# Regional Housing Needs Assessment Rezone

## AIR QUALITY IMPACT ANALYSIS

### CITY OF REDLANDS

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# TABLE OF CONTENTS

# APPENDICES



# LIST OF EXHIBITS



# LIST OF TABLES

# LIST OF ABBREVIATED TERMS

| | |
|---|---|
| % | Percent |
| °F | Degrees Fahrenheit |
| (1) | Reference |
| µg/$m^3$ | Microgram per Cubic Meter |
| *1992 CO Plan* | *1992 Federal Attainment Plan for Carbon Monoxide* |
| *1993 CEQA Handbook* | *SCAQMD's CEQA Air Quality Handbook (1993)* |
| *2016-2040 RTP/SCS* | *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* |
| AADT | Annual Average Daily Truck Traffic |
| AB 2595 | California Clean Air Act |
| ADA | Americans with Disabilities Act |
| AQIA | Air Quality Impact Analysis |
| AQMP | Air Quality Management Plan |
| BACT | Best Available Control Technology |
| BC | Black Carbon |
| *Brief* | *Brief of Amicus Curiae by the SCAQMD in the Friant Ranch Case* |
| $C_2Cl_4$ | Perchloroethylene |
| $C_4H_6$ | 1,3-butadiene |
| $C_6H_6$ | Benzene |
| $C_2H_3Cl$ | Vinyl Chloride |
| $C_2H_4O$ | Acetaldehyde |
| CAA | Federal Clean Air Act |
| CAAQS | California Ambient Air Quality Standards |
| CalEEMod | California Emissions Estimator Model |
| CalEPA | California Environmental Protection Agency |
| CALGreen | California Green Building Standards Code |
| CAP | Climate Action Plan |
| CAPCOA | California Air Pollution Control Officers Association |
| CARB | California Air Resources Board |
| CCR | California Code of Regulations |
| CEC | California Energy Commission |
| CEQA | California Environmental Quality Act |
| *CEQA Guidelines* | *2019 CEQA Statute and Guidelines* |
| $CH_2O$ | Formaldehyde |
| City | City of Redlands |

| | |
|---|---|
| CO | Carbon Monoxide |
| COH | Coefficient of Haze |
| COHb | Carboxyhemoglobin |
| Cr(VI) | Chromium |
| CTP | Clean Truck Program |
| DPM | Diesel Particulate Matter |
| DRRP | Diesel Risk Reduction Plan |
| EC | Elemental Carbon |
| EIR | Environmental Impact Report |
| EMFAC | EMissions FACtor Model |
| EPA | Environmental Protection Agency |
| ETW | Equivalent Test Weight |
| EV | Electric Vehicle |
| EVSE | Electric Vehicle Supply Equipment |
| GHG | Greenhouse Gas |
| GVWR | Gross Vehicle Weight Rating |
| $H_2S$ | Hydrogen Sulfide |
| HDT | Heavy Duty Trucks |
| HHDT | Heavy-Heavy-Duty Trucks |
| HI | Hazard Index |
| hp | Horsepower |
| HRA | Health Risk Assessment |
| HVIP | Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project |
| I-210 | Interstate 210 |
| lbs | Pounds |
| lbs/day | Pounds Per Day |
| LDA | Light Duty Auto |
| LDT1/LDT2 | Light-Duty Trucks |
| LHDT1/LHDT2 | Light-Heavy-Duty Trucks |
| LST | Localized Significance Threshold |
| *LST Methodology* | *Final Localized Significance Threshold Methodology* |
| MARB/IPA | March Air Reserve Base/Inland Port Airport |
| MATES | Multiple Air Toxics Exposure Study |
| MCY | Motorcycles |
| MDV | Medium-Duty Vehicles |
| MERV | Maximum Efficiency Rating Value |
| MHDT | Medium-Heavy-Duty Trucks |

| | |
|---|---|
| MICR | Maximum Individual Cancer Risk |
| MM | Mitigation Measures |
| mph | Miles Per Hour |
| MWELO | California Department of Water Resources' Model Water Efficient |
| $N_2$ | Nitrogen |
| $N_2O$ | Nitrous Oxide |
| NAAQS | National Ambient Air Quality Standards |
| NB | Northbound |
| NO | Nitric Oxide |
| $NO_2$ | Nitrogen Dioxide |
| $NO_X$ | Nitrogen Oxides |
| $O_2$ | Oxygen |
| $O_3$ | Ozone |
| $O_2$ Deficiency | Chronic Hypoxemia |
| OBD-II | On-Board Diagnostic |
| ODC | Ozone Depleting Compounds |
| Pb | Lead |
| $PM_{10}$ | Particulate Matter 10 microns in diameter or less |
| $PM_{2.5}$ | Particulate Matter 2.5 microns in diameter or less |
| PMI | Point of Maximum Impact |
| POLA | Port of Los Angeles |
| POLB | Port of Long Beach |
| ppm | Parts Per Million |
| Project | Regional Housing Needs Assessment Rezone |
| RECLAIM | Regional Clean Air Incentives Market |
| RFG-2 | Reformulated Gasoline Regulation |
| ROG | Reactive Organic Gases |
| SB | Southbound |
| SCAB | South Coast Air Basin |
| SCAG | Southern California Association of Governments |
| SCAQMD | South Coast Air Quality Management District |
| sf | Square Feet |
| SIPs | State Implementation Plans |
| SJVUAPCD | San Joaquin Valley Unified Air Pollution Control District |
| $SO_2$ | Sulfur Dioxide |
| $SO_4$ | Sulfates |
| $SO_X$ | Sulfur Oxides |

| | |
|---|---|
| SoCalGas | The Southern California Gas Company |
| SOON | Surplus Off-Road Opt-in for Nitrogen Oxides |
| SRA | Source Receptor Area |
| TAC | Toxic Air Contaminant |
| TDM | Transportation Demand Management |
| Title 24 | California Building Code |
| TITLE I | Non-Attainment Provisions |
| TITLE II | Mobile Sources Provisions |
| TMA | Transportation Management Association |
| TOD | Transit-Orientated Development |
| UFP | Ultrafine Particles |
| URBEMIS | URBan EMISsions |
| URF | Unit Risk Factor |
| VICS | Voluntary Interindustry Commerce Solutions |
| VIP | On-road Heavy Duty Voucher Incentive Program |
| VMT | Vehicle Miles Traveled |
| VOC | Volatile Organic Compounds |
| WSAB | West Santa Ana Branch |
| vph | Vehicles Per Hour |

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# EXECUTIVE SUMMARY

## ES.1 SUMMARY OF FINDINGS

The results of this *Regional Housing Needs Assessment Rezone Air Quality Impact Analysis* (AQIA) 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* (*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 | Significance Findings | | | New Significant Impact |
|---|---|---|---|---|
| | 2017 EIR | Proposed Project | | |
| | | Unmitigated | Mitigated | |
| Regional Construction Emissions | *Significant and Unavoidable* | *Potentially Significant (Section 3.4)* | *Significant and Unavoidable (Section 3.4)* | *NO* |
| Regional Operational Emissions | *Significant and Unavoidable* | *Potentially Significant (Section 3.5)* | *Significant and Unavoidable (Section 3.5)* | *NO* |
| CO "Hot Spot" Analysis | *Less Than Significant* | *Less Than Significant (Section 3.6.2)* | *n/a* | *n/a* |
| Air Quality Management Plan | *Less Than Significant* | *Potentially Significant (Section 3.7)* | *Significant and Unavoidable (Section 3.7)* | *YES* |
| Sensitive Receptors | *Less Than Significant* | *Potentially Significant (Section 3.6)* | *Significant and Unavoidable (Section 3.6)* | *YES* |
| Odors | *Less Than Significant* | *Less Than Significant (Section 3.8)* | *n/a* | *n/a* |
| Cumulative Impacts | *Significant and Unavoidable* | *Potentially Significant (Section 3.9)* | *Significant and Unavoidable (Section 3.9)* | *NO* |

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# 1 INTRODUCTION

This report presents the results of the AQIA prepared by Urban Crossroads, Inc., for the proposed Redlands Regional Housing Needs Assessment Rezone Project (proposed Project). The purpose of this AQIA is to evaluate the potential impacts to air quality associated with construction and operation of the Project and recommend measures to mitigate impacts considered potentially significant in comparison to thresholds established by the SCAQMD.

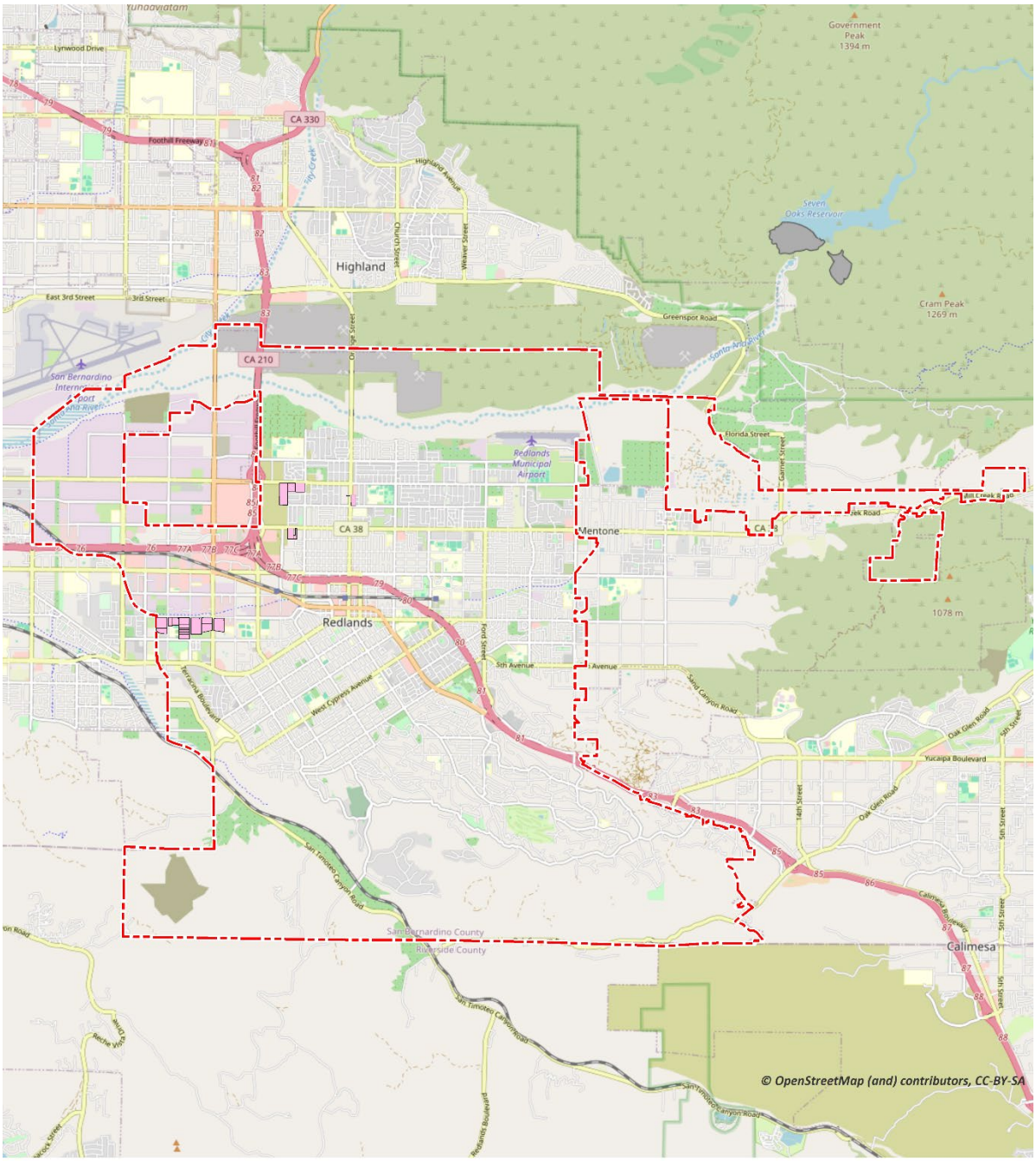
## 1.1 PROJECT DESCRIPTION

The 2021-2029 Housing Element includes several provisions that aim to ensure the City can meet the required "fair share" of affordable housing units. Pursuant to Housing Element Program 1.1-1, the City of Redlands is proposing to rezone 24 sites for the purpose of increasing residential development capacity and ensuring compatibility with proposed residential uses. The 6th Cycle Housing Element Update indicates that, with the rezone, the City can accommodate approximately 2,436 housing units. With rezoning of Site 24 to ensure compatibility with the surrounding proposed residential uses, the proposed Project would also allow for 151,048.46 SF of Public/Institutional development.

The proposed Project includes the following components: a General Plan Amendment (GPA) to change the land use designations to enable the proposed rezoning, a Specific Plan Amendments (SPA) to remove 18 lots out of the EVCSP and 3 lots out of Concept Plan 4, and zone change to allow for medium and high-density residential development within the proposed Project site and Public/Institutional development within Site 24.

The Air Quality Impact Analysis will evaluate the proposed development intensities expected for the 24 sites and assess the potential impacts that result from the implementation of the rezoning and changes to land use as well as compare the proposed development intensities to buildout pursuant to the existing General Plan land use and zoning designations. The City Approved General Plan currently designates the 24 Project sites for 1,656,699.86-sf of commercial/industrial, 552,340.90-sf for commercial, and 111 dwelling units for multi-family housing uses. The proposed Project will propose a total of 151,048.46-sf for public/institutional uses and 2,436 dwelling units for multi-family housing. Exhibit 1-A identifies the locations of each of the Housing Element sites shown on Appendix 3.1.

## EXHIBIT 1-A: HOUSING ELEMENT SITE LOCATION MAP




**LEGEND:**

N

Sites  City 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 SOUTH COAST AIR BASIN (SCAB)

The proposed Project site is located in the SCAB within the jurisdiction of SCAQMD (2). The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. As previously stated, the proposed Project site is located within the SCAB, a 6,745-square mile subregion of the SCAQMD, which includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County.

The SCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Los Angeles County portion of the Mojave Desert Air Basin is bounded by the San Gabriel Mountains to the south and west, the Los Angeles / Kern County border to the north, and the Los Angeles / San Bernardino County border to the east. The Riverside County portion of the Salton Sea Air Basin is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley.

## 2.2 REGIONAL CLIMATE

The regional climate has a substantial influence on air quality in the SCAB. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality.

The annual average temperatures throughout the SCAB vary from the low to middle 60s degrees Fahrenheit (°F). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Although the climate of the SCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SCAB climate. Humidity restricts visibility in the SCAB, and the conversion of sulfur dioxide ($SO_2$) to sulfates ($SO_4$) is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SCAB is 71% along the coast and 59% inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90% of the SCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los

Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SCAB with frequency being higher near the coast.

Due to its generally clear weather, about three-quarters of available sunshine is received in the SCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year there are approximately 10 hours of possible sunshine, and on the longest day of the year there are approximately 14½ hours of possible sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the SCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas" each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the SCAB is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

In the SCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire SCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as $NO_X$ and CO from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

## 2.3 WIND PATTERNS AND PROJECT LOCATION

The distinctive climate of the Project area and the SCAB is determined by its terrain and geographical location. The SCAB is located in a coastal plain with connecting broad valleys and

low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter.

Wind patterns across the south coastal region are characterized by westerly and southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Winds are characteristically light although the speed is somewhat greater during the dry summer months than during the rainy winter season.

