 1.25 | 0.00 | 0.00 | 0.20 | 0.20 | 0.00 | 0.05 | 0.05 | — | 219 | 219 | 0.01 | 0.01 | 0.80 | 222 |

| | | | | | | | | | | | | | | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|---------|------|
| Vendor | < 0.005 | < 0.005 | 0.06 | 0.03 | < 0.005 | < 0.005 | 0.02 | 0.02 | < 0.005 | < 0.005 | 0.01 | — | 63.7 | 63.7 | < 0.005 | 0.01 | 0.17 | 66.4 |
| Hauling | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.09 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | < 0.005 | < 0.005 | — | 19.7 | 19.7 | < 0.005 | < 0.005 | 0.03 | 19.9 |
| Vendor | < 0.005 | < 0.005 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 6.29 | 6.29 | < 0.005 | < 0.005 | 0.01 | 6.55 |
| Hauling | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 3.26 | 3.26 | < 0.005 | < 0.005 | 0.01 | 3.30 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.04 | 1.04 | < 0.005 | < 0.005 | < 0.005 | 1.08 |
| Hauling | 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 | 0.00 |

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.45 | 1.21 | 11.3 | 14.1 | 0.03 | 0.47 | — | 0.47 | 0.43 | — | 0.43 | — | 2,630 | 2,630 | 0.11 | 0.02 | — | 2,639 |
| Onsite truck | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.45 | 1.21 | 11.3 | 14.1 | 0.03 | 0.47 | — | 0.47 | 0.43 | — | 0.43 | — | 2,630 | 2,630 | 0.11 | 0.02 | — | 2,639 |

| | | | | | | | | | | | | | | | | | | | |
|---------------------|------|------|------|------|---------|---------|------|------|---------|------|------|------|-------|-------|---------|---------|------|-------|------|
| Onsite truck | 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 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.56 | 0.47 | 4.41 | 5.51 | 0.01 | 0.18 | — | 0.18 | 0.17 | — | 0.17 | — | 1,024 | 1,024 | 0.04 | 0.01 | — | 1,028 | |
| Onsite truck | 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 | 0.00 | |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Off-Road Equipment | 0.10 | 0.09 | 0.80 | 1.01 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 170 | 170 | 0.01 | < 0.005 | — | 170 | |
| Onsite truck | 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 | 0.00 | |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Worker | 0.37 | 0.34 | 0.30 | 5.10 | 0.00 | 0.00 | 0.80 | 0.80 | 0.00 | 0.19 | 0.19 | — | 895 | 895 | 0.04 | 0.03 | 3.27 | 909 | |
| Vendor | 0.03 | 0.03 | 0.68 | 0.30 | 0.01 | 0.01 | 0.18 | 0.19 | 0.01 | 0.05 | 0.06 | — | 669 | 669 | < 0.005 | 0.09 | 1.83 | 698 | |
| Hauling | 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 | 0.00 | |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Worker | 0.31 | 0.27 | 0.33 | 3.42 | 0.00 | 0.00 | 0.80 | 0.80 | 0.00 | 0.19 | 0.19 | — | 793 | 793 | 0.04 | 0.03 | 0.08 | 803 | |
| Vendor | 0.03 | 0.02 | 0.72 | 0.30 | 0.01 | 0.01 | 0.18 | 0.19 | 0.01 | 0.05 | 0.06 | — | 670 | 670 | < 0.005 | 0.09 | 0.05 | 696 | |
| Hauling | 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 | 0.00 | |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Worker | 0.12 | 0.11 | 0.14 | 1.49 | 0.00 | 0.00 | 0.31 | 0.31 | 0.00 | 0.07 | 0.07 | — | 318 | 318 | 0.02 | 0.01 | 0.55 | 322 | |
| Vendor | 0.01 | 0.01 | 0.28 | 0.12 | < 0.005 | < 0.005 | 0.07 | 0.07 | < 0.005 | 0.02 | 0.02 | — | 261 | 261 | < 0.005 | 0.03 | 0.31 | 271 | |
| Hauling | 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 | 0.00 | |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |

| | | | | | | | | | | | | | | | | | | |
|---------|---------|---------|------|------|---------|---------|------|------|---------|---------|---------|---|------|------|---------|---------|------|------|
| Worker | 0.02 | 0.02 | 0.03 | 0.27 | 0.00 | 0.00 | 0.06 | 0.06 | 0.00 | 0.01 | 0.01 | — | 52.6 | 52.6 | < 0.005 | < 0.005 | 0.09 | 53.4 |
| Vendor | < 0.005 | < 0.005 | 0.05 | 0.02 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 43.1 | 43.1 | < 0.005 | 0.01 | 0.05 | 44.9 |
| Hauling | 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 | 0.00 |