## 2.4 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 (3):

**TABLE 2-1: CRITERIA POLLUTANTS**

| Criteria Pollutant | Description | Sources | Health Effects |
|---|---|---|---|
| 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 SCAB. 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 ($O_2$) supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with $O_2$ transport and competing with $O_2$ to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for $O_2$ 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 ($O_2$ deficiency) as seen at high altitudes. |

| Criteria Pollutant | Description | Sources | Health Effects |
|---|---|---|---|
| $SO_2$ | $SO_2$ 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 $SO_4$. Collectively, these pollutants are referred to as sulfur oxides ($SO_X$). | Coal or oil burning power plants and industries, refineries, diesel engines | A few minutes of exposure to low levels of $SO_2$ 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 $SO_2$. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of $SO_2$.<br><br>Animal studies suggest that despite $SO_2$ 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.<br><br>Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient $SO_2$ levels. In these studies, efforts to separate the effects of $SO_2$ 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. |

| Criteria Pollutant | Description | Sources | Health Effects |
|---|---|---|---|
| $NO_X$ | $NO_X$ consist of nitric oxide (NO), nitrogen dioxide ($NO_2$) and nitrous oxide ($N_2O$) and are formed when nitrogen ($N_2$) combines with $O_2$. Their lifespan in the atmosphere ranges from one to seven days for nitric oxide and nitrogen dioxide, to 170 years for nitrous oxide. $NO_X$ is typically created during combustion processes and are major contributors to smog formation and acid deposition. $NO_2$ 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 $NO_X$ compounds, $NO_2$ is the most abundant in the atmosphere. As ambient concentrations of $NO_2$ are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of $NO_2$ than those indicated by regional monitoring station. | Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating. | 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 $NO_2$ at levels found in homes with gas stoves, which 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 $NO_2$ 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.<br><br>In animals, exposure to levels of $NO_2$ 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 $O_3$ exposure increases when animals are exposed to a combination of $O_3$ and $NO_2$. |
| $O_3$ | $O_3$ is a highly reactive and unstable gas that is formed when VOCs and $NO_X$, both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. $O_3$ concentrations are generally highest during the summer | Formed when reactive organic gases (ROG) and $NO_X$ react in the presence of sunlight. ROG sources include any source | 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 $O_3$ effects. Short-term exposure (lasting for a |

| Criteria Pollutant | Description | Sources | Health Effects |
|---|---|---|---|
| | months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant. | that burns fuels, (e.g., gasoline, natural gas, wood, oil) solvents, petroleum processing and storage and pesticides. | few hours) to $O_3$ 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 $O_3$ levels are associated with increased school absences. In recent years, a correlation between elevated ambient $O_3$ 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 reside in communities with high $O_3$ levels.<br><br>$O_3$ 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 $O_3$ may be more toxic than exposure to $O_3$ 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. |
| Particulate Matter | $PM_{10}$: A major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. Particulate matter pollution is a major cause of reduce visibility (haze) which is caused by the scattering of light | Sources of $PM_{10}$ include road dust, windblown dust and construction. Also formed from other pollutants (acid rain, $NO_X$, $SO_X$, | A consistent correlation between elevated ambient fine particulate matter ($PM_{10}$ and $PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of |

| Criteria Pollutant | Description | Sources | Health Effects |
|---|---|---|---|
| | 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 $PM_{10}$ is considered a criteria air pollutant.<br><br>$PM_{2.5}$: A similar air pollutant to $PM_{10}$ 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 $SO_4$ formed from $SO_2$ release from power plants and industrial facilities and nitrates that are formed from $NO_X$ release from power plants, automobiles, and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions. $PM_{2.5}$ is a criteria air pollutant. | organics). Incomplete combustion of any fuel.<br><br>$PM_{2.5}$ 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). | 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.<br><br>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 normal 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.<br><br>The elderly, people with pre-existing respiratory or cardiovascular disease, and children appear to be more susceptible to the effects of high levels of $PM_{10}$ and $PM_{2.5}$. |
| VOC | 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 react at the same speed or do not | 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 hobby products. | 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. |

| Criteria Pollutant | Description | Sources | Health Effects |
|---|---|---|---|
| | form $O_3$ to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to $O_3$, which is a criteria pollutant. The terms VOC and ROG (see below) interchangeably. | 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. | |
| ROG | Similar to VOC, ROGs are also precursors in forming $O_3$ and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and $NO_X$ react in the presence of sunlight. ROGs are a criteria pollutant since they are a precursor to $O_3$, which is a criteria pollutant. The terms ROG and VOC (see previous) interchangeably. | Sources similar to VOCs. | Health effects similar to VOCs. |
| Lead (Pb) | Pb is a heavy metal that is highly persistent in the environment and is considered a criteria pollutant. In the past, the primary source of Pb in the air was emissions from vehicles burning leaded gasoline. The major sources of Pb emissions are ore and metals processing, particularly Pb 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 | Metal smelters, resource recovery, leaded gasoline, deterioration of Pb paint. | 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. |

| Criteria Pollutant | Description | Sources | Health Effects |
|---|---|---|---|
| | operational activities such as metal processing or Pb acid battery manufacturing. As such, the Project is not anticipated to generate a quantifiable amount of Pb emissions. | | 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. |
| Odor | Odor means the perception experienced by a person when one or more chemical substances in the air come into contact with the human olfactory nerves (4). | Odors can come from many sources including animals, human activities, industry, natures, 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. |

## 2.5 EXISTING AIR QUALITY

Existing air quality is measured at established SCAQMD air quality monitoring stations. Monitored air quality is evaluated 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. At the time of this AQIA, the most recent state and federal standards were updated by CARB on May 4, 2016, and are 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 $O_3$, CO (except 8-hour Lake Tahoe), $SO_2$ (1 and 24 hour), $NO_2$, $PM_{10}$, and $PM_{2.5}$ are not to be 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 SCAQMD meets the standards set by the 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 (PM10)[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 (PM2.5)[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 | 9 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 Flourescence; 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 $\mu g/m^3$ 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 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ 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 $\mu g/m^3$ 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)**

## 2.6 REGIONAL AIR QUALITY

Air pollution contributes to a wide variety of adverse health effects. The EPA has established NAAQS for seven of the most common air pollutants: CO, Pb, $O_3$, $PM_{10}$, $PM_{2.5}$, $NO_2$, and $SO_2$ which are known as criteria pollutants. The SCAQMD monitors levels of various criteria pollutants at 35 permanent monitoring stations and 2 single-pollutant source Pb air monitoring sites throughout the air district (7). On January 25, 2024, CARB adopted the proposed 2023 amendments to the state and national area designations. See Table 2-3 for attainment designations for the SCAB (8). Appendix 2.1 provides geographic representation of the state and federal attainment status for applicable criteria pollutants within the SCAB.

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

| Criteria Pollutant | State Designation | Federal Designation |
|---|---|---|
| $O_3$ – 1-hour standard | Nonattainment | -- |
| $O_3$ – 8-hour standard | Nonattainment | Nonattainment |
| $PM_{10}$ | Nonattainment | Attainment |
| $PM_{2.5}$ | Nonattainment | Nonattainment |
| CO | Attainment | Unclassifiable/Attainment |
| $NO_2$ | Attainment | Unclassifiable/Attainment |
| $SO_2$ | Attainment | Unclassifiable/Attainment |
| Pb[1] | Attainment | Unclassifiable/Attainment |

Note: See Appendix 2.1 for a detailed map of State/National Area Designations within the SCAB
"-" = No standard.

## 2.7 LOCAL AIR QUALITY

The SCAQMD has designated general forecast areas and air monitoring areas (referred to as Source Receptor Areas [SRA]) throughout the district in order to provide information regarding air quality conditions to Southern California residents. The Project site is located within SRA 35. It should be noted that the monitoring station within SRA 35 only reports air quality data for $O_3$ and $PM_{10}$, as such the following stations will be used to report air quality data for CO, $NO_2$, and $PM_{2.5}$:

- SRA 35 (East San Bernardino Valley) - $O_3$ and $PM_{10}$
- SRA 34 (Central San Bernardino Valley 2) – CO, $NO_2$, and $PM_{2.5}$

Data from the Central San Bernardino Valley 2 monitoring station was utilized only in instances where data was not available from the East San Bernardino Valley monitoring station.

The most recent three (3) years of data available is shown in 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 $O_3$, CO, $NO_2$, $PM_{10}$, and $PM_{2.5}$

[1] The Federal nonattainment designation for lead is only applicable towards the Los Angeles County portion of the SCAB.

for 2021 through 2023 was obtained from the SCAQMD Air Quality Data Tables (9). Additionally, data for $SO_2$ has been omitted as attainment is regularly met in the SCAB and few monitoring stations measure $SO_2$ concentrations.

**TABLE 2-4: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2021-2023**

| Pollutant | Standard | Year | | |
|---|---|---|---|---|
| | | 2021 | 2022 | 2023 |
| $O_3$ | | | | |
| Maximum Federal 1-Hour Concentration (ppm) | | 0.145 | 0.135 | 0.143 |
| Maximum Federal 8-Hour Concentration (ppm) | | 0.119 | 0.109 | 0.118 |
| Number of Days Exceeding State 1-Hour Standard | > 0.09 ppm | 74 | 63 | 54 |
| Number of Days Exceeding State/Federal 8-Hour Standard | > 0.070 ppm | 118 | 106 | 83 |
| CO | | | | |
| Maximum Federal 1-Hour Concentration | > 35 ppm | 2.0 | 1.7 | 1.6 |
| Maximum Federal 8-Hour Concentration | > 20 ppm | 1.6 | 1.4 | 1.2 |
| $NO_2$ | | | | |
| Maximum Federal 1-Hour Concentration | > 0.100 ppm | 0.056 | 0.053 | 0.056 |
| Annual Federal Standard Design Value | | 0.015 | 0.016 | 0.014 |
| $PM_{10}$ | | | | |
| Maximum Federal 24-Hour Concentration ($\mu g/m^3$) | > 150 $\mu g/m^3$ | 44 | 50 | 49 |
| Annual Federal Arithmetic Mean ($\mu g/m^3$) | | 23.2 | 22.0 | 21.3 |
| Number of Days Exceeding Federal 24-Hour Standard | > 150 $\mu g/m^3$ | 0 | 0 | 0 |
| Number of Days Exceeding State 24-Hour Standard | > 50 $\mu g/m^3$ | 0 | 0 | 0 |
| $PM_{2.5}$ | | | | |
| Maximum Federal 24-Hour Concentration ($\mu g/m^3$) | > 35 $\mu g/m^3$ | 57.9 | 40.1 | 25.4 |
| Annual Federal Arithmetic Mean ($\mu g/m^3$) | > 12 $\mu g/m^3$ | 11.9 | 11.26 | 10.16 |
| Number of Days Exceeding Federal 24-Hour Standard | > 35 $\mu g/m^3$ | 1 | 2 | 0 |

ppm = Parts Per Million
$\mu g/m^3$ = Microgram per Cubic Meter
Source: Data for $O_3$, CO, $NO_2$, $PM_{10}$, and $PM_{2.5}$ was obtained from SCAQMD Air Quality Data Tables.

## 2.8 REGULATORY BACKGROUND

### 2.8.1 FEDERAL REGULATIONS

The EPA is responsible for setting and enforcing the NAAQS for $O_3$, CO, $NO_X$, $SO_2$, $PM_{10}$, and Pb (10). The 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 EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of 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 (11). The CAA also mandates that states submit and implement SIPs for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards would 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 proposed Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions) (12) (13). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants $O_3$, $NO_2$, $SO_2$, $PM_{10}$, CO, $PM_{2.5}$, and Pb. The NAAQS were amended in July 1997 to include an additional standard for $O_3$ and to adopt a NAAQS for $PM_{2.5}$. Table 2-3 (previously presented) provides the NAAQS within the SCAB.

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.

### 2.8.2 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 $SO_4$, visibility, hydrogen sulfide ($H_2S$), and vinyl chloride ($C_2H_3Cl$). However, at this time, $H_2S$ and $C_2H_3Cl$ are not measured at any monitoring stations in the SCAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS (14) (10).

Local air quality management districts, such as the SCAQMD, 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 5% or more annual reduction in emissions or 15% or more in a period of three years for ROGs, $NO_X$, CO and $PM_{10}$. However, air basins may use alternative emission reduction strategy that achieves a reduction of less than 5% 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.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that became effective on January 1, 2023. The CEC anticipates that the 2022 energy code will provide $1.5 billion in consumer benefits and reduce GHG emissions by 10 million metric tons (15). The proposed Project would be required to comply with the applicable standards in place at the time plan check submittals are made. These require, among other items (16):

#### RESIDENTIAL MANDATORY MEASURES

- Electric vehicle (EV) charging stations. New construction shall comply with Section 4.106.4.1, 4.106.4.2, 4.106.4.3, to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the *California Electrical Code*, Article 625. (4.106.4).
    - New one- and two-family dwellings and town-houses with attached private garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere 208/240-volt minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.
    - New hotels and motels. All newly constructed hotels and motels shall provide EV spaces capable of supporting future installation of EVSE. The construction documents shall

identify the location of the EV spaces. The number of required EV spaces shall be based on the total number of parking spaces provided for all types of parking facilities in accordance with Table 4.106.4.3.1.

- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with Sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.1.4.
- Outdoor potable water use in landscape areas. Residential 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.
- Operation and maintenance manual. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:
    - Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
    - Operations and maintenance instructions for the following:
        - Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, EV chargers, water-heating systems and other major appliances and equipment.
        - Roof and yard drainage, including gutter and downspouts.
        - Space conditioning systems, including condensers and air filters.
        - Landscape irrigation systems.
        - Water reuse systems.
    - Information from local utility, water and waste recovery providers on methods to further reduce future resource consumption, including recycling programs and locations.
    - Public transportation and/or carpool options available in the area.
    - Educational material on the positive impacts of an interior relative humidity between 30-60% and what methods occupants may use to maintain the relative humidity level in that range.
    - Information about water-conserving landscape and irrigation design and controllers which conserve water.
    - Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
    - Information about state solar energy and incentive programs available.
    - A copy of all special inspection verifications required by the enforcing agency of this code.
    - Information from CALFIRE on maintenance of defensible space around residential structures.
- Any installed gas fireplace shall be direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.

- Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the CARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat, or Nonflat-high Gloss coating, based on its glass, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 CARB, Suggested Control Measure, and the corresponding Flat, Nonflat, Nonflat-high Gloss VOC limit in Table 4.504.3 shall apply.

**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, uplight 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).
- 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 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).

### 2.8.3 AQMP

Currently, the NAAQS and CAAQS are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMP to meet the state and federal ambient air quality standards (17). AQMPs are updated regularly to ensure an effective reduction in 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 3.10.

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# 3 PROJECT AIR QUALITY IMPACT

## 3.1 INTRODUCTION

This study quantifies air quality emissions generated by construction and operation of the proposed Project and addresses whether the proposed Project conflicts with implementation of the SCAQMD's AQMP and Lead Agency planning regulations. The analysis of proposed Project-generated air emissions determines whether the proposed Project would result in a cumulatively considerable net increase of any criteria pollutant for which the SCAB is in non-attainment under an applicable NAAQS and CAAQS. Additionally, the proposed Project has been evaluated to determine whether the Project would expose sensitive receptors to substantial pollutant concentrations and the impacts of odors. The significance of these potential impacts is described in the following sections.

## 3.2 STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential proposed Project-related air quality impacts are taken from the *CEQA Guidelines* (14 CCR §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to air quality if it would (1):

- Conflict with or obstruct implementation of the applicable air quality plan.
- 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.
- Expose sensitive receptors to substantial pollutant concentrations.
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The SCAQMD has also developed regional significance thresholds for other regulated pollutants, as summarized at Table 3-1 (18). The SCAQMD's *CEQA Air Quality Significance Thresholds* (March 2023) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

**TABLE 3-1: MAXIMUM DAILY REGIONAL EMISSIONS THRESHOLDS**

| Pollutant | Regional Construction Threshold | Regional Operational Thresholds |
|---|---|---|
| $NO_X$ | 100 lbs/day | 55 lbs/day |
| VOC | 75 lbs/day | 55 lbs/day |
| $PM_{10}$ | 150 lbs/day | 150 lbs/day |
| $PM_{2.5}$ | 55 lbs/day | 55 lbs/day |
| $SO_X$ | 150 lbs/day | 150 lbs/day |
| CO | 550 lbs/day | 550 lbs/day |

| Pollutant | Regional Construction Threshold | Regional Operational Thresholds |
|---|---|---|
| Pb | 3 lbs/day | 3 lbs/day |

lbs/day = Pounds Per Day

## 3.3 MODELS EMPLOYED TO ANALYZE AIR QUALITY

### 3.3.1 CALEEMOD

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

In August 2023, California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including SCAQMD, released the latest version of the CalEEMod Version 2022.1.1.24. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, $NO_X$, $SO_X$, CO, $PM_{10}$, and $PM_{2.5}$) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (19). Accordingly, the latest version of CalEEMod has been used for this proposed Project to determine construction and operational air quality emissions. Output from the model runs for operational activity are provided in Appendix 3.2.

For the Approved General Plan Buildout use, 828,349.93-sf of warehouse (commercial/industrial), 828,349.93-sf of retail (commercial/industrial), 111 dwelling units of multi-family housing, 276,170.4-sf of office (commercial), and 276,170.4-sf of retail (commercial) uses were modeled on 116.19 acres. For the Proposed Project uses, 2,436 dwelling units of multi-family housing and 151,048.46-sf of public/institutional uses were modeled on 116.19 acres.

## 3.4 CONSTRUCTION EMISSIONS

Construction of each area associated with the Project will result in emissions of VOCs, $NO_X$, $SO_X$, CO, $PM_{10}$, and $PM_{2.5}$. Construction related emissions are expected from the following construction activities:

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

Because the proposed Project does not involve construction, specific construction related criteria pollutant emissions will be quantified in future air quality analyses to be conducted for individual CEQA projects and implementing development applications are brought forth to the City. In addition, for projects that are estimated to exceed the construction emissions significance thresholds established by the SCAQMD (after mitigation), the preparation of an Environmental Impact Report (EIR) would be required (pursuant to CEQA) and an analysis of alternatives and other emissions reduction measures would take place.

Construction-related emissions are speculative and cannot be accurately determined at this stage of the planning process. Therefore, such impacts are too speculative to evaluate (see CEQA Guidelines Section 15145). To the extent that specific projects are known, those projects have already been or would be subjected to their own environmental analysis. Additionally, due to the variables that must be considered when examining construction impacts (e.g., development rate, disturbance area per day, specific construction equipment and operating hours, etc.), it would be speculative to state conclusively that construction activity associated with the proposed Project would cause a significant air quality impact. Notwithstanding, implementation of the proposed Project has a potential to result in a significant and unavoidable impact with respect to construction activity associated with future development projects particularly if multiple construction projects overlap for emissions of CO, VOCs, $NO_x$, $SO_X$, $PM_{10}$, and $PM_{2.5}$. All feasible mitigation shall be applied to minimize construction-related significant air quality impacts, including one or more of the measures listed below, based on project-specific air quality modeling. The mitigation measure(s) to be applied shall be roughly proportional and have a nexus with the project-specific impact identified, consistent with Section 15126.4 of the State CEQA Guidelines.

***Level of Significance Before Mitigation***

As noted above, the proposed Project has the potential to result in a significant and unavoidable impact for emissions of emissions of CO, VOCs, $NO_x$, $SO_X$, $PM_{10}$, and $PM_{2.5}$ with respect to future development projects.

### 3.4.1 REGULATORY REQUIREMENTS

The following measures are recommended to reduce potential impacts to the extent feasible.

**SCAQMD RULES**

SCAQMD Rules that are currently applicable during construction activity for future implementing developments pursuant to the proposed Project are described below.

**SCAQMD RULE 401**

A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any 1 hour that is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the U. S. Bureau of Mines.

**SCAQMD RULE 402**

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

***Odor Emissions.*** All uses shall be operated in a manner such that no offensive odor is perceptible at or beyond the property line of that use.

**SCAQMD RULE 403**

This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust. Applicable dust suppression requirements from Rule 403 are summarized below.

- Nontoxic chemical soil stabilizers shall be applied according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
- Active sites shall be watered at least twice daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
- All trucks hauling dirt, sand, soil, or other loose materials shall be covered, or at least 0.6 meters (2 feet) of freeboard (vertical space between the top of the load and top of the trailer) maintained in accordance with the requirements of CVC Section 23114.
- Construction access roads shall be paved at least 30 meters (100 feet) onto the site from the main road.
- Traffic speeds on all unpaved roads shall be reduced to 15 mph or less.

**SCAQMD RULE 1113**

This rule serves to limit the VOC content of architectural coatings used on projects in the SCAQMD. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use on projects.

**SCAQMD RULE 1301**

This rule is intended to provide that pre-construction review requirements to ensure that new or relocated facilities do not interfere with progress in attainment of the NAAQS, while future economic growth within the SCAQMD is not unnecessarily restricted. The specific air quality goal is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors. Rule 1301 also limits emission increases of ammonia, and ODCs from new, modified or relocated facilities by requiring the use of BACT.

Although the proposed Project would comply with the above regulatory requirements, it should be noted that emission reductions associated with Rules 402, 1301, 1401, and 2305 cannot be quantified in the CalEEMod. Conversely, Rule 403 (Fugitive Dust) (20) and Rule 1113 (Architectural Coatings) (21) can be modeled in CalEEMod.

### 3.4.3 CONSTRUCTION-SOURCE MITIGATION MEASURES

**MM AQ-1**

Prior to issuance of grading permits for future implementing projects in Sites 1 through 24, project applicants shall prepare and submit a technical assessment evaluating potential project

construction-related air quality impacts (regional and localized) and greenhouse gas impacts to the City for review and approval. The evaluation shall be prepared in conformance with South Coast Air Quality Management District (SCAQMD) methodology for assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the SCAQMD's most recent adopted thresholds of significance, the City shall require that applicants for new development projects incorporate all feasible mitigation measures to reduce air pollutant emissions during construction activities to below applicable significance thresholds. These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City. Mitigation measures to reduce construction-related emissions could include, but are not limited to:

- Require construction equipment that meets or exceeds CARB Certified Tier 3 or Tier 4 engine standards.
- Limit the idling time of diesel off-road construction equipment to no more than five (5) minutes.
- Require the use of "Super-Compliant" low VOC paints which have been reformulated to exceed the regulatory VOC limits put forth by SCAQMD's Rule 1113. Super-Compliant low VOC paints shall be no more than 10g/L of VOC. Alternatively, projects may utilize building materials that do not require the use of architectural coatings.
- The Construction Contractor shall require by contract specifications that construction operations rely on the electricity infrastructure surrounding the construction site, if available rather than electrical generators powered by internal combustion engines.
- The Construction Contractor shall require the use of alternative fueled, engine retrofit technology, after-treatment products (e.g., diesel oxidation catalysts, diesel particulate filters), and/or other options as they become available, including all off-road and portable diesel-powered equipment.
- The Construction Contractor shall require that construction equipment be maintained in good operation condition to reduce emissions. The Construction Contractor shall ensure that all construction equipment is being properly serviced and maintained as per the manufacturer's specification. Maintenance records shall be available at the construction site for City verification.

***Level of Significance After Mitigation***

As noted above, there is uncertainty regarding the specific nature of construction activities that would be facilitated by future development projects. Despite the implementation of MM AQ-1, which would require future development projects to conduct project-specific analysis and incorporate mitigation measures, it cannot be definitively stated that all future development projects would not exceed the applicable thresholds, especially since some individual projects could exceed the thresholds. As such, the Project would result in a significant and unavoidable impact for emissions of emissions of CO, VOCs, $NO_x$, $SO_X$, $PM_{10}$, and $PM_{2.5}$ with respect to future development projects even with implementation of feasible mitigation measures.

## 3.5 OPERATIONAL EMISSIONS

Operational activities associated with the proposed Project will result in emissions of VOCs, $NO_X$, $SO_X$, CO, $PM_{10}$, and $PM_{2.5}$. Operational emissions are 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 constructed pursuant to this Project will require maintenance and will therefore produce emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings. The emissions associated with architectural coatings were calculated using CalEEMod.

#### CONSUMER PRODUCTS

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

#### LANDSCAPE MAINTENANCE EQUIPMENT

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the proposed Project. It should be noted that on 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 2024, which is now effective. 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 proposed Project area are located either outside the region (state) or offset through the use of pollution credits (RECLAIM) for generation within the SCAB, criteria pollutant emissions from offsite generation of electricity are excluded from the

evaluation of significance. Natural gas and electricity usage associated with buildout of the Project was calculated by CalEEMod using default parameters.

### 3.5.3 MOBILE SOURCE EMISSIONS

The Project related air quality emissions derive primarily from vehicle trips generated by the Project, including employee and resident trips to and from the sites associated with the proposed uses. Trip characteristics available from the *Regional Housing Needs Assessment Rezone Trip Generation Assessment* were utilized in this analysis (22).

#### 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 brake and tire wear particulates. The emissions estimate for travel on paved roads were calculated using CalEEMod.

### 3.5.4 OPERATIONAL EMISSIONS SUMMARY

#### APPROVED GENERAL PLAN BUILDOUT EMISSIONS

The City Approved General Plan currently designates the 24 Project sites for 1,656,699.86-sf of commercial/industrial, 552,340.90-sf for commercial, and 111 dwelling units for multi-family housing uses. The estimated operational-source emissions from the approved general plan buildout uses are summarized on Table 3-3. Detailed operation model outputs are presented in Appendix 3.1.

The Approved General Plan Buildout related operational air quality emissions derive primarily from vehicle trips generated by the Project. Trip characteristics available from the *Regional Housing Needs Assessment Rezone Trip Generation Assessment* were utilized in this analysis (22).

CalEEmod defaults were utilized for the existing residential and commercial uses. However, to determine emissions from trucks for the existing industrial uses, the analysis incorporated the SCAQMD recommended truck trip length 15.3 miles for 2-axle (LHDT1, LHDT2) trucks, 14.2 miles 3-axle (MHDT) trucks and 39.9 miles for 4+-axle (HHDT) trucks and weighting the average trip lengths using the following SCAQMD recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%. The trip length function for trucks in CalEEMod has been revised to 29.95 miles, with an assumption of 100% primary trips for the existing industrial land uses. As shown on Table 3-2, the Approved General Plan land uses for the subject site would exceed the applicable numerical thresholds of significance established by the SCAQMD for emissions of VOCs, $NO_x$, CO, $PM_{10}$, and $PM_{2.5}$.

**TABLE 3-2: APPROVED GENERAL PLAN BUILDOUT EMISSIONS**

| Source | Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| | **VOC** | **$NO_X$** | **CO** | **$SO_X$** | **$PM_{10}$** | **$PM_{2.5}$** |
| Summer | | | | | | |
| Mobile Source | 221.10 | 201.66 | 1,439.33 | 3.32 | 258.06 | 67.62 |
| Area Source | 72.21 | 2.71 | 103.10 | 0.02 | 0.32 | 0.28 |
| Energy Source | 0.46 | 8.32 | 6.86 | 0.05 | 0.63 | 0.63 |
| **Total Maximum Daily Emissions** | **293.77** | **212.70** | **1,549.29** | **3.38** | **259.01** | **68.54** |
| SCAQMD Regional Threshold | 55 | 55 | 550 | 150 | 150 | 55 |
| **Threshold Exceeded?** | **YES** | **YES** | **YES** | **NO** | **YES** | **YES** |
| Winter | | | | | | |
| Mobile Source | 203.24 | 215.05 | 1,255.01 | 3.13 | 258.06 | 67.63 |
| Area Source | 55.88 | 1.84 | 0.78 | 0.01 | 0.15 | 0.15 |
| Energy Source | 0.46 | 8.32 | 6.86 | 0.05 | 0.63 | 0.63 |
| **Total Maximum Daily Emissions** | **259.58** | **225.21** | **1,262.66** | **3.19** | **258.84** | **68.41** |
| SCAQMD Regional Threshold | 55 | 55 | 550 | 150 | 150 | 55 |
| **Threshold Exceeded?** | **YES** | **YES** | **YES** | **NO** | **YES** | **YES** |

Source: CalEEMod operational-source emissions are presented in Appendix 3.1.

**PROPOSED PROJECT EMISSIONS**

### *Level of Significance Before Mitigation*

The estimated operational-source emissions for the proposed Project are summarized on Table 3-3. Detailed operational model outputs are presented in Appendix 3.2. The proposed Project operational activities would have the potential to exceed the applicable numerical thresholds of significance established by the SCAQMD for emissions of VOC, NOx and CO. As such, a potentially significant impact would occur.

**TABLE 3-3: PROPOSED PROJECT OPERATIONAL EMISSIONS**

| Source | Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| Summer | | | | | | |
| Mobile Source | 47.35 | 40.23 | 441.68 | 1.29 | 131.89 | 33.93 |
| Area Source | 73.20 | 41.74 | 162.66 | 0.26 | 3.34 | 3.32 |
| Energy Source | 0.45 | 7.77 | 3.71 | 0.05 | 0.62 | 0.62 |
| **Total Maximum Daily Emissions** | **121.01** | **89.74** | **608.04** | **1.61** | **135.85** | **37.88** |
| SCAQMD Regional Threshold | 55 | 55 | 550 | 150 | 150 | 55 |
| **Threshold Exceeded?** | **YES** | **YES** | **YES** | **NO** | **NO** | **NO** |
| Winter | | | | | | |
| Mobile Source | 45.11 | 43.17 | 369.10 | 1.21 | 131.89 | 33.93 |
| Area Source | 60.17 | 40.41 | 17.20 | 0.26 | 3.27 | 3.27 |
| Energy Source | 0.45 | 7.77 | 3.71 | 0.05 | 0.62 | 0.62 |
| **Total Maximum Daily Emissions** | **105.73** | **91.35** | **390.00** | **1.52** | **135.78** | **37.82** |
| SCAQMD Regional Threshold | 55 | 55 | 550 | 150 | 150 | 55 |
| **Threshold Exceeded?** | **YES** | **YES** | **NO** | **NO** | **NO** | **NO** |

Source: CalEEMod operational-source emissions are presented in Appendix 3.2.

**PROPOSED PROJECT COMPARISON TO APPROVED GENERAL PLAN BUILDOUT**

Table 3-4 summarizes the proposed Project emissions (Table 3-3) compared to the Approved General Plan Buildout emissions (Table 3-2) for the subject site. As shown on Table 3-4, the proposed Project would result in fewer emissions that would occur than if the site were built out consistent with the Approved General Plan. Although the proposed Project would result in fewer net emissions, the proposed Project operational activities would have the potential to exceed the applicable numerical thresholds of significance established by the SCAQMD for emissions of VOC, NOx and CO and a potentially significant impact would occur.

**TABLE 3-4: PROPOSED PROJECT COMPARISON TO APPROVED GENERAL PLAN BUILDOUT**

| Area | Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| Summer | | | | | | |
| Proposed Project | 121.01 | 89.74 | 608.04 | 1.61 | 135.85 | 37.88 |
| Approved General Plan Buildout | 293.77 | 212.70 | 1549.29 | 3.38 | 259.01 | 68.54 |
| **Net Emissions (Proposed – Approved)** | **-172.76** | **-122.96** | **-941.25** | **-1.78** | **-123.16** | **-30.66** |
| Winter | | | | | | |
| Proposed Project | 105.73 | 91.35 | 390.00 | 1.52 | 135.78 | 37.82 |
| Approved General Plan Buildout | 259.58 | 225.21 | 1262.66 | 3.19 | 258.84 | 68.41 |
| **Net Emissions (Proposed – Approved)** | **-153.85** | **-133.87** | **-872.65** | **-1.67** | **-123.07** | **-30.59** |

Source: CalEEMod operational-source emissions are presented in Appendix 3.1 and 3.2.

### 3.5.5 OPERATIONAL-SOURCE MITIGATION MEASURES

**MM AQ-2**

Prior to issuance of a grading permit for future implementing projects in Sites 1 through 24, project applicants shall prepare and submit a technical assessment evaluating potential project operational air quality impacts (regional and localized) to the City for review and approval. The evaluation shall be prepared in conformance with South Coast Air Quality Management District (SCAQMD) methodology in assessing air quality and greenhouse gas impacts. If operation-related air pollutants are determined to have the potential to exceed the SCAQMD's most recent adopted thresholds of significance, the City shall require that applicants for new development projects incorporate all feasible mitigation measures to reduce air pollutant emissions during operational activities to below the applicable significance thresholds. The identified measures shall be included as part of the conditions of approval. Possible mitigation measures to reduce operational emissions could include, but are not limited to the following:

- Use of all-electric appliances without natural gas connections and eliminate the use of propane or other fossil fuels for space heating, water heating and indoor cooking.
- Increase in insulation such that heat transfer and thermal bridging is minimized;
- Limit air leakage through the structure and/or within the heating and cooling distribution system;
- Use of energy-efficient space heating and cooling equipment;
- Installation of electrical hook-ups at loading dock areas;
- Installation of dual-paned or other energy efficient windows;
- Use of interior and exterior energy efficient lighting that exceeds then incumbent California Title 24 Energy Efficiency performance standards;

- Installation of automatic devices to turn off lights where they are not needed;
- Application of a paint and surface color palette that emphasizes light and off-white colors that reflect heat away from buildings;
- Design of buildings with "cool roofs" using products certified by the Cool Roof Rating Council, and/or exposed roof surfaces using light and off-white colors;
- Design of buildings to accommodate photo-voltaic solar electricity systems or the installation of photo-voltaic solar electricity systems;
- Installation of ENERGY STAR-qualified energy-efficient appliances, heating and cooling systems, office equipment, and/or lighting products.
- Landscaping palette emphasizing drought tolerant plants;
- Use of water-efficient irrigation techniques;
- U.S. EPA Certified WaterSense labeled or equivalent faucets, high-efficiency toilets (HETs), and water-conserving shower heads.

**MM AQ-3**

Applicants for residential within 1,000 feet of a major source of TACs (e.g., warehouses, industrial areas, freeways, roadways, and rail lines with traffic volumes over 10,000 vehicle per day), as measured from the property line of the project to the property line of the source/edge of the nearest travel lane, shall submit a health risk assessment (HRA) to the City of Redlands prior to future discretionary Project approval. The HRA shall be prepared in accordance with policies and procedures of CEQA and the SCAQMD. If the HRA shows that the incremental cancer risk exceeds ten in one million (10E-06), $PM_{10}$ concentrations exceed 2.5 microgram per cubic meter (µg/m3), $PM_{2.5}$ concentrations exceed 2.5 µg/m3, or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that mitigation measures are capable of reducing potential cancer and non-cancer risks to an acceptable level (i.e., below ten in one million or a hazard index of 1.0), including appropriate enforcement mechanisms. Measures to reduce risk may include but are not limited to:

- Air intakes located away from high volume roadways and/or truck loading zones.
- Heating, ventilation, and air conditioning systems of the buildings provided with appropriately sized maximum efficiency rating value (MERV) filters (e.g., MERV 13 or better).

***Level of Significance After Mitigation***

The estimated operational-source emissions for the proposed Project are summarized on Table 3-3. Detailed operational model outputs are presented in Appendix 3.2. As shown, the proposed Project will exceed the applicable SCAQMD thresholds for VOC, $NO_X$, and CO. As such, a potentially significant impact would occur.

As noted above, there is uncertainty regarding the specific nature of operational activities that would be facilitated by future development projects. Despite the implementation of MM AQ-2 and MM AQ-3, which would require future development projects to conduct project-specific analysis and incorporate mitigation measures, it cannot be definitively stated that all future development projects at buildout would not exceed the applicable thresholds. At buildout, implementation of the RHNA Rezone project as evaluated herein and summarized on Table 3-2

would result in an exceedance for VOC, $NO_X$, and CO emissions. Although the Project would implement MM AQ-2 and MM AQ-3 to reduce emissions from VOC, $NO_X$, and CO, it is not possible to know the quantity of emissions that would be reduced by implementing MM AQ-2 and MM AQ-3. Therefore, the emissions reductions that would be achieved by cannot be accurately quantified and are not accounted for in the analysis herein. As such, a significant and unavoidable impact is presumed even with implementation of MM AQ-2 and MM AQ-3.