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|---------|------|-------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.38 | 1.16 | 10.7 | 14.1 | 0.03 | 0.41 | — | 0.41 | 0.38 | — | 0.38 | — | 2,630 | 2,630 | 0.11 | 0.02 | — | 2,639 |
| Onsite truck | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.38 | 1.16 | 10.7 | 14.1 | 0.03 | 0.41 | — | 0.41 | 0.38 | — | 0.38 | — | 2,630 | 2,630 | 0.11 | 0.02 | — | 2,639 |
| Onsite truck | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.98 | 0.82 | 7.60 | 10.0 | 0.02 | 0.29 | — | 0.29 | 0.27 | — | 0.27 | — | 1,873 | 1,873 | 0.08 | 0.02 | — | 1,880 |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.18 | 0.15 | 1.39 | 1.83 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 310 | 310 | 0.01 | < 0.005 | — | 311 |

| | | | | | | | | | | | | | | | | | | | |
|---------------------|---------|---------|------|------|---------|---------|------|------|---------|------|------|------|------|------|---------|---------|------|------|------|
| Onsite truck | 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 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.32 | 0.29 | 0.27 | 4.74 | 0.00 | 0.00 | 0.80 | 0.80 | 0.00 | 0.19 | 0.19 | — | 878 | 878 | 0.04 | 0.03 | 2.97 | 891 | |
| Vendor | 0.03 | 0.03 | 0.65 | 0.28 | 0.01 | 0.01 | 0.18 | 0.19 | 0.01 | 0.05 | 0.06 | — | 656 | 656 | < 0.005 | 0.09 | 1.65 | 684 | |
| Hauling | 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 | 0.00 | |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Worker | 0.29 | 0.26 | 0.30 | 3.15 | 0.00 | 0.00 | 0.80 | 0.80 | 0.00 | 0.19 | 0.19 | — | 777 | 777 | 0.01 | 0.03 | 0.08 | 787 | |
| Vendor | 0.03 | 0.02 | 0.69 | 0.29 | 0.01 | 0.01 | 0.18 | 0.19 | 0.01 | 0.05 | 0.06 | — | 657 | 657 | < 0.005 | 0.09 | 0.04 | 683 | |
| Hauling | 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 | 0.00 | |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Worker | 0.21 | 0.19 | 0.23 | 2.53 | 0.00 | 0.00 | 0.57 | 0.57 | 0.00 | 0.13 | 0.13 | — | 570 | 570 | 0.01 | 0.02 | 0.91 | 578 | |
| Vendor | 0.02 | 0.02 | 0.49 | 0.20 | < 0.005 | 0.01 | 0.13 | 0.13 | 0.01 | 0.04 | 0.04 | — | 467 | 467 | < 0.005 | 0.06 | 0.51 | 487 | |
| Hauling | 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 | 0.00 | |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Worker | 0.04 | 0.03 | 0.04 | 0.46 | 0.00 | 0.00 | 0.10 | 0.10 | 0.00 | 0.02 | 0.02 | — | 94.4 | 94.4 | < 0.005 | < 0.005 | 0.15 | 95.6 | |
| Vendor | < 0.005 | < 0.005 | 0.09 | 0.04 | < 0.005 | < 0.005 | 0.02 | 0.02 | < 0.005 | 0.01 | 0.01 | — | 77.4 | 77.4 | < 0.005 | 0.01 | 0.08 | 80.6 | |
| Hauling | 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 | 0.00 | |

3.9. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---------------------|------|------|------|------|---------|------|------|------|------|------|------|---|-------|-------|---------|---------|------|-------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.91 | 0.76 | 7.12 | 9.94 | 0.01 | 0.32 | — | 0.32 | 0.29 | — | 0.29 | — | 1,511 | 1,511 | 0.06 | 0.01 | — | 1,516 |
| Paving | — | 0.38 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.09 | 0.08 | 0.72 | 1.01 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 153 | 153 | 0.01 | < 0.005 | — | 154 |
| Paving | — | 0.04 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.02 | 0.01 | 0.13 | 0.18 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 25.4 | 25.4 | < 0.005 | < 0.005 | — | 25.4 |
| Paving | — | 0.01 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.07 | 0.06 | 0.07 | 0.77 | 0.00 | 0.00 | 0.20 | 0.20 | 0.00 | 0.05 | 0.05 | — | 190 | 190 | < 0.005 | 0.01 | 0.02 | 192 |
| Vendor | 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 | 0.00 |

| | | | | | | | | | | | | | | | | | | | |
|---------------|---------|---------|---------|------|------|------|---------|---------|------|---------|---------|------|------|------|---------|---------|------|------|------|
| Hauling | 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 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.09 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | < 0.005 | < 0.005 | — | 19.8 | 19.8 | < 0.005 | < 0.005 | 0.03 | 20.1 | |
| Vendor | 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 | 0.00 | |
| Hauling | 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 | 0.00 | |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 3.28 | 3.28 | < 0.005 | < 0.005 | 0.01 | 3.32 | |
| Vendor | 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 | 0.00 | |
| Hauling | 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 | 0.00 | |