## 3.6 IMPACTS TO SENSITIVE RECEPTORS

### 3.6.1 LOCALIZED SIGNIFICANCE

The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (*LST Methodology*) (23). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as Localized Significance Thresholds (LSTs).

The significance of localized emissions impacts depends on whether ambient levels in the vicinity of any given project are above or below State standards. In the case of CO and $NO_2$, if ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a state or federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. This would apply to $PM_{10}$ and $PM_{2.5}$; both of which are non-attainment pollutants.

The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4[2]. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses.

LSTs were developed in response to environmental justice and health concerns raised by the public regarding exposure of individuals to criteria pollutants in local communities. To address the issue of localized significance, the SCAQMD adopted LSTs that show whether a project would cause or contribute to localized air quality impacts and thereby cause or contribute to potential localized adverse health effects. The analysis makes use of methodology included in the *LST Methodology* (24).

#### APPLICABILITY OF LSTS FOR THE PROJECT

The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4. LSTs represent the maximum emissions from a project that will not cause or contribute to exceeding the most stringent applicable federal or state ambient air quality

[2] SCAQMD defines Environmental Justice as "…equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution."

standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses.

SCAQMD developed LSTs to determine if emissions of $NO_2$, CO, $PM_{10}$, and $PM_{2.5}$ generated at a project site (offsite mobile-source emissions are not included in the LST analysis) would expose sensitive receptors to substantial concentrations of criteria air pollutants. Table 3-4 shows the localized significance thresholds for projects in SCAQMD's jurisdiction.

To assist lead agencies, SCAQMD developed screening-level LSTs to back-calculate the mass amount (lbs. per day) of emissions generated onsite that would trigger the hourly levels shown in Table 3-5 for projects under five acres. LSTs represent the maximum emissions at a project site that are not expected to cause or contribute to exceeding the most stringent federal or state AAQS. LSTs are based on the ambient concentrations of that pollutant within the project SRA and the distance to the nearest sensitive receptor. However, consistent with SCAQMD guidance an LST analysis can only be conducted at a project-level, and quantification of LSTs is not applicable for this program-level environmental analysis. However, LST quantification would be required pursuant to MM AQ-1, MM AQ-2 and MM AQ-3 for future development projects subject to CEQA.

**TABLE 3-5: SCAQMD LOCALIZED SIGNIFICANCE THRESHOLD[A]**

| Air Pollutant (Relevant AAQS) | Concentration |
|---|---|
| 1-Hour CO Standard (CAAQS) | 20 ppm |
| 8-Hour CO Standard (CAAQS) | 9.0 ppm |
| 1-Hour $NO_2$ Standard (CAAQS) | 0.18 ppm |
| Annual Average $NO_2$ Standard (CAAQS) | 0.03 ppm |
| 24-Hour $PM_{10}$ Standard – Construction (SCAQMD)[1] | 10.4 µg/m³ |
| 24-Hour $PM_{2.5}$ Standard – Construction (SCAQMD)[1] | 10.4 µg/m³ |
| 24-Hour $PM_{10}$ Standard – Operation (SCAQMD)[1] | 2.5 µg/m³ |
| 24-Hour $PM_{2.5}$ Standard – Operation (SCAQMD)[1] | 2.5 µg/m³ |
| Annual Average $PM_{10}$ Standard (SCAQMD)[1] | 1.0 µg/m³ |

[A:] Threshold is based on SCAQMD Rule 403. Since SCAB is in nonattainment for $PM_{10}$ and $PM_{2.5}$, the threshold is established as an allowable change in concentration. Therefore, background concentration is not relevant.

### 3.6.2 CO "HOT SPOT" ANALYSIS

As discussed below, the proposed 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.

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 SCAB is now designated as attainment.

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

**TABLE 3-6: CO MODEL RESULTS**

| Intersection Location | 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.

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (*1992 CO Plan*), peak carbon monoxide concentrations in the SCAB 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.

The ambient 1-hour and 8-hour CO concentration within the proposed Project study area is estimated to be 1.6 ppm and 1.3 ppm, respectively (data from Central San Bernardino Valley 2 monitoring station for 2023). Therefore, even if the traffic volumes for the proposed Project were double or even triple of the traffic volumes generated at the Long Beach Blvd. and Imperial Hwy. intersection, coupled with the on-going improvements in ambient air quality, the proposed Project would not be capable of resulting in a CO "hot spot" at any study area intersections.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (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 are shown on Table 3-7. 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 3-7: 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

### *Level of Significance Before Mitigation*

As discussed in the analysis above, construction and operational activity would have the potential to exceed applicable localized emissions thresholds and result in a potentially significant impact.

The proposed Project is not expected to result in a CO Hotspot and therefore impacts with respect to CO Hotspots is considered less than significant.

### *Mitigation Measures*

See MM AQ-1, MM AQ-2 and MM AQ-3.

### *Level of Significance After Mitigation*

As discussed in the analysis above, site-specific localized emissions analysis would be required to address potential impacts from construction and operational activity, pursuant to MM AQ-1, MM AQ-2 and MM AQ-3. Notwithstanding, MM AQ-1, MM AQ-2 and MM AQ-3 cannot guarantee that future development projects would in fact reduce all of their localized impacts to less than significant. Additionally, construction activity would also have the potential to result in carcinogenic and non-carcinogenic emissions associated with diesel exhaust from construction equipment. Since MM AQ-1, MM AQ-2, and MM AQ-3 cannot guarantee that future development projects would reduce all of their impacts to less than significant, this impact is considered significant and unavoidable.

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

## 3.7 AQMP

The Project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743-square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what was previously referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the SCAG, county transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMPs to meet the state and federal ambient air quality standards. 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.

In December 2022, the SCAQMD released the *Final 2022 AQMP* (*2022 AQMP*). The *2022 AQMP* continues to evaluate current integrated strategies and control measures to meet the CAAQS, as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels (27). Similar to the 2016 AQMP, the *2022 AQMP* incorporates scientific and technological information and planning assumptions, including the *2020-2045 RTP/SCS*, a planning document that supports the integration of land use and transportation to help the region meet the federal CAA requirements (28). The Project's consistency with the AQMP will be determined using the *2022 AQMP* as discussed below.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the *1993 CEQA Handbook* (29). These indicators are discussed below:

### 3.7.1 CONSISTENCY CRITERION NO. 1

***The proposed Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.***

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

***Construction Impacts – Consistency Criterion 1***

The analysis above demonstrates that Project construction-source emissions have the potential to exceed the applicable regional significance thresholds for criteria pollutants. Therefore, the Project would have the potential to result in or cause violations of the CAAQS and NAAQS.

***Operational Impacts – Consistency Criterion 1***

The analysis above demonstrates that Project operational-source emissions would exceed the applicable regional significance thresholds for criteria pollutant. Therefore, the Project would have the potential to result in or cause violations of the CAAQS and NAAQS.

On the basis of the preceding discussion, the Project is determined to be inconsistent with the first criterion.

### 3.7.2 CONSISTENCY CRITERION NO. 2

***The Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.***

The *2022 AQMP* demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in City of Redlands General Plan is considered to be consistent with the AQMP***.***

***Construction Impacts – Consistency Criterion 2***

Peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential could occur, with disturbance of the entire site occurring during construction activities. As such, when considering that emissions thresholds could be exceeded, a less significant impact would result.

***Operational Impacts – Consistency Criterion 2***

The Project includes the following components: a General Plan Amendment (GPA) to change the land use designations to enable the proposed rezoning, a Specific Plan Amendments (SPA) to remove 18 lots out of the EVCSP and 3 lots out of Concept Plan 4, and zone change to allow for medium and high-density residential development within the Project site and Public/Institutional development within Site 24. The City General Plan currently designates the Project site for 1,656,699.86-sf of commercial/industrial, 552,340.90-sf for commercial, and 111 dwelling units for multi-family housing uses. The Project will propose a total of 151,048.46-sf for public/institutional uses and 2,436 dwelling units for multi-family housing. The Project is intensifying existing land use designations and would have the potential to exceed applicable thresholds for construction activity.

On the basis of the preceding discussion, the Project has the potential to conflict with the second criterion.

***Level of Significance Before Mitigation***

The Project has the potential to result in or cause NAAQS or CAAQS violations. The Project's development intensity is not consistent with the development intensities allowed within the adopted General Plan and consequently the AQMP. The Project therefore has the potential to be inconsistent with the AQMP and a potential significant impact would occur.

***Mitigation Measures***

See MM AQ-1, MM AQ-2 and MM AQ-3.

***Level of Significance After Mitigation***

As discussed in the analysis above, site-specific emissions analysis would be required to address potential impacts from construction and operational activity, pursuant to MM AQ-1, MM AQ-2 and MM AQ-3. Since MM AQ-1, MM AQ-2 and MM AQ-3 cannot guarantee that future development projects would reduce all of their impacts to less than significant, this impact is considered significant and unavoidable.

## 3.8 ODORS

The potential for the proposed 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

***Level of Significance Before Mitigation***

The proposed 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. During operation, it is expected that proposed Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the solid waste regulations. The proposed Project would also

be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project construction and operations would be less than significant and no mitigation is required (30).

***Mitigation Measures***

None required.

***Level of Significance After Mitigation***

Not applicable.

## 3.9 CUMULATIVE IMPACTS

As previously shown in Table 2-3, the CAAQS designate the proposed Project site as nonattainment for $O_3$ $PM_{10}$, and $PM_{2.5}$ while the NAAQS designates the proposed Project site as nonattainment for $O_3$ and $PM_{2.5}$.

The SCAQMD has 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* (31). In this report the SCAQMD clearly states (Page D-3):

> *"…the SCAQMD 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 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."*

Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which SCAB is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

### *Level of Significance Before Mitigation*

#### CONSTRUCTION IMPACTS

The proposed Project has the potential to result in cumulative impacts associated with on-going construction activity. Therefore, the proposed Project would have the potential to result in a cumulatively considerable significant impact with respect to construction activity.

#### OPERATIONAL IMPACTS

The proposed Project has the potential to result in cumulative impacts associated with on-going operations for emissions of VOC, $NO_X$, and CO. Therefore, the proposed Project would have the potential to result in a cumulatively considerable significant impact with respect to operational activity.

### *Mitigation Measures*

See MM AQ-1, MM AQ-2 and MM AQ-3.

### *Level of Significance After Mitigation*

Even with implementation of MM AQ-1, MM AQ-2 and MM AQ-3, the proposed Project has the potential to result in cumulative impacts associated with on-going construction and operation. Therefore, the proposed Project would result in a significant and unavoidable impact.

## 3.10 FRIANT RANCH EVALUATION

In December 2018, in the case of *Sierra Club v. County of Fresno* (2018) 6 Cal.5$^{th}$ 502, the California Supreme Court held that an EIR air quality analysis must meaningfully connect the identified air quality impacts to the human health consequences of those impacts, or meaningfully explain why that analysis cannot be provided.

As discussed in briefs filed in the Friant Ranch case, correlating a project's criteria air pollutant emissions to specific health impacts is challenging. The SCAQMD, which has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, and thus it is uniquely situated to express an opinion on how lead agencies should correlate air quality impacts with specific health outcomes (32) noted that it may be "difficult to quantify health impacts for criteria pollutants." SCAQMD used $O_3$ as an example of why it is impracticable to determine specific health outcomes from criteria pollutants for all but very large, regional-scale projects. First, forming $O_3$ "takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources." (SCAQMD, 2015a, p. 11) Second, "it takes a large amount of additional precursor emissions ($NO_X$ and VOCs) to cause a modeled increase in ambient ozone levels over an entire region," with a 2012 study showing that "reducing $NO_X$ by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion." (SCAQMD, 2015a, pp. 12-14) Comparatively, the proposed Project would generate a maximum

of 0.05 tons per day of VOC and 0.05 tons per day of NOx emissions which are fractions of the modeled values discussed above.

SCAQMD concluded that it "does not currently know of a way to accurately quantify ozone-related health impacts caused by $NO_X$ or VOC emissions from relatively small projects." (SCAQMD, 2015a, pp. 12-14) The San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) ties the difficulty of correlating the emission of criteria pollutants to health impacts to how ozone and particulate matter are formed, stating that "[b]ecause of the complexity of ozone formation, a specific tonnage amount of $NO_X$ or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area." (SJVUAPCD, 2015, p. 4) Similarly, the tonnage of PM "emitted does not always equate to the local PM concentration because it can be transported long distances by wind," and "[s]econdary PM, like ozone, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as sulfur dioxides ($SO_X$) and $NO_X$," meaning that "the tonnage of PM-forming precursor emissions in an area does not necessarily result in an equivalent concentration of secondary PM in that area." (SJVUAPCD, 2015, p. 5) The disconnect between the amount of precursor pollutants and the concentration of ozone or PM formed makes it difficult to determine potential health impacts, which are related to the concentration of ozone and particulate matter experienced by the receptor rather than levels of $NO_X$, $SO_X$, and VOCs produced by a source.

Most local agencies lack the data to do their own assessment of potential health impacts from criteria air pollutant emissions, as would be required to establish customized, locally specific thresholds of significance based on potential health impacts from an individual development project. The use of national or "generic" data to fill the gap of missing local data would not yield accurate results because such data does not capture local air patterns, local background conditions, or local population characteristics, all of which play a role in how a population experiences air pollution. Because it is impracticable to accurately isolate the exact cause of a human disease (for example, the role a particular air pollutant plays compared to the role of other allergens and genetics in cause asthma), existing scientific tools cannot accurately estimate health impacts of the proposed Project's air emissions without undue speculation. Instead, readers are directed to the proposed Project's air quality impact analysis above, which provides extensive information concerning the quantifiable and non-quantifiable health risks related to the proposed Project's construction and long-term operation.

As the proposed Project's emissions will comply with federal, state, and local air quality standards, the proposed Project's emissions are not sufficiently high enough to use a regional modeling program to correlate health effects on a basin-wide level and would not provide a reliable indicator of health effects if modeled.

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# 5 CERTIFICATIONS

The contents of this air study report represent an accurate depiction of the environmental impacts associated with the proposed Regional Housing Needs Assessment Rezone. 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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### EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May 2010

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AEP – Association of Environmental Planners
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ASTM – American Society for Testing and Materials

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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 – CARB • 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.

(Updated 5/4/16)

# 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/m³) | Ultraviolet Photometry | — | Same as Primary Standard | Ultraviolet Photometry |
| | 8 Hour | 0.070 ppm (137 µg/m³) | | 0.070 ppm (137 µg/m³) | | |
| **Respirable Particulate Matter (PM10)[9]** | 24 Hour | 50 µg/m³ | Gravimetric or Beta Attenuation | 150 µg/m³ | Same as Primary Standard | Inertial Separation and Gravimetric Analysis |
| | Annual Arithmetic Mean | 20 µg/m³ | | — | | |
| **Fine Particulate Matter (PM2.5)[9]** | 24 Hour | — | — | 35 µg/m³ | Same as Primary Standard | Inertial Separation and Gravimetric Analysis |
| | Annual Arithmetic Mean | 12 µg/m³ | Gravimetric or Beta Attenuation | 12.0 µg/m³ | 15 µg/m³ | |
| **Carbon Monoxide (CO)** | 1 Hour | 20 ppm (23 mg/m³) | Non-Dispersive Infrared Photometry (NDIR) | 35 ppm (40 mg/m³) | — | Non-Dispersive Infrared Photometry (NDIR) |
| | 8 Hour | 9.0 ppm (10 mg/m³) | | 9 ppm (10 mg/m³) | — | |
| | 8 Hour (Lake Tahoe) | 6 ppm (7 mg/m³) | | — | — | |
| **Nitrogen Dioxide ($NO_2$)[10]** | 1 Hour | 0.18 ppm (339 µg/m³) | Gas Phase Chemiluminescence | 100 ppb (188 µg/m³) | — | Gas Phase Chemiluminescence |
| | Annual Arithmetic Mean | 0.030 ppm (57 µg/m³) | | 0.053 ppm (100 µg/m³) | Same as Primary Standard | |
| **Sulfur Dioxide ($SO_2$)[11]** | 1 Hour | 0.25 ppm (655 µg/m³) | Ultraviolet Fluorescence | 75 ppb (196 µg/m³) | — | Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method) |
| | 3 Hour | — | | — | 0.5 ppm (1300 µg/m³) | |
| | 24 Hour | 0.04 ppm (105 µg/m³) | | 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/m³ | Atomic Absorption | — | — | High Volume Sampler and Atomic Absorption |
| | Calendar Quarter | — | | 1.5 µg/m³ (for certain areas)[12] | Same as Primary Standard | |
| | Rolling 3-Month Average | — | | 0.15 µg/m³ | | |
| **Visibility Reducing Particles[14]** | 8 Hour | See footnote 14 | Beta Attenuation and Transmittance through Filter Tape | **No National Standards** | | |
| **Sulfates** | 24 Hour | 25 µg/m³ | Ion Chromatography | | | |
| **Hydrogen Sulfide** | 1 Hour | 0.03 ppm (42 µg/m³) | Ultraviolet Fluorescence | | | |
| **Vinyl Chloride[12]** | 24 Hour | 0.01 ppm (26 µg/m³) | 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 $\mu g/m^3$ 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 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ 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 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 $\mu g/m^3$)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.

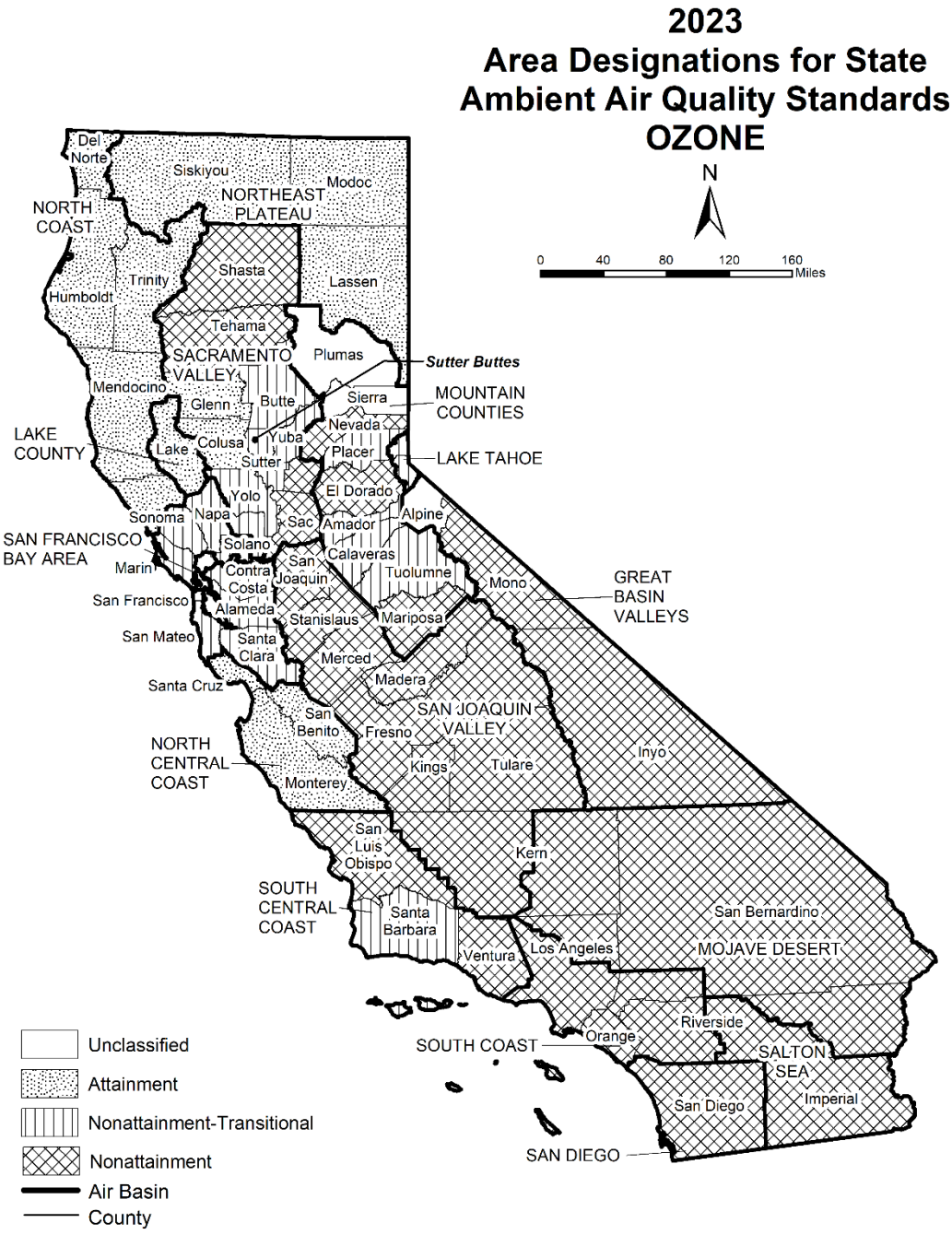
# Area Designations for the State Ambient Air Quality Standards

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




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

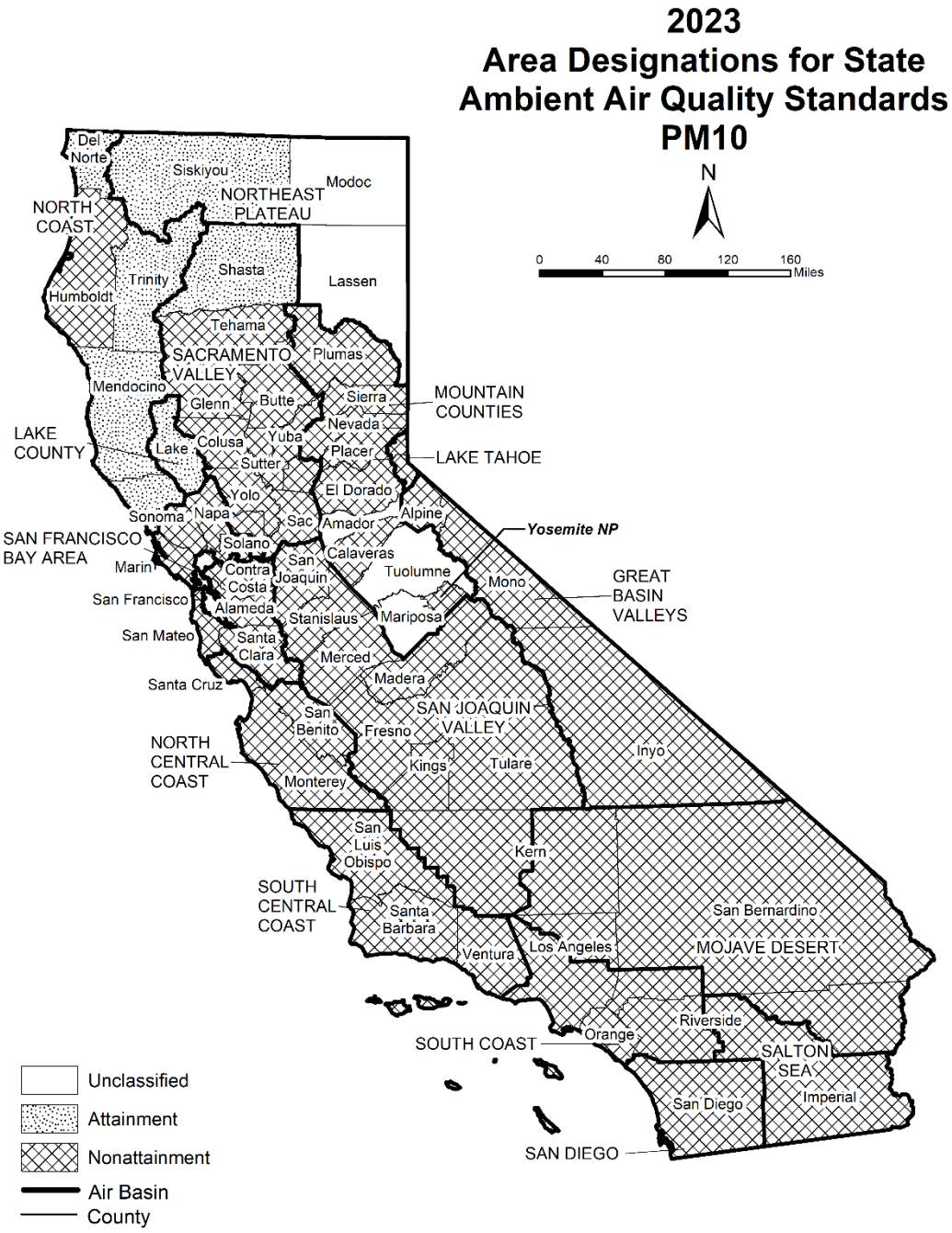
# Table 1
# California Ambient Air Quality Standards Area Designations for Ozone[1]

| 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

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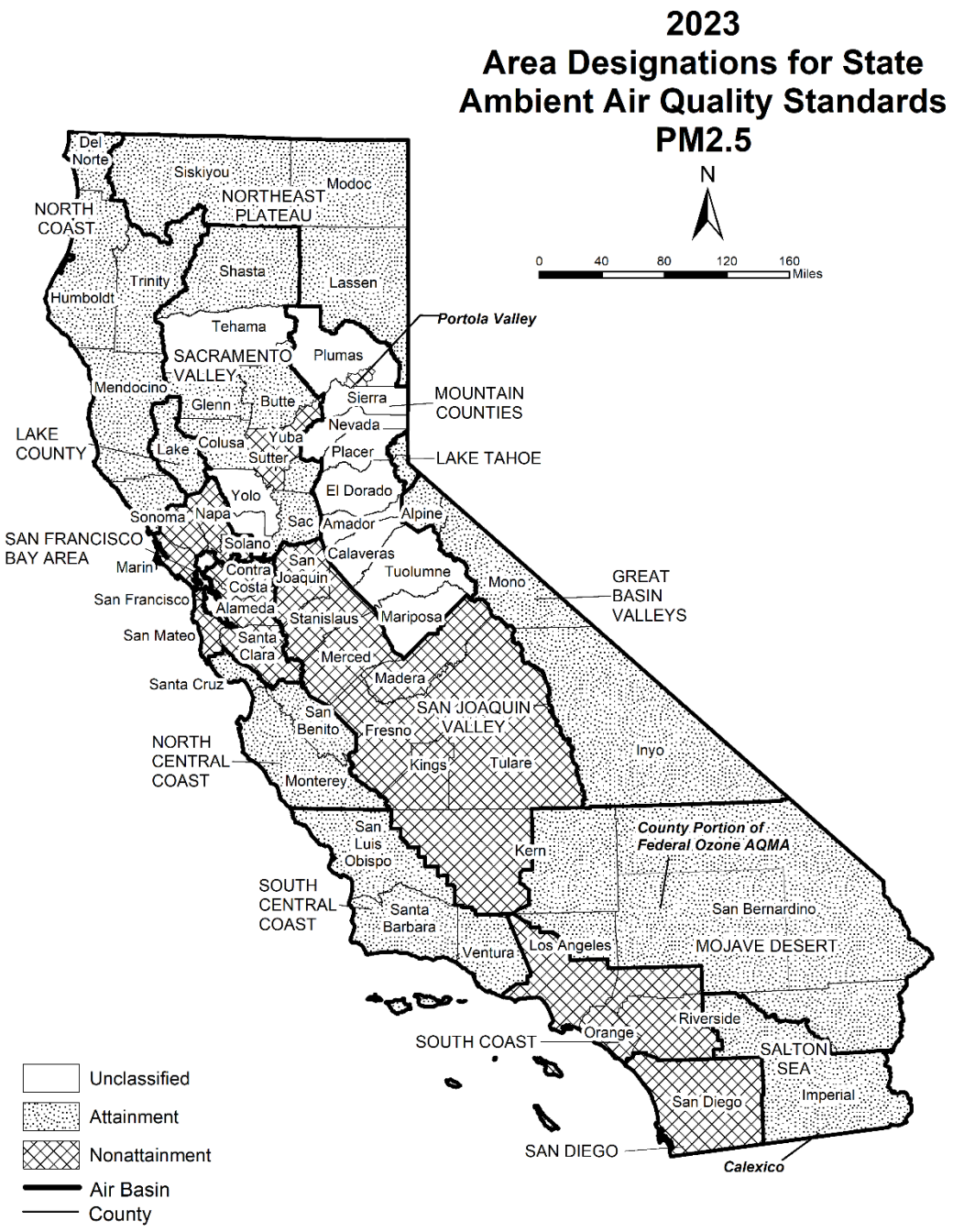
Air Quality Planning and Science Division, CARB

# Table 2
# California Ambient Air Quality Standards Area Designations for Suspended Particulate Matter ($PM_{10}$)

| 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**

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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**


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 | |

| Area | N | NA-T | U | A |
|---|---|---|---|---|
| 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**


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 |
| 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**


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
N
0 40 80 120 160
Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
LAKE COUNTY
Colusa
Yuba
Lake
Placer
LAKE TAHOE
Sutter
Yolo
El Dorado
Sonoma
Napa
Sac
Amador
Alpine
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
SAN JOAQUIN VALLEY
San Benito
Fresno
Inyo
NORTH CENTRAL COAST
Kings
Tulare
Monterey
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
San Bernardino
Ventura
Los Angeles
MOJAVE DESERT
Riverside
Orange
SOUTH COAST
SALTON SEA
San Diego
Imperial
SAN DIEGO
Attainment
Air Basin
County
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

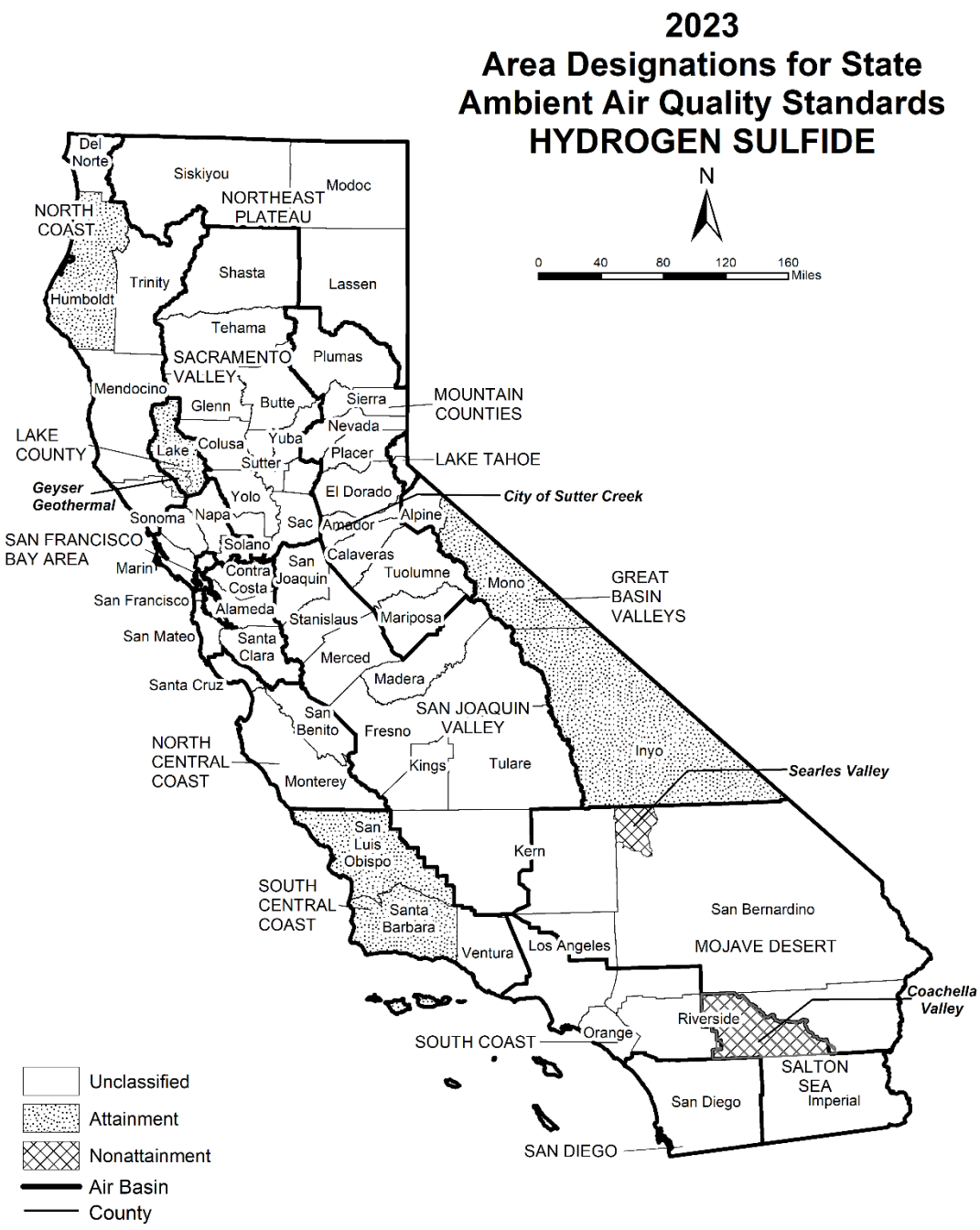
# Table 8
# California Ambient Air Quality Standards Area Designations for Lead (particulate)*

| 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.