3.11. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|-------------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|------|------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.19 | 0.16 | 1.14 | 1.51 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 178 | 178 | 0.01 | < 0.005 | — | 179 |
| Architect ural Coatings | — | 20.3 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|------------------------|---------|---------|---------|------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|---------|------|
| Off-Road Equipment | 0.02 | 0.02 | 0.12 | 0.15 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 18.0 | 18.0 | < 0.005 | < 0.005 | — | 18.1 |
| Architectural Coatings | — | 2.06 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | 0.02 | 0.03 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 2.99 | 2.99 | < 0.005 | < 0.005 | — | 3.00 |
| Architectural Coatings | — | 0.38 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.06 | 0.05 | 0.06 | 0.63 | 0.00 | 0.00 | 0.16 | 0.16 | 0.00 | 0.04 | 0.04 | — | 155 | 155 | < 0.005 | 0.01 | 0.02 | 157 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.07 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | < 0.005 | < 0.005 | — | 16.2 | 16.2 | < 0.005 | < 0.005 | 0.03 | 16.4 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 2.69 | 2.69 | < 0.005 | < 0.005 | < 0.005 | 2.72 |

| | | | | | | | | | | | | | | | | | | | |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|---|------|------|------|------|------|------|
| Vendor | 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 | 0.00 | 0.00 |
| Hauling | 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 | 0.00 | 0.00 |

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e | |
|-------------------------|------|------|------|------|------|---------|-------|-------|---------|--------|--------|------|-------|-------|------|------|------|-------|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strip Mall | 1.25 | 1.18 | 0.86 | 7.74 | 0.02 | 0.01 | 1.40 | 1.41 | 0.01 | 0.36 | 0.37 | — | 1,708 | 1,708 | 0.07 | 0.08 | 5.80 | 1,738 | |
| General Office Building | 0.35 | 0.33 | 0.29 | 2.67 | 0.01 | < 0.005 | 0.51 | 0.52 | < 0.005 | 0.13 | 0.13 | — | 619 | 619 | 0.02 | 0.03 | 2.12 | 630 | |
| Parking Lot | 0.85 | 0.80 | 0.70 | 6.45 | 0.01 | 0.01 | 1.24 | 1.25 | 0.01 | 0.31 | 0.32 | — | 1,494 | 1,494 | 0.05 | 0.06 | 5.12 | 1,520 | |
| Industrial Park | 1.29 | 1.20 | 1.05 | 9.72 | 0.02 | 0.02 | 1.86 | 1.88 | 0.02 | 0.47 | 0.49 | — | 2,253 | 2,253 | 0.08 | 0.10 | 7.72 | 2,291 | |
| Other Asphalt Surfaces | 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 | 0.00 | |
| Total | 3.74 | 3.51 | 2.90 | 26.6 | 0.06 | 0.05 | 5.01 | 5.06 | 0.04 | 1.27 | 1.32 | — | 6,074 | 6,074 | 0.22 | 0.26 | 20.8 | 6,179 | |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strip Mall | 1.10 | 1.03 | 0.92 | 6.18 | 0.02 | 0.01 | 1.40 | 1.41 | 0.01 | 0.36 | 0.37 | — | 1,559 | 1,559 | 0.07 | 0.08 | 0.15 | 1,585 | |

| | | | | | | | | | | | | | | | | | | |
|-------------------------|------|------|------|------|---------|---------|------|------|---------|------|------|---|-------|-------|---------|---------|------|-------|
| General Office Building | 0.31 | 0.29 | 0.31 | 2.08 | 0.01 | < 0.005 | 0.51 | 0.52 | < 0.005 | 0.13 | 0.13 | — | 565 | 565 | 0.02 | 0.03 | 0.06 | 574 |
| Parking Lot | 0.76 | 0.70 | 0.75 | 5.02 | 0.01 | 0.01 | 1.24 | 1.25 | 0.01 | 0.31 | 0.32 | — | 1,363 | 1,363 | 0.05 | 0.07 | 0.13 | 1,385 |
| Industrial Park | 1.14 | 1.06 | 1.14 | 7.56 | 0.02 | 0.02 | 1.86 | 1.88 | 0.02 | 0.47 | 0.49 | — | 2,055 | 2,055 | 0.08 | 0.10 | 0.20 | 2,088 |
| Other Asphalt Surfaces | 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 | 0.00 |
| Total | 3.30 | 3.07 | 3.12 | 20.8 | 0.05 | 0.05 | 5.01 | 5.06 | 0.04 | 1.27 | 1.32 | — | 5,543 | 5,543 | 0.23 | 0.27 | 0.54 | 5,632 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strip Mall | 0.18 | 0.17 | 0.15 | 1.07 | < 0.005 | < 0.005 | 0.22 | 0.23 | < 0.005 | 0.06 | 0.06 | — | 232 | 232 | 0.01 | 0.01 | 0.36 | 236 |
| General Office Building | 0.04 | 0.04 | 0.04 | 0.31 | < 0.005 | < 0.005 | 0.07 | 0.07 | < 0.005 | 0.02 | 0.02 | — | 71.0 | 71.0 | < 0.005 | < 0.005 | 0.11 | 72.3 |
| Parking Lot | 0.14 | 0.13 | 0.14 | 0.99 | < 0.005 | < 0.005 | 0.23 | 0.23 | < 0.005 | 0.06 | 0.06 | — | 231 | 231 | 0.01 | 0.01 | 0.37 | 235 |
| Industrial Park | 0.18 | 0.16 | 0.18 | 1.27 | < 0.005 | < 0.005 | 0.29 | 0.29 | < 0.005 | 0.07 | 0.08 | — | 295 | 295 | 0.01 | 0.01 | 0.47 | 300 |
| Other Asphalt Surfaces | 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 | 0.00 |
| Total | 0.54 | 0.50 | 0.52 | 3.64 | 0.01 | 0.01 | 0.81 | 0.82 | 0.01 | 0.20 | 0.21 | — | 829 | 829 | 0.03 | 0.04 | 1.31 | 843 |

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
|----------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|

| | | | | | | | | | | | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|-------|-------|---------|---------|---|-------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | — | 43.4 | 43.4 | < 0.005 | < 0.005 | — | 43.6 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 77.8 | 77.8 | 0.01 | < 0.005 | — | 78.3 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | — | 47.4 | 47.4 | < 0.005 | < 0.005 | — | 47.7 |
| Industrial Park | — | — | — | — | — | — | — | — | — | — | — | — | 2,301 | 2,301 | 0.22 | 0.03 | — | 2,314 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 2,469 | 2,469 | 0.24 | 0.03 | — | 2,484 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | — | 43.4 | 43.4 | < 0.005 | < 0.005 | — | 43.6 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 77.8 | 77.8 | 0.01 | < 0.005 | — | 78.3 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | — | 47.4 | 47.4 | < 0.005 | < 0.005 | — | 47.7 |
| Industrial Park | — | — | — | — | — | — | — | — | — | — | — | — | 2,301 | 2,301 | 0.22 | 0.03 | — | 2,314 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 2,469 | 2,469 | 0.24 | 0.03 | — | 2,484 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | — | 7.18 | 7.18 | < 0.005 | < 0.005 | — | 7.22 |

| | | | | | | | | | | | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|------|------|---------|---------|---|------|
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 12.9 | 12.9 | < 0.005 | < 0.005 | — | 13.0 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | — | 7.86 | 7.86 | < 0.005 | < 0.005 | — | 7.90 |
| Industrial Park | — | — | — | — | — | — | — | — | — | — | — | — | 381 | 381 | 0.04 | < 0.005 | — | 383 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 409 | 409 | 0.04 | < 0.005 | — | 411 |

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|-------------------------|---------|---------|------|------|---------|---------|-------|---------|---------|--------|---------|------|-------|-------|---------|---------|---|-------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strip Mall | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 8.88 | 8.88 | < 0.005 | < 0.005 | — | 8.90 |
| General Office Building | < 0.005 | < 0.005 | 0.03 | 0.03 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 41.3 | 41.3 | < 0.005 | < 0.005 | — | 41.4 |
| Parking Lot | 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 |
| Industrial Park | 0.11 | 0.06 | 1.02 | 0.86 | 0.01 | 0.08 | — | 0.08 | 0.08 | — | 0.08 | — | 1,222 | 1,222 | 0.11 | < 0.005 | — | 1,226 |
| Other Asphalt Surfaces | 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 |
| Total | 0.12 | 0.06 | 1.07 | 0.90 | 0.01 | 0.08 | — | 0.08 | 0.08 | — | 0.08 | — | 1,273 | 1,273 | 0.11 | < 0.005 | — | 1,276 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|-------------------------|---------|---------|---------|---------|---------|---------|---|---------|---------|---|---------|---|-------|-------|---------|---------|---|-------|
| Strip Mall | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 8.88 | 8.88 | < 0.005 | < 0.005 | — | 8.90 |
| General Office Building | < 0.005 | < 0.005 | 0.03 | 0.03 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 41.3 | 41.3 | < 0.005 | < 0.005 | — | 41.4 |
| Parking Lot | 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 |
| Industrial Park | 0.11 | 0.06 | 1.02 | 0.86 | 0.01 | 0.08 | — | 0.08 | 0.08 | — | 0.08 | — | 1,222 | 1,222 | 0.11 | < 0.005 | — | 1,226 |
| Other Asphalt Surfaces | 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 |
| Total | 0.12 | 0.06 | 1.07 | 0.90 | 0.01 | 0.08 | — | 0.08 | 0.08 | — | 0.08 | — | 1,273 | 1,273 | 0.11 | < 0.005 | — | 1,276 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strip Mall | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 1.47 | 1.47 | < 0.005 | < 0.005 | — | 1.47 |
| General Office Building | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 6.84 | 6.84 | < 0.005 | < 0.005 | — | 6.86 |
| Parking Lot | 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 |
| Industrial Park | 0.02 | 0.01 | 0.19 | 0.16 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 202 | 202 | 0.02 | < 0.005 | — | 203 |
| Other Asphalt Surfaces | 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 |
| Total | 0.02 | 0.01 | 0.19 | 0.16 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 211 | 211 | 0.02 | < 0.005 | — | 211 |

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Source | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|--------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
|--------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|

| | | | | | | | | | | | | | | | | | | |
|------------------------|------|------|---------|------|---------|---------|---|---------|---------|---|---------|---|------|------|---------|---------|---|------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | — | 3.19 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.21 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 1.15 | 1.06 | 0.05 | 6.45 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 26.5 | 26.5 | < 0.005 | < 0.005 | — | 26.6 |
| Total | 1.15 | 4.46 | 0.05 | 6.45 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 26.5 | 26.5 | < 0.005 | < 0.005 | — | 26.6 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | — | 3.19 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.21 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | 3.40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | — | 0.58 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.04 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 0.10 | 0.10 | < 0.005 | 0.58 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 2.17 | 2.17 | < 0.005 | < 0.005 | — | 2.17 |
| Total | 0.10 | 0.72 | < 0.005 | 0.58 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 2.17 | 2.17 | < 0.005 | < 0.005 | — | 2.17 |