## Figure 9




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

# 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 | |

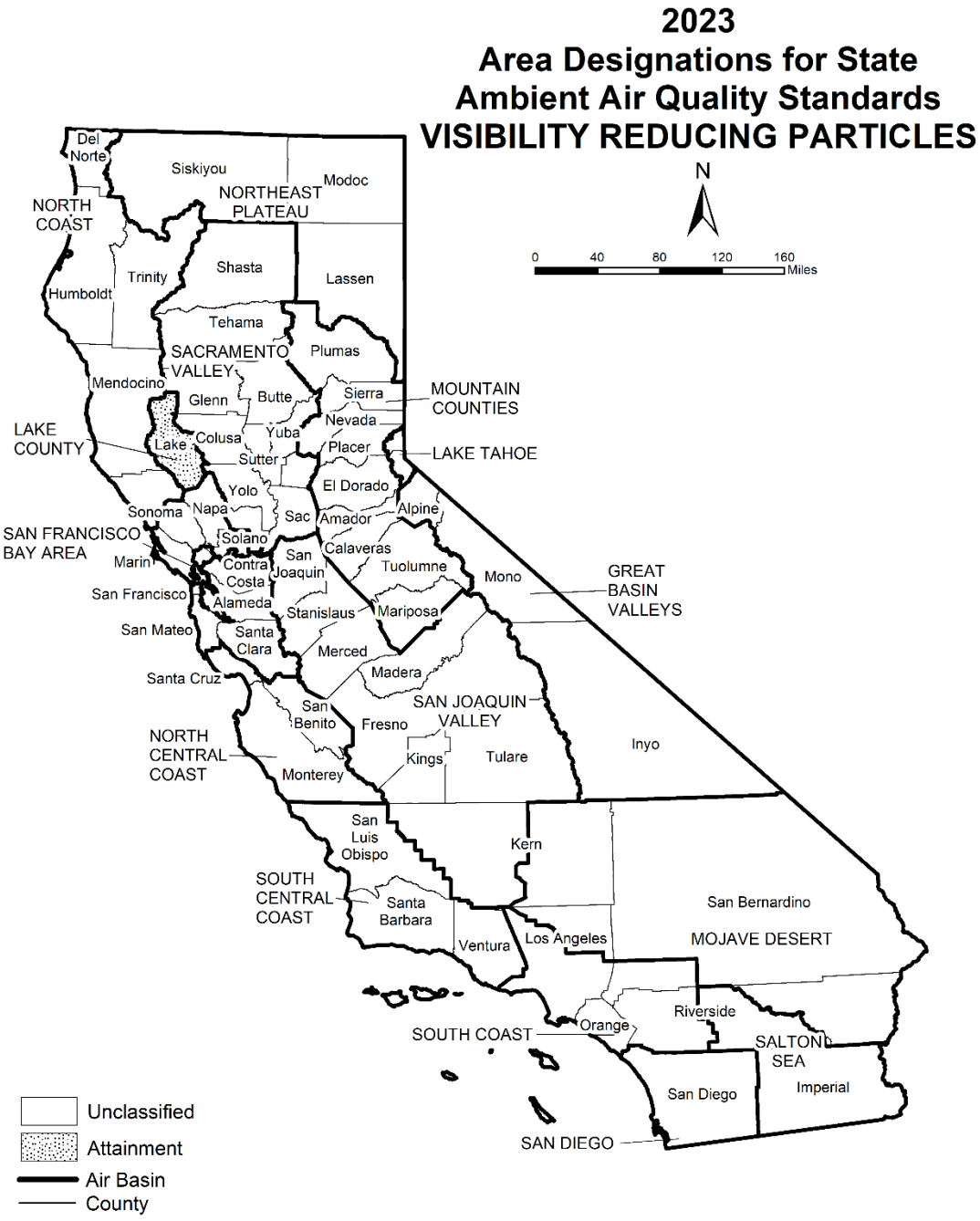
| Area | N | NA-T | U | A |
|---|---|---|---|---|
| NORTH CENTRAL COAST AIR BASIN | | | U | |
| NORTH COAST AIR BASIN | | | | |
| Del Norte County | | | U | |
| Humboldt County | | | | A |
| Mendocino County | | | U | |
| Sonoma County (portion) | | | | |
| - Geyser Geothermal Area[2] | | | | A |
| - 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 ($PM_{10}$)*. The U.S. EPA uses three categories to designate areas with respect to $PM_{10}$:

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

*Ozone, Fine Suspended Particulate Matter ($PM_{2.5}$), Carbon Monoxide (CO), and Nitrogen Dioxide ($NO_2$)*. 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/m$^3$. Area designations were finalized in December 2014. The current designation map reflects the most recently revised (2012) annual average standard of 12.0 µg/m$^3$ as well as the 24-hour standard of 35 µg/m$^3$, revised in 2006.

On January 22, 2010, the U.S. EPA established a new national 1-hour $NO_2$ standard of 100 parts per billion (ppb) and retained the annual average standard of 53 ppb. Designations for the primary $NO_2$ standard became effective on February 29, 2012. All areas of California meet this standard.

*Sulfur Dioxide ($SO_2$)*. 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).

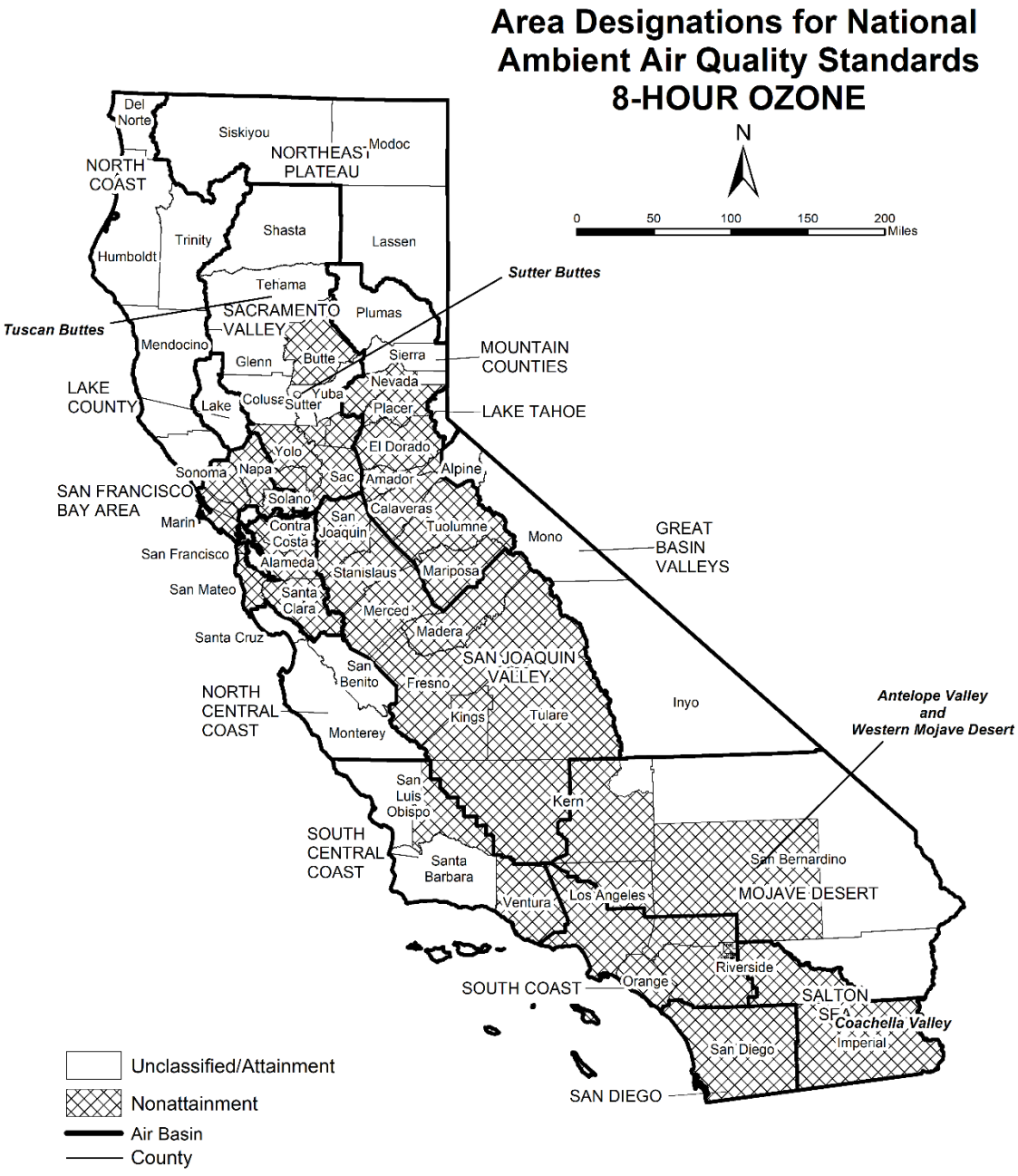
On June 2, 2010, the U.S. EPA established a new primary 1-hour $SO_2$ standard of 75 parts per billion (ppb). At the same time, U.S. EPA revoked the 24-hour and annual average standards. Area designations for the 1-hour $SO_2$ standard were finalized on December 21, 2017 and are reflected in the area designations map.

*Lead (particulate).* The U.S. EPA promulgated a new rolling 3-month average lead standard in October 2008 of 0.15 µg/$m^3$. 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
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehama
Sutter Buttes
Tuscan Buttes
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
LAKE COUNTY
Lake
Colusa
Yuba
Sutter
Placer
LAKE TAHOE
Yolo
El Dorado
Sonoma
Napa
Sac
Amador
Alpine
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Kings
Tulare
Inyo
Antelope Valley and Western Mojave Desert
Monterey
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
San Bernardino
Ventura
Los Angeles
MOJAVE DESERT
Riverside
SOUTH COAST
Orange
SALTON SEA
Coachella Valley
Imperial
San Diego
SAN DIEGO
Unclassified/Attainment
Nonattainment
Air Basin
County
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.

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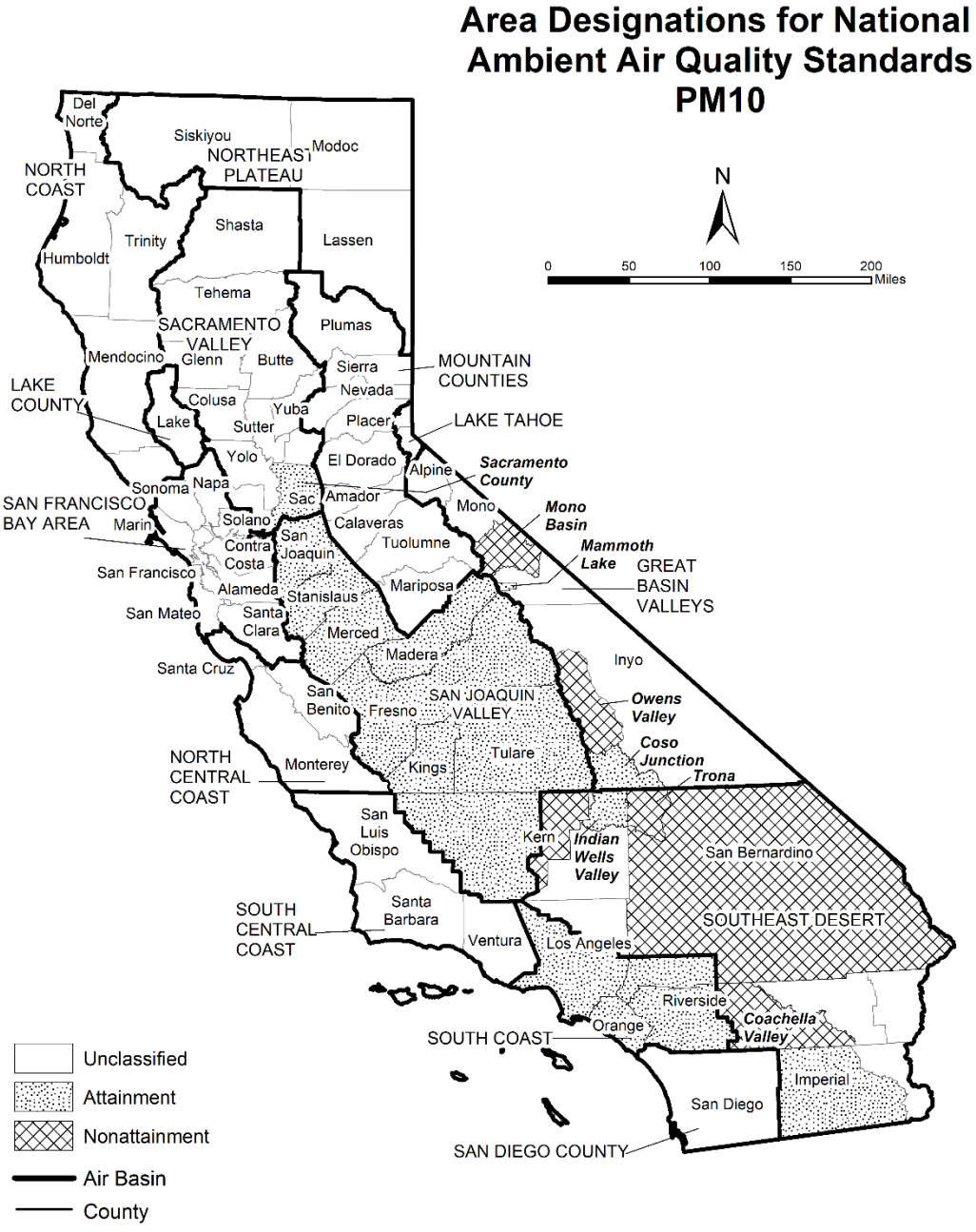
[1] For this purpose, the Sacramento Metro Area comprises all of Sacramento and Yolo Counties, the Sacramento Valley Air Basin portion of Solano County, the southern portion of Sutter County, and the Sacramento Valley and Mountain Counties Air Basins portions of Placer and El Dorado counties.

[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
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Trinity
Lassen
Humboldt
Tehema
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
LAKE COUNTY
Colusa
Yuba
Lake
Sutter
Placer
LAKE TAHOE
Yolo
El Dorado
Alpine
Sacramento County
Sonoma
Napa
Sac
Amador
Mono
Mono Basin
SAN FRANCISCO BAY AREA
Marin
Solano
Calaveras
Contra Costa
San Joaquin
Tuolumne
Mammoth Lake
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Inyo
Santa Cruz
San Benito
Fresno
SAN JOAQUIN VALLEY
Owens Valley
Coso Junction
Trona
NORTH CENTRAL COAST
Monterey
Kings
Tulare
San Luis Obispo
Kern
Indian Wells Valley
San Bernardino
SOUTH CENTRAL COAST
Santa Barbara
Ventura
Los Angeles
SOUTHEAST DESERT
Riverside
Coachella Valley
Orange
SOUTH COAST
Imperial
San Diego
SAN DIEGO COUNTY
Unclassified
Attainment
Nonattainment
Air Basin
County
Last Updated: November 2023
Air Quality Planning and Science Division

# Table 12
# National Ambient Air Quality Standards Area Designations for Suspended Particulate Matter ($PM_{10}$)*

| 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 | |

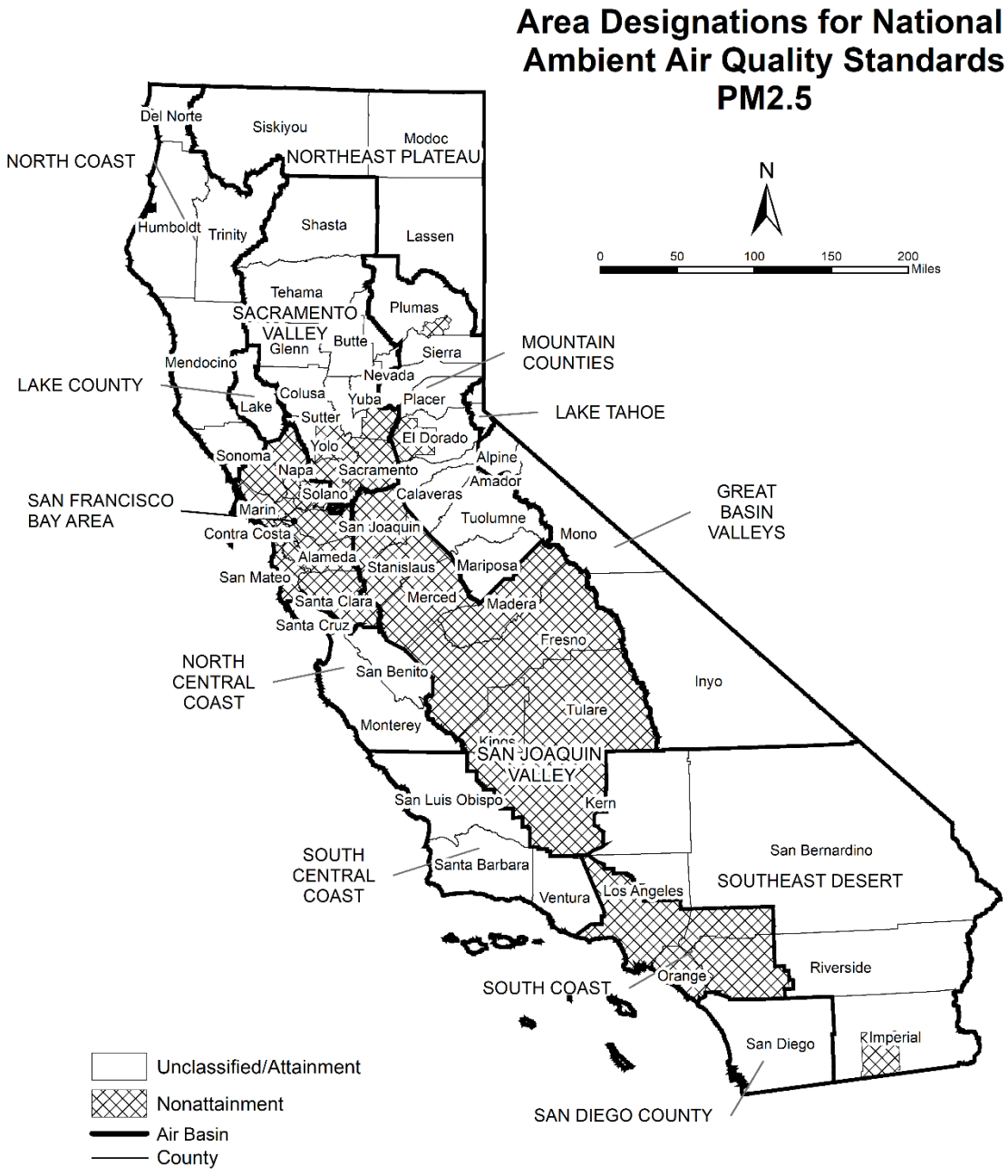
| Area | N | U | A |
|---|---|---|---|
| SAN FRANCISCO BAY AREA AIR BASIN | | U | |
| SAN JOAQUIN VALLEY AIR BASIN | | | A |
| SOUTH CENTRAL COAST AIR BASIN | | U | |
| SOUTH COAST AIR BASIN | | | A |
| SOUTHEAST DESERT AIR BASIN | | | |
| Eastern Kern County | | | |
| - Indian Wells Valley | | | A |
| - 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 $PM_{10}$ 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.