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|-------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|---|------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | 0.67 | 5.82 | 6.48 | 0.07 | < 0.005 | — | 8.71 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 1.60 | 4.56 | 6.16 | 0.16 | < 0.005 | — | 11.5 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Industrial Park | — | — | — | — | — | — | — | — | — | — | — | 61.6 | 176 | 237 | 6.33 | 0.15 | — | 441 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 63.9 | 186 | 250 | 6.57 | 0.16 | — | 461 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | 0.67 | 5.82 | 6.48 | 0.07 | < 0.005 | — | 8.71 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 1.60 | 4.56 | 6.16 | 0.16 | < 0.005 | — | 11.5 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Industrial Park | — | — | — | — | — | — | — | — | — | — | — | 61.6 | 176 | 237 | 6.33 | 0.15 | — | 441 |

| | | | | | | | | | | | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|------|------|------|------|---------|---|------|
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 63.9 | 186 | 250 | 6.57 | 0.16 | — | 461 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | 0.11 | 0.96 | 1.07 | 0.01 | < 0.005 | — | 1.44 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 0.27 | 0.76 | 1.02 | 0.03 | < 0.005 | — | 1.90 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Industrial Park | — | — | — | — | — | — | — | — | — | — | — | 10.2 | 29.1 | 39.3 | 1.05 | 0.03 | — | 73.0 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 10.6 | 30.8 | 41.4 | 1.09 | 0.03 | — | 76.3 |

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|-------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | 2.66 | 0.00 | 2.66 | 0.27 | 0.00 | — | 9.31 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 2.36 | 0.00 | 2.36 | 0.24 | 0.00 | — | 8.24 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|------|------|------|------|------|---|------|
| Industrial Park | — | — | — | — | — | — | — | — | — | — | — | 92.9 | 0.00 | 92.9 | 9.28 | 0.00 | — | 325 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 97.9 | 0.00 | 97.9 | 9.79 | 0.00 | — | 343 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | 2.66 | 0.00 | 2.66 | 0.27 | 0.00 | — | 9.31 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 2.36 | 0.00 | 2.36 | 0.24 | 0.00 | — | 8.24 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Industrial Park | — | — | — | — | — | — | — | — | — | — | — | 92.9 | 0.00 | 92.9 | 9.28 | 0.00 | — | 325 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 97.9 | 0.00 | 97.9 | 9.79 | 0.00 | — | 343 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | 0.44 | 0.00 | 0.44 | 0.04 | 0.00 | — | 1.54 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 0.39 | 0.00 | 0.39 | 0.04 | 0.00 | — | 1.36 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Industrial Park | — | — | — | — | — | — | — | — | — | — | — | 15.4 | 0.00 | 15.4 | 1.54 | 0.00 | — | 53.8 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 16.2 | 0.00 | 16.2 | 1.62 | 0.00 | — | 56.7 |

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|-------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---------|---------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |
| Industrial Park | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 13.0 | 13.0 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 13.0 | 13.0 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |
| Industrial Park | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 13.0 | 13.0 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 13.0 | 13.0 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |

| | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|------|------|
| Industrial Park | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.15 | 2.15 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.15 | 2.15 |

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetatio | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
|---------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|

| | | | | | | | | | | | | | | | | | | |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Remove d | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

5. Activity Data

5.1. Construction Schedule

| Phase Name | Phase Type | Start Date | End Date | Days Per Week | Work Days per Phase | Phase Description |
|-----------------------|-----------------------|------------|------------|---------------|---------------------|-------------------|
| Site Preparation | Site Preparation | 4/1/2025 | 4/24/2025 | 5.00 | 18.0 | 10 |
| Grading | Grading | 4/25/2025 | 6/13/2025 | 5.00 | 36.0 | 20 |
| Building Construction | Building Construction | 6/16/2025 | 12/30/2026 | 5.00 | 403 | 230 |
| Paving | Paving | 11/10/2026 | 12/30/2026 | 5.00 | 37.0 | 20 |
| Architectural Coating | Architectural Coating | 11/10/2026 | 12/30/2026 | 5.00 | 37.0 | 20 |

5.2. Off-Road Equipment

5.2.1. Unmitigated

| Phase Name | Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|-----------------------|---------------------|-----------|-------------|----------------|---------------|------------|-------------|
| Site Preparation | Rubber Tired Dozers | Diesel | Average | 3.00 | 8.00 | 367 | 0.40 |
| Site Preparation | Crawler Tractors | Diesel | Average | 4.00 | 8.00 | 87.0 | 0.43 |
| Grading | Excavators | Diesel | Average | 1.00 | 8.00 | 36.0 | 0.38 |
| Grading | Graders | Diesel | Average | 1.00 | 8.00 | 148 | 0.41 |
| Grading | Rubber Tired Dozers | Diesel | Average | 1.00 | 8.00 | 367 | 0.40 |
| Grading | Crawler Tractors | Diesel | Average | 3.00 | 8.00 | 87.0 | 0.43 |
| Building Construction | Cranes | Diesel | Average | 1.00 | 8.00 | 367 | 0.29 |
| Building Construction | Forklifts | Diesel | Average | 3.00 | 8.00 | 82.0 | 0.20 |

| | | | | | | | |
|-----------------------|---------------------------|--------|---------|------|------|------|------|
| Building Construction | Generator Sets | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 8.00 | 84.0 | 0.37 |
| Building Construction | Welders | Diesel | Average | 1.00 | 8.00 | 46.0 | 0.45 |
| Paving | Pavers | Diesel | Average | 2.00 | 8.00 | 81.0 | 0.42 |
| Paving | Paving Equipment | Diesel | Average | 2.00 | 8.00 | 89.0 | 0.36 |
| Paving | Rollers | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Architectural Coating | Air Compressors | Diesel | Average | 1.00 | 8.00 | 37.0 | 0.48 |

5.3. Construction Vehicles

5.3.1. Unmitigated

| Phase Name | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix |
|-----------------------|--------------|-----------------------|----------------|---------------|
| Site Preparation | — | — | — | — |
| Site Preparation | Worker | 17.5 | 18.5 | LDA,LDT1,LDT2 |
| Site Preparation | Vendor | 1.00 | 10.2 | HHDT,MHDT |
| Site Preparation | Hauling | 0.00 | 20.0 | HHDT |
| Site Preparation | Onsite truck | — | — | HHDT |
| Grading | — | — | — | — |
| Grading | Worker | 15.0 | 18.5 | LDA,LDT1,LDT2 |
| Grading | Vendor | 2.00 | 10.2 | HHDT,MHDT |
| Grading | Hauling | 0.00 | 20.0 | HHDT |
| Grading | Onsite truck | — | — | HHDT |
| Building Construction | — | — | — | — |
| Building Construction | Worker | 61.4 | 18.5 | LDA,LDT1,LDT2 |
| Building Construction | Vendor | 21.0 | 10.2 | HHDT,MHDT |
| Building Construction | Hauling | 0.00 | 20.0 | HHDT |
| Building Construction | Onsite truck | — | — | HHDT |

| | | | | |
|-----------------------|--------------|------|------|---------------|
| Paving | — | — | — | — |
| Paving | Worker | 15.0 | 18.5 | LDA,LDT1,LDT2 |
| Paving | Vendor | — | 10.2 | HHDT,MHDT |
| Paving | Hauling | 0.00 | 20.0 | HHDT |
| Paving | Onsite truck | — | — | HHDT |
| Architectural Coating | — | — | — | — |
| Architectural Coating | Worker | 12.3 | 18.5 | LDA,LDT1,LDT2 |
| Architectural Coating | Vendor | — | 10.2 | HHDT,MHDT |
| Architectural Coating | Hauling | 0.00 | 20.0 | HHDT |
| Architectural Coating | Onsite truck | — | — | HHDT |

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|-----------------------|--|--|--|--|-----------------------------|
| Architectural Coating | 0.00 | 0.00 | 222,600 | 74,200 | 13,970 |

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

| Phase Name | Material Imported (cy) | Material Exported (cy) | Acres Graded (acres) | Material Demolished (sq. ft.) | Acres Paved (acres) |
|------------------|------------------------|------------------------|----------------------|-------------------------------|---------------------|
| Site Preparation | — | — | 63.0 | 0.00 | — |
| Grading | — | — | 90.0 | 0.00 | — |
| Paving | 0.00 | 0.00 | 0.00 | 0.00 | 5.34 |

5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|----------------------------|---------------------|----------------|-----------------|
| Water Exposed Area | 3 | 74% | 74% |

5.7. Construction Paving

| Land Use | Area Paved (acres) | % Asphalt |
|-------------------------|--------------------|-----------|
| Strip Mall | 0.00 | 0% |
| General Office Building | 0.00 | 0% |
| Parking Lot | 0.78 | 100% |
| Industrial Park | 0.00 | 0% |
| Parking Lot | 0.53 | 100% |
| Other Asphalt Surfaces | 4.03 | 100% |

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4 | N2O |
|------|--------------|-----|------|---------|
| 2025 | 0.00 | 349 | 0.03 | < 0.005 |
| 2026 | 0.00 | 346 | 0.03 | < 0.005 |

5.9. Operational Mobile Sources

5.9.1. Unmitigated

| Land Use Type | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|-------------------------|---------------|----------------|--------------|------------|-------------|--------------|------------|----------|
| Strip Mall | 256 | 198 | 96.0 | 82,030 | 1,985 | 1,533 | 745 | 636,340 |
| General Office Building | 67.6 | 10.4 | 3.29 | 18,346 | 726 | 112 | 35.3 | 196,949 |

| | | | | | | | | |
|------------------------|------|------|------|--------|-------|-------|-------|---------|
| Parking Lot | 163 | 163 | 163 | 59,568 | 1,752 | 1,752 | 1,752 | 639,477 |
| Industrial Park | 202 | 246 | 209 | 76,247 | 2,164 | 2,641 | 2,238 | 818,535 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

| Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|--|--|--|--|-----------------------------|
| 0 | 0.00 | 222,600 | 74,200 | 13,970 |

5.10.3. Landscape Equipment

| Season | Unit | Value |
|-------------|--------|-------|
| Snow Days | day/yr | 0.00 |
| Summer Days | day/yr | 180 |