## Figure 13


Area Designations for National Ambient Air Quality Standards PM2.5
N
0 50 100 150 200 Miles
NORTH COAST
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
Humboldt
Trinity
Shasta
Lassen
Tehama
SACRAMENTO VALLEY
Plumas
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Mendocino
Nevada
LAKE COUNTY
Colusa
Yuba
Placer
Lake
Sutter
LAKE TAHOE
El Dorado
Yolo
Sonoma
Alpine
Napa
Sacramento
Amador
SAN FRANCISCO BAY AREA
Solano
Calaveras
GREAT BASIN VALLEYS
Marin
Tuolumne
Contra Costa
San Joaquin
Mono
Alameda
Stanislaus
Mariposa
San Mateo
Merced
Santa Clara
Madera
Santa Cruz
Fresno
NORTH CENTRAL COAST
San Benito
Inyo
Tulare
Monterey
Kings
SAN JOAQUIN VALLEY
San Luis Obispo
Kern
San Bernardino
SOUTH CENTRAL COAST
Santa Barbara
SOUTHEAST DESERT
Ventura
Los Angeles
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Nonattainment
Air Basin
County
Last Updated: November 2023
Air Quality Planning and Science Division

# 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


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
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehema
Plumas
SACRAMENTO VALLEY
Mendocino
Glenn
Butte
Sierra
Nevada
MOUNTAIN COUNTIES
Colusa
Yuba
Placer
LAKE TAHOE
LAKE COUNTY
Lake
Sutter
Yolo
El Dorado
Napa
Alpine
Sonoma
Sac
Amador
SAN FRANCISCO BAY AREA
Solano
Marin
Calaveras
Contra Costa
San Joaquin
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
SOUTHEAST DESERT
Ventura
Los Angeles
San Bernardino
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Air Basin
County
Last Updated: November 2023
Air Quality Planning and Science Division

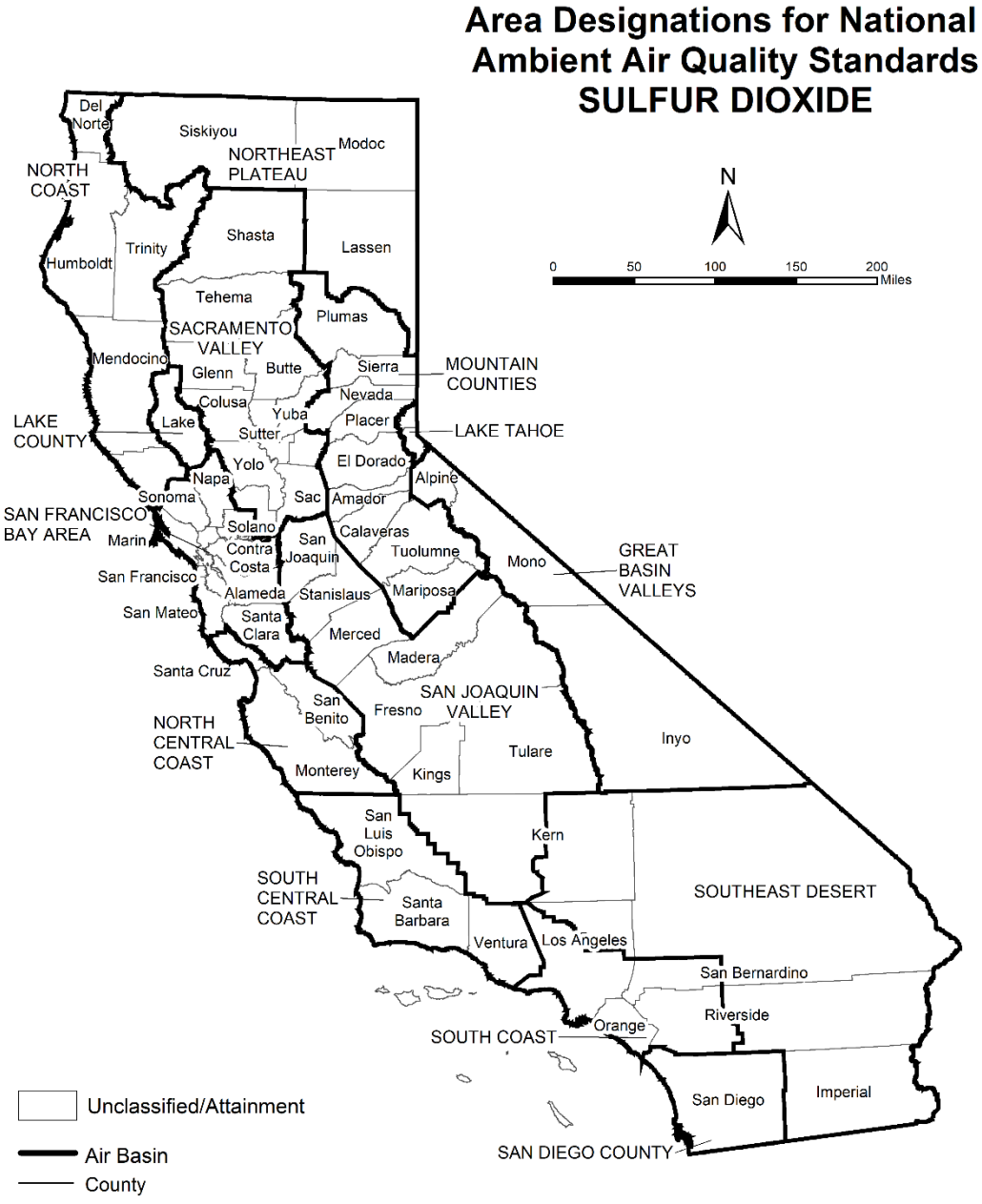
# Table 15
# National Ambient Air Quality Standards Area Designations for Nitrogen Dioxide*

| 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




Last Updated: November 2023
Air Quality Planning and Science Division

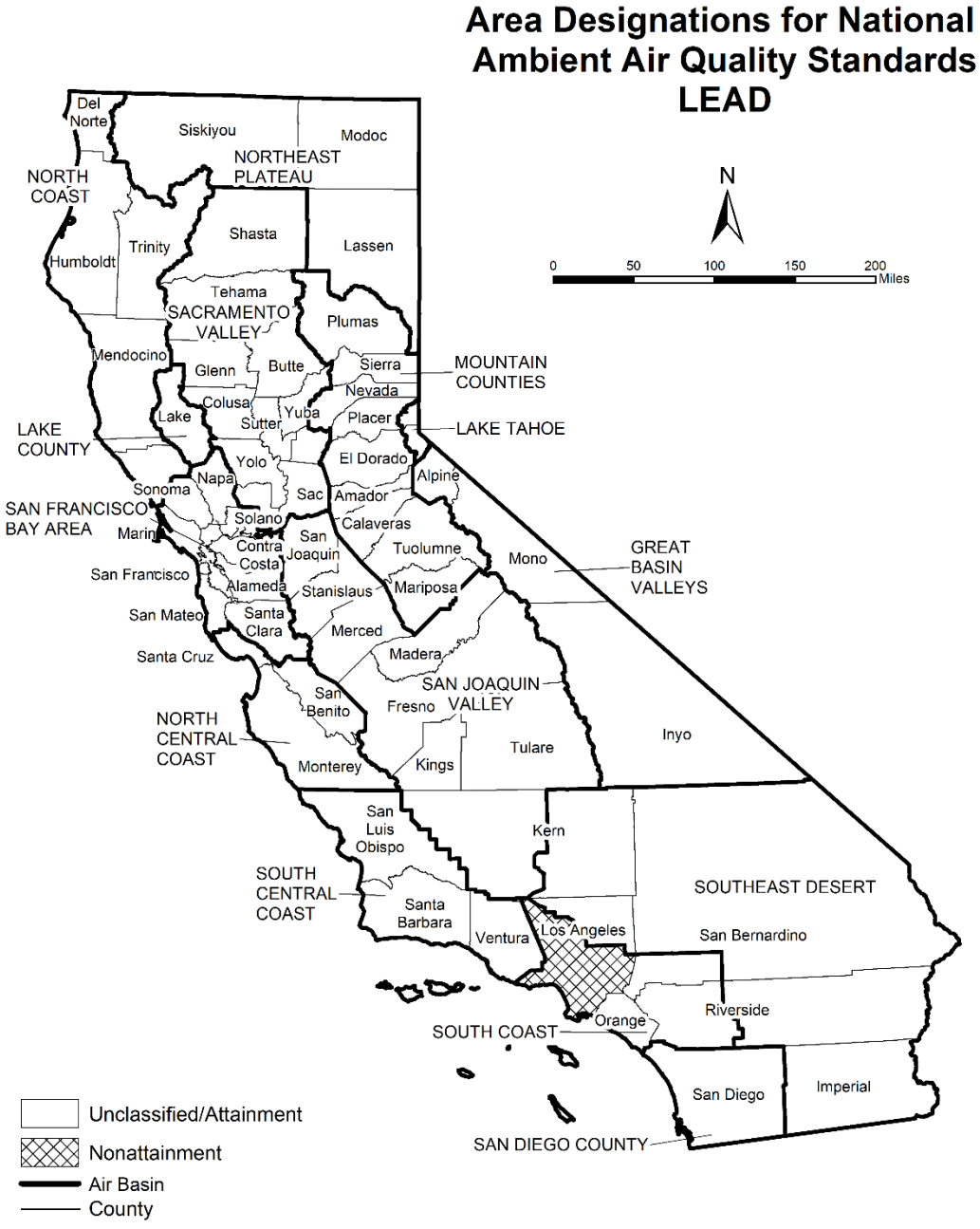
# Table 16
# National Ambient Air Quality Standards Area Designations for Sulfur Dioxide*

| 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 $SO_2$ 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
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
Colusa
Yuba
Placer
Lake
Sutter
LAKE TAHOE
LAKE COUNTY
Yolo
El Dorado
Napa
Alpine
Sonoma
Sac
Amador
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
SOUTH CENTRAL COAST
SOUTHEAST DESERT
Santa Barbara
Ventura
Los Angeles
San Bernardino
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Nonattainment
Air Basin
County
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 APPROVED GENERAL PLAN BUILDOUT EMISSIONS MODEL OUTPUTS

# 14992 - Redlands RHNA (Existing) Detailed Report

## Table of Contents

# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field | Value |
|---|---|
| Project Name | 14992 - Redlands RHNA (Existing) |
| Operational Year | 2024 |
| Lead Agency | — |
| Land Use Scale | Plan/community |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 2.50 |
| Precipitation (days) | 24.0 |
| Location | 34.05535, -117.218325 |
| County | San Bernardino-South Coast |
| City | Redlands |
| Air District | South Coast AQMD |
| Air Basin | South Coast |
| TAZ | 5395 |
| EDFZ | 10 |
| Electric Utility | Southern California Edison |
| Gas Utility | Southern California Gas |
| App Version | 2022.1.1.26 |

## 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 |
|---|---|---|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 828 | 1000sqft | 19.0 | 828,350 | 0.00 | — | — | — |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| User Defined Industrial | 828 | User Defined Unit | 0.00 | 0.00 | 0.00 | — | — | Trucks |
| Regional Shopping Center | 828 | 1000sqft | 19.0 | 828,350 | 0.00 | — | — | Commercial/Industrial |
| Apartments Mid Rise | 111 | Dwelling Unit | 2.92 | 106,560 | 0.00 | — | 367 | — |
| General Office Building | 276 | 1000sqft | 6.34 | 276,170 | 0.00 | — | — | — |
| Regional Shopping Center | 276 | 1000sqft | 6.34 | 276,170 | 0.00 | — | — | Commercial |
| Other Asphalt Surfaces | 62.5 | Acre | 62.5 | 0.00 | 0.00 | — | — | — |

## 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

# 2. Emissions Summary

## 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. | 316 | 294 | 213 | 1,549 | 3.38 | 3.72 | 255 | 259 | 3.52 | 65.0 | 68.5 | 1,854 | 377,047 | 378,901 | 211 | 23.1 | 1,312 | 392,393 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 281 | 260 | 225 | 1,263 | 3.19 | 3.55 | 255 | 259 | 3.39 | 65.0 | 68.4 | 1,854 | 357,838 | 359,692 | 212 | 23.7 | 37.5 | 372,095 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 237 | 221 | 169 | 1,028 | 2.33 | 2.77 | 181 | 184 | 2.63 | 46.1 | 48.7 | 1,854 | 267,777 | 269,632 | 207 | 17.9 | 410 | 280,541 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 43.3 | 40.3 | 30.9 | 188 | 0.43 | 0.51 | 33.0 | 33.5 | 0.48 | 8.40 | 8.88 | 307 | 44,334 | 44,641 | 34.2 | 2.96 | 67.9 | 46,447 |

## 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 | 241 | 221 | 202 | 1,439 | 3.32 | 2.77 | 255 | 258 | 2.60 | 65.0 | 67.6 | — | 343,237 | 343,237 | 21.4 | 21.4 | 1,309 | 351,443 |
| Area | 73.7 | 72.2 | 2.71 | 103 | 0.02 | 0.32 | — | 0.32 | 0.28 | — | 0.28 | 0.00 | 2,749 | 2,749 | 0.06 | 0.01 | — | 2,753 |
| Energy | 0.92 | 0.46 | 8.32 | 6.86 | 0.05 | 0.63 | — | 0.63 | 0.63 | — | 0.63 | — | 28,934 | 28,934 | 2.68 | 0.24 | — | 29,072 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 627 | 2,127 | 2,754 | 64.5 | 1.55 | — | 4,828 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 1,227 | 0.00 | 1,227 | 123 | 0.00 | — | 4,294 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.54 | 3.54 |
| Total | 316 | 294 | 213 | 1,549 | 3.38 | 3.72 | 255 | 259 | 3.52 | 65.0 | 68.5 | 1,854 | 377,047 | 378,901 | 211 | 23.1 | 1,312 | 392,393 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 224 | 203 | 215 | 1,255 | 3.13 | 2.77 | 255 | 258 | 2.61 | 65.0 | 67.6 | — | 324,440 | 324,440 | 22.5 | 21.9 | 33.9 | 331,559 |
| Area | 56.0 | 55.9 | 1.84 | 0.78 | 0.01 | 0.15 | — | 0.15 | 0.15 | — | 0.15 | 0.00 | 2,337 | 2,337 | 0.04 | < 0.005 | — | 2,340 |
| Energy | 0.92 | 0.46 | 8.32 | 6.86 | 0.05 | 0.63 | — | 0.63 | 0.63 | — | 0.63 | — | 28,934 | 28,934 | 2.68 | 0.24 | — | 29,072 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 627 | 2,127 | 2,754 | 64.5 | 1.55 | — | 4,828 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 1,227 | 0.00 | 1,227 | 123 | 0.00 | — | 4,294 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.54 | 3.54 |
| Total | 281 | 260 | 225 | 1,263 | 3.19 | 3.55 | 255 | 259 | 3.39 | 65.0 | 68.4 | 1,854 | 357,838 | 359,692 | 212 | 23.7 | 37.5 | 372,095 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 168 | 153 | 160 | 951 | 2.28 | 2.01 | 181 | 183 | 1.89 | 46.1 | 47.9 | — | 236,274 | 236,274 | 16.7 | 16.1 | 407 | 241,901 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Area | 67.9 | 67.0 | 0.72 | 70.1 | < 0.005 | 0.13 | — | 0.13 | 0.10 | — | 0.10 | 0.00 | 442 | 442 | 0.01 | < 0.005 | — | 443 |
| Energy | 0.92 | 0.46 | 8.32 | 6.86 | 0.05 | 0.63 | — | 0.63 | 0.63 | — | 0.63 | — | 28,934 | 28,934 | 2.68 | 0.24 | — | 29,072 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 627 | 2,127 | 2,754 | 64.5 | 1.55 | — | 4,828 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 1,227 | 0.00 | 1,227 | 123 | 0.00 | — | 4,294 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.54 | 3.54 |
| Total | 237 | 221 | 169 | 1,028 | 2.33 | 2.77 | 181 | 184 | 2.63 | 46.1 | 48.7 | 1,854 | 267,777 | 269,632 | 207 | 17.9 | 410 | 280,541 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 30.7 | 28.0 | 29.2 | 174 | 0.42 | 0.37 | 33.0 | 33.4 | 0.35 | 8.40 | 8.75 | — | 39,118 | 39,118 | 2.76 | 2.67 | 67.3 | 40,049 |
| Area | 12.4 | 12.2 | 0.13 | 12.8 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | 0.00 | 73.2 | 73.2 | < 0.005 | < 0.005 | — | 73.4 |
| Energy | 0.17 | 0.08 | 1.52 | 1.25 | 0.01 | 0.12 | — | 0.12 | 0.12 | — | 0.12 | — | 4,790 | 4,790 | 0.44 | 0.04 | — | 4,813 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 104 | 352 | 456 | 10.7 | 0.26 | — | 799 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 203 | 0.00 | 203 | 20.3 | 0.00 | — | 711 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.59 | 0.59 |
| Total | 43.3 | 40.3 | 30.9 | 188 | 0.43 | 0.51 | 33.0 | 33.5 | 0.48 | 8.40 | 8.88 | 307 | 44,334 | 44,641 | 34.2 | 2.96 | 67.9 | 46,447 |