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

| Land Use | Electricity (kWh/yr) | CO2 | CH4 | N2O | Natural Gas (kBTU/yr) |
|------------|----------------------|-----|--------|--------|-----------------------|
| Strip Mall | 45,723 | 346 | 0.0330 | 0.0040 | 27,709 |

| | | | | | |
|-------------------------|-----------|-----|--------|--------|-----------|
| General Office Building | 82,024 | 346 | 0.0330 | 0.0040 | 128,968 |
| Parking Lot | 29,764 | 346 | 0.0330 | 0.0040 | 0.00 |
| Industrial Park | 2,425,812 | 346 | 0.0330 | 0.0040 | 3,814,162 |
| Parking Lot | 20,262 | 346 | 0.0330 | 0.0040 | 0.00 |
| Other Asphalt Surfaces | 0.00 | 346 | 0.0330 | 0.0040 | 0.00 |

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

| Land Use | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|-------------------------|-------------------------|--------------------------|
| Strip Mall | 348,141 | 973,919 |
| General Office Building | 835,349 | 0.00 |
| Parking Lot | 0.00 | 0.00 |
| Industrial Park | 32,143,750 | 0.00 |
| Parking Lot | 0.00 | 0.00 |
| Other Asphalt Surfaces | 0.00 | 0.00 |

5.13. Operational Waste Generation

5.13.1. Unmitigated

| Land Use | Waste (ton/year) | Cogeneration (kWh/year) |
|-------------------------|------------------|-------------------------|
| Strip Mall | 4.94 | — |
| General Office Building | 4.37 | — |
| Parking Lot | 0.00 | — |
| Industrial Park | 172 | — |
| Parking Lot | 0.00 | — |
| Other Asphalt Surfaces | 0.00 | — |

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

| Land Use Type | Equipment Type | Refrigerant | GWP | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|-------------------------|---|--------------|-----|---------------|----------------------|-------------------|----------------|
| Strip Mall | Other commercial A/C and heat pumps | User Defined | 750 | < 0.005 | 4.00 | 4.00 | 18.0 |
| Strip Mall | Stand-alone retail refrigerators and freezers | User Defined | 150 | 0.04 | 1.00 | 0.00 | 1.00 |
| Strip Mall | Walk-in refrigerators and freezers | User Defined | 150 | < 0.005 | 7.50 | 7.50 | 20.0 |
| General Office Building | Household refrigerators and/or freezers | User Defined | 150 | 0.02 | 0.60 | 0.00 | 1.00 |
| General Office Building | Other commercial A/C and heat pumps | User Defined | 750 | < 0.005 | 4.00 | 4.00 | 18.0 |
| Industrial Park | Other commercial A/C and heat pumps | User Defined | 750 | 0.30 | 4.00 | 4.00 | 18.0 |

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

| Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|----------------|-----------|-------------|----------------|---------------|------------|-------------|
|----------------|-----------|-------------|----------------|---------------|------------|-------------|

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

| Equipment Type | Fuel Type | Number per Day | Hours per Day | Hours per Year | Horsepower | Load Factor |
|----------------|-----------|----------------|---------------|----------------|------------|-------------|
|----------------|-----------|----------------|---------------|----------------|------------|-------------|

5.16.2. Process Boilers

| Equipment Type | Fuel Type | Number | Boiler Rating (MMBtu/hr) | Daily Heat Input (MMBtu/day) | Annual Heat Input (MMBtu/yr) |
|----------------|-----------|--------|--------------------------|------------------------------|------------------------------|
|----------------|-----------|--------|--------------------------|------------------------------|------------------------------|

5.17. User Defined

| Equipment Type | Fuel Type |
|----------------|-----------|
|----------------|-----------|

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|--------------------------|----------------------|---------------|-------------|
|--------------------------|----------------------|---------------|-------------|

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|--------------------|---------------|-------------|
|--------------------|---------------|-------------|

5.18.2. Sequestration

5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|-----------|--------|------------------------------|------------------------------|
|-----------|--------|------------------------------|------------------------------|

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

| Climate Hazard | Result for Project Location | Unit |
|------------------------------|-----------------------------|--|
| Temperature and Extreme Heat | 33.2 | annual days of extreme heat |
| Extreme Precipitation | 1.05 | annual days with precipitation above 20 mm |
| Sea Level Rise | — | meters of inundation depth |
| Wildfire | 0.00 | annual hectares burned |

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events.

Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|------------------------------|----------------|-------------------|-------------------------|---------------------|
| Temperature and Extreme Heat | 4 | 0 | 0 | N/A |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | N/A | N/A | N/A | N/A |
| Wildfire | N/A | N/A | N/A | N/A |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | 0 | 0 | 0 | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | N/A | N/A | N/A | N/A |

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|------------------------------|----------------|-------------------|-------------------------|---------------------|
| Temperature and Extreme Heat | 4 | 1 | 1 | 4 |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | N/A | N/A | N/A | N/A |
| Wildfire | N/A | N/A | N/A | N/A |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | 1 | 1 | 1 | 2 |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | N/A | N/A | N/A | N/A |

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

| Indicator | Result for Project Census Tract |
|---------------------|---------------------------------|
| Exposure Indicators | — |
| AQ-Ozone | 88.7 |
| AQ-PM | 20.8 |
| AQ-DPM | 9.43 |
| Drinking Water | 8.47 |
| Lead Risk Housing | 35.8 |

| | |
|---------------------------------|------|
| Pesticides | 0.00 |
| Toxic Releases | 17.6 |
| Traffic | 35.5 |
| Effect Indicators | — |
| CleanUp Sites | 0.00 |
| Groundwater | 0.00 |
| Haz Waste Facilities/Generators | 16.6 |
| Impaired Water Bodies | 0.00 |
| Solid Waste | 0.00 |
| Sensitive Population | — |
| Asthma | 87.3 |
| Cardio-vascular | 99.6 |
| Low Birth Weights | 85.6 |
| Socioeconomic Factor Indicators | — |
| Education | 81.1 |
| Housing | 96.0 |
| Linguistic | 52.5 |
| Poverty | 82.1 |
| Unemployment | 95.9 |

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

| Indicator | Result for Project Census Tract |
|---------------|---------------------------------|
| Economic | — |
| Above Poverty | 6.197869883 |
| Employed | 3.131015013 |
| Median HI | 16.70730142 |

| | |
|--|-------------|
| Education | — |
| Bachelor's or higher | 10.61208777 |
| High school enrollment | 100 |
| Preschool enrollment | 12.83202874 |
| Transportation | — |
| Auto Access | 76.73553189 |
| Active commuting | 20.39009367 |
| Social | — |
| 2-parent households | 38.63723855 |
| Voting | 21.53214423 |
| Neighborhood | — |
| Alcohol availability | 97.0101373 |
| Park access | 2.194276915 |
| Retail density | 19.196715 |
| Supermarket access | 16.7842936 |
| Tree canopy | 2.643397921 |
| Housing | — |
| Homeownership | 57.6799692 |
| Housing habitability | 16.50198896 |
| Low-inc homeowner severe housing cost burden | 16.95110997 |
| Low-inc renter severe housing cost burden | 2.65622995 |
| Uncrowded housing | 22.82817914 |
| Health Outcomes | — |
| Insured adults | 41.85807776 |
| Arthritis | 0.0 |
| Asthma ER Admissions | 6.8 |
| High Blood Pressure | 0.0 |

| | |
|---------------------------------------|------|
| Cancer (excluding skin) | 0.0 |
| Asthma | 0.0 |
| Coronary Heart Disease | 0.0 |
| Chronic Obstructive Pulmonary Disease | 0.0 |
| Diagnosed Diabetes | 0.0 |
| Life Expectancy at Birth | 11.1 |
| Cognitively Disabled | 33.5 |
| Physically Disabled | 10.8 |
| Heart Attack ER Admissions | 0.7 |
| Mental Health Not Good | 0.0 |
| Chronic Kidney Disease | 0.0 |
| Obesity | 0.0 |
| Pedestrian Injuries | 19.6 |
| Physical Health Not Good | 0.0 |
| Stroke | 0.0 |
| Health Risk Behaviors | — |
| Binge Drinking | 0.0 |
| Current Smoker | 0.0 |
| No Leisure Time for Physical Activity | 0.0 |
| Climate Change Exposures | — |
| Wildfire Risk | 0.0 |
| SLR Inundation Area | 0.0 |
| Children | 1.3 |
| Elderly | 78.6 |
| English Speaking | 68.7 |
| Foreign-born | 41.3 |
| Outdoor Workers | 59.0 |

| | |
|----------------------------------|------|
| Climate Change Adaptive Capacity | — |
| Impervious Surface Cover | 81.7 |
| Traffic Density | 49.8 |
| Traffic Access | 23.0 |
| Other Indices | — |
| Hardship | 92.4 |
| Other Decision Support | — |
| 2016 Voting | 23.2 |

7.3. Overall Health & Equity Scores

| Metric | Result for Project Census Tract |
|---|---------------------------------|
| CalEnviroScreen 4.0 Score for Project Location (a) | 40.0 |
| Healthy Places Index Score for Project Location (b) | 9.00 |
| Project Located in a Designated Disadvantaged Community (Senate Bill 535) | No |
| Project Located in a Low-Income Community (Assembly Bill 1550) | Yes |
| Project Located in a Community Air Protection Program Community (Assembly Bill 617) | No |

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

| Screen | Justification |
|-----------------------------------|---|
| Construction: Construction Phases | Taken from client data Building Construction, Paving, and Architectural Coating overlap to present a conservative analysis |
| Construction: Off-Road Equipment | T/L/B replaced with Crawler Tractor to accurately calculate disturbance for Site Preparation and Grading phases. Standard 8 hours work days |
| Construction: Trips and VMT | Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Site Preparation, Grading, and Building Construction |
| Operations: Vehicle Data | Trip characteristics based on information from Trip Generation 28% Pass-by trips accounted for strip mall |
| Operations: Refrigerants | As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater. Further, R-404A (the CalEEMod default) is unacceptable for new supermarket and cold storage systems as of 1 January 2019 and 2023, respectively. Beginning 1 January 2025, all new air conditioning equipment may not use refrigerants with a GWP of 750 or greater. |
| Land Use | Taken from site plan |

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