# 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | 3.99 | 3.67 | 2.11 | 40.3 | 0.08 | 0.04 | 7.48 | 7.52 | 0.03 | 1.89 | 1.92 | — | 8,092 | 8,092 | 0.31 | 0.21 | 31.7 | 8,194 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| User Defined Industrial | 4.76 | 1.17 | 47.0 | 27.3 | 0.38 | 0.65 | 13.2 | 13.8 | 0.62 | 3.55 | 4.17 | — | 42,154 | 42,154 | 3.45 | 6.25 | 129 | 44,230 |
| Regional Shopping Center | 215 | 201 | 137 | 1,221 | 2.50 | 1.84 | 205 | 207 | 1.72 | 52.1 | 53.9 | — | 257,020 | 257,020 | 16.0 | 13.3 | 1,005 | 262,386 |
| Apartments Mid Rise | 2.54 | 2.28 | 2.43 | 23.0 | 0.05 | 0.04 | 4.53 | 4.57 | 0.04 | 1.15 | 1.19 | — | 5,546 | 5,546 | 0.25 | 0.25 | 22.2 | 5,648 |
| General Office Building | 14.7 | 13.2 | 13.5 | 127 | 0.30 | 0.21 | 24.8 | 25.0 | 0.19 | 6.30 | 6.49 | — | 30,424 | 30,424 | 1.40 | 1.36 | 121 | 30,986 |
| 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 | 241 | 221 | 202 | 1,439 | 3.32 | 2.77 | 255 | 258 | 2.60 | 65.0 | 67.6 | — | 343,237 | 343,237 | 21.4 | 21.4 | 1,309 | 351,443 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | 3.79 | 3.47 | 2.34 | 33.0 | 0.07 | 0.04 | 7.48 | 7.52 | 0.03 | 1.89 | 1.92 | — | 7,450 | 7,450 | 0.33 | 0.22 | 0.82 | 7,526 |
| User Defined Industrial | 4.72 | 1.14 | 49.1 | 27.3 | 0.38 | 0.65 | 13.2 | 13.8 | 0.62 | 3.55 | 4.17 | — | 42,161 | 42,161 | 3.44 | 6.25 | 3.34 | 44,114 |
| Regional Shopping Center | 199 | 184 | 146 | 1,070 | 2.35 | 1.84 | 205 | 207 | 1.72 | 52.1 | 53.9 | — | 241,138 | 241,138 | 17.0 | 13.8 | 26.0 | 245,688 |
| Apartments Mid Rise | 2.38 | 2.11 | 2.61 | 19.0 | 0.05 | 0.04 | 4.53 | 4.57 | 0.04 | 1.15 | 1.19 | — | 5,194 | 5,194 | 0.26 | 0.25 | 0.57 | 5,277 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Office Building | 13.7 | 12.2 | 14.5 | 106 | 0.28 | 0.21 | 24.8 | 25.0 | 0.19 | 6.30 | 6.50 | — | 28,496 | 28,496 | 1.44 | 1.41 | 3.15 | 28,955 |
| 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 | 224 | 203 | 215 | 1,255 | 3.13 | 2.77 | 255 | 258 | 2.61 | 65.0 | 67.6 | — | 324,440 | 324,440 | 22.5 | 21.9 | 33.9 | 331,559 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | 0.50 | 0.46 | 0.32 | 4.59 | 0.01 | < 0.005 | 0.98 | 0.99 | < 0.005 | 0.25 | 0.25 | — | 915 | 915 | 0.04 | 0.03 | 1.66 | 926 |
| User Defined Industrial | 0.63 | 0.15 | 6.63 | 3.64 | 0.05 | 0.09 | 1.74 | 1.83 | 0.08 | 0.47 | 0.55 | — | 5,108 | 5,108 | 0.42 | 0.76 | 6.74 | 5,351 |
| Regional Shopping Center | 27.3 | 25.3 | 19.8 | 147 | 0.31 | 0.24 | 26.1 | 26.4 | 0.23 | 6.64 | 6.86 | — | 28,663 | 28,663 | 2.09 | 1.66 | 50.9 | 29,262 |
| Apartments Mid Rise | 0.42 | 0.37 | 0.47 | 3.50 | 0.01 | 0.01 | 0.79 | 0.80 | 0.01 | 0.20 | 0.21 | — | 843 | 843 | 0.04 | 0.04 | 1.54 | 858 |
| General Office Building | 1.87 | 1.67 | 2.03 | 15.1 | 0.04 | 0.03 | 3.36 | 3.38 | 0.03 | 0.85 | 0.88 | — | 3,588 | 3,588 | 0.18 | 0.18 | 6.53 | 3,652 |
| 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 | 30.7 | 28.0 | 29.2 | 174 | 0.42 | 0.37 | 33.0 | 33.4 | 0.35 | 8.40 | 8.75 | — | 39,118 | 39,118 | 2.76 | 2.67 | 67.3 | 40,049 |

## 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 3,654 | 3,654 | 0.35 | 0.04 | — | 3,676 |
| User Defined Industrial | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | — | 10,263 | 10,263 | 0.97 | 0.12 | — | 10,323 |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | 458 | 458 | 0.04 | 0.01 | — | 460 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 4,604 | 4,604 | 0.44 | 0.05 | — | 4,630 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 18,979 | 18,979 | 1.80 | 0.22 | — | 19,089 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 3,654 | 3,654 | 0.35 | 0.04 | — | 3,676 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| User Defined Industrial | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | — | 10,263 | 10,263 | 0.97 | 0.12 | — | 10,323 |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | 458 | 458 | 0.04 | 0.01 | — | 460 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 4,604 | 4,604 | 0.44 | 0.05 | — | 4,630 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 18,979 | 18,979 | 1.80 | 0.22 | — | 19,089 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 605 | 605 | 0.06 | 0.01 | — | 609 |
| User Defined Industrial | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | — | 1,699 | 1,699 | 0.16 | 0.02 | — | 1,709 |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | 75.8 | 75.8 | 0.01 | < 0.005 | — | 76.2 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 762 | 762 | 0.07 | 0.01 | — | 767 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 3,142 | 3,142 | 0.30 | 0.04 | — | 3,160 |

### 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | 0.47 | 0.23 | 4.23 | 3.55 | 0.03 | 0.32 | — | 0.32 | 0.32 | — | 0.32 | — | 5,047 | 5,047 | 0.45 | 0.01 | — | 5,061 |
| User Defined Industrial | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Regional Shopping Center | 0.19 | 0.10 | 1.75 | 1.47 | 0.01 | 0.13 | — | 0.13 | 0.13 | — | 0.13 | — | 2,087 | 2,087 | 0.18 | < 0.005 | — | 2,093 |
| Apartments Mid Rise | 0.04 | 0.02 | 0.31 | 0.13 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 393 | 393 | 0.03 | < 0.005 | — | 394 |
| General Office Building | 0.22 | 0.11 | 2.04 | 1.71 | 0.01 | 0.15 | — | 0.15 | 0.15 | — | 0.15 | — | 2,429 | 2,429 | 0.21 | < 0.005 | — | 2,435 |
| 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 | 0.92 | 0.46 | 8.32 | 6.86 | 0.05 | 0.63 | — | 0.63 | 0.63 | — | 0.63 | — | 9,955 | 9,955 | 0.88 | 0.02 | — | 9,983 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | 0.47 | 0.23 | 4.23 | 3.55 | 0.03 | 0.32 | — | 0.32 | 0.32 | — | 0.32 | — | 5,047 | 5,047 | 0.45 | 0.01 | — | 5,061 |
| User Defined Industrial | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Regional Shopping Center | 0.19 | 0.10 | 1.75 | 1.47 | 0.01 | 0.13 | — | 0.13 | 0.13 | — | 0.13 | — | 2,087 | 2,087 | 0.18 | < 0.005 | — | 2,093 |
| Apartments Mid Rise | 0.04 | 0.02 | 0.31 | 0.13 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 393 | 393 | 0.03 | < 0.005 | — | 394 |
| General Office Building | 0.22 | 0.11 | 2.04 | 1.71 | 0.01 | 0.15 | — | 0.15 | 0.15 | — | 0.15 | — | 2,429 | 2,429 | 0.21 | < 0.005 | — | 2,435 |
| 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 | 0.92 | 0.46 | 8.32 | 6.86 | 0.05 | 0.63 | — | 0.63 | 0.63 | — | 0.63 | — | 9,955 | 9,955 | 0.88 | 0.02 | — | 9,983 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | 0.08 | 0.04 | 0.77 | 0.65 | < 0.005 | 0.06 | — | 0.06 | 0.06 | — | 0.06 | — | 836 | 836 | 0.07 | < 0.005 | — | 838 |
| User Defined Industrial | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Regional Shopping | 0.04 | 0.02 | 0.32 | 0.27 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 346 | 346 | 0.03 | < 0.005 | — | 346 |
| Apartments Mid Rise | 0.01 | < 0.005 | 0.06 | 0.02 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 65.0 | 65.0 | 0.01 | < 0.005 | — | 65.2 |
| General Office Building | 0.04 | 0.02 | 0.37 | 0.31 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 402 | 402 | 0.04 | < 0.005 | — | 403 |
| 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 | 0.17 | 0.08 | 1.52 | 1.25 | 0.01 | 0.12 | — | 0.12 | 0.12 | — | 0.12 | — | 1,648 | 1,648 | 0.15 | < 0.005 | — | 1,653 |

## 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hearths | 0.22 | 0.11 | 1.84 | 0.78 | 0.01 | 0.15 | — | 0.15 | 0.15 | — | 0.15 | 0.00 | 2,337 | 2,337 | 0.04 | < 0.005 | — | 2,340 |
| Consumer Products | 49.8 | 49.8 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 6.00 | 6.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 17.7 | 16.3 | 0.87 | 102 | 0.01 | 0.17 | — | 0.17 | 0.13 | — | 0.13 | — | 412 | 412 | 0.02 | < 0.005 | — | 413 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 73.7 | 72.2 | 2.71 | 103 | 0.02 | 0.32 | — | 0.32 | 0.28 | — | 0.28 | 0.00 | 2,749 | 2,749 | 0.06 | 0.01 | — | 2,753 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hearths | 0.22 | 0.11 | 1.84 | 0.78 | 0.01 | 0.15 | — | 0.15 | 0.15 | — | 0.15 | 0.00 | 2,337 | 2,337 | 0.04 | < 0.005 | — | 2,340 |
| Consumer Products | 49.8 | 49.8 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 6.00 | 6.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | 56.0 | 55.9 | 1.84 | 0.78 | 0.01 | 0.15 | — | 0.15 | 0.15 | — | 0.15 | 0.00 | 2,337 | 2,337 | 0.04 | < 0.005 | — | 2,340 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hearths | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 0.00 | 26.5 | 26.5 | < 0.005 | < 0.005 | — | 26.5 |
| Consumer Products | 9.08 | 9.08 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 1.10 | 1.10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 2.21 | 2.04 | 0.11 | 12.8 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 46.7 | 46.7 | < 0.005 | < 0.005 | — | 46.9 |
| Total | 12.4 | 12.2 | 0.13 | 12.8 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | 0.00 | 73.2 | 73.2 | < 0.005 | < 0.005 | — | 73.4 |

## 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 367 | 1,246 | 1,613 | 37.8 | 0.91 | — | 2,827 |
| User Defined Industrial | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | 157 | 532 | 689 | 16.1 | 0.39 | — | 1,208 |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 8.87 | 30.1 | 38.9 | 0.91 | 0.02 | — | 68.3 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 94.1 | 319 | 413 | 9.67 | 0.23 | — | 724 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 627 | 2,127 | 2,754 | 64.5 | 1.55 | — | 4,828 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 367 | 1,246 | 1,613 | 37.8 | 0.91 | — | 2,827 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| User Defined Industrial | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | 157 | 532 | 689 | 16.1 | 0.39 | — | 1,208 |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 8.87 | 30.1 | 38.9 | 0.91 | 0.02 | — | 68.3 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 94.1 | 319 | 413 | 9.67 | 0.23 | — | 724 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 627 | 2,127 | 2,754 | 64.5 | 1.55 | — | 4,828 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 60.8 | 206 | 267 | 6.25 | 0.15 | — | 468 |
| User Defined Industrial | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | 26.0 | 88.1 | 114 | 2.67 | 0.06 | — | 200 |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 1.47 | 4.98 | 6.45 | 0.15 | < 0.005 | — | 11.3 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 15.6 | 52.8 | 68.4 | 1.60 | 0.04 | — | 120 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 104 | 352 | 456 | 10.7 | 0.26 | — | 799 |

## 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 420 | 0.00 | 420 | 41.9 | 0.00 | — | 1,468 |
| User Defined Industrial | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | 625 | 0.00 | 625 | 62.5 | 0.00 | — | 2,187 |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 44.2 | 0.00 | 44.2 | 4.42 | 0.00 | — | 155 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 138 | 0.00 | 138 | 13.8 | 0.00 | — | 484 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | — | — | — | — | — | — | — | — | — | — | — | 1,227 | 0.00 | 1,227 | 123 | 0.00 | — | 4,294 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 420 | 0.00 | 420 | 41.9 | 0.00 | — | 1,468 |
| User Defined Industrial | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | 625 | 0.00 | 625 | 62.5 | 0.00 | — | 2,187 |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 44.2 | 0.00 | 44.2 | 4.42 | 0.00 | — | 155 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 138 | 0.00 | 138 | 13.8 | 0.00 | — | 484 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 1,227 | 0.00 | 1,227 | 123 | 0.00 | — | 4,294 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 69.5 | 0.00 | 69.5 | 6.94 | 0.00 | — | 243 |
| User Defined Industrial | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | 103 | 0.00 | 103 | 10.3 | 0.00 | — | 362 |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 7.32 | 0.00 | 7.32 | 0.73 | 0.00 | — | 25.6 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 22.9 | 0.00 | 22.9 | 2.29 | 0.00 | — | 80.2 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 203 | 0.00 | 203 | 20.3 | 0.00 | — | 711 |

## 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.10 | 2.10 |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.76 | 0.76 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.67 | 0.67 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.54 | 3.54 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.10 | 2.10 |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.76 | 0.76 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.67 | 0.67 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.54 | 3.54 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.35 | 0.35 |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.13 | 0.13 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.11 | 0.11 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.59 | 0.59 |

## 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)

| Vegetation | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

# 5. Activity Data

## 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 |
|---|---|---|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 919 | 80.3 | 32.3 | 245,377 | 10,733 | 939 | 377 | 2,866,826 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| User Defined Industrial | 497 | 43.9 | 17.4 | 132,774 | 14,885 | 1,315 | 521 | 3,976,577 |
| Regional Shopping Center | 30,657 | 38,601 | 15,714 | 10,824,912 | 154,081 | 217,031 | 88,349 | 56,094,537 |
| Apartments Mid Rise | 504 | 507 | 418 | 179,655 | 6,343 | 6,385 | 5,267 | 2,261,295 |
| General Office Building | 2,994 | 610 | 193 | 822,402 | 34,976 | 7,131 | 2,259 | 9,608,420 |
| Regional Shopping Center | 10,221 | 12,870 | 5,239 | 3,609,007 | 51,370 | 72,358 | 29,455 | 18,701,819 |
| 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

| Hearth Type | Unmitigated (number) |
|---|---|
| Apartments Mid Rise | — |
| Wood Fireplaces | 0 |
| Gas Fireplaces | 111 |
| Propane Fireplaces | 0 |
| Electric Fireplaces | 0 |
| No Fireplaces | 0 |

### 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) |
|---|---|---|---|---|
| 215784 | 71,928 | 3,313,560 | 1,104,520 | 163,481 |

### 5.10.3. Landscape Equipment

| Season | Unit | Value |
|---|---|---|
| Snow Days | day/yr | 0.00 |
| Summer Days | day/yr | 250 |

## 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) |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 3,825,903 | 349 | 0.0330 | 0.0040 | 15,747,496 |
| User Defined Industrial | 0.00 | 349 | 0.0330 | 0.0040 | 0.00 |
| Regional Shopping Center | 8,058,465 | 349 | 0.0330 | 0.0040 | 4,883,529 |
| Apartments Mid Rise | 479,094 | 349 | 0.0330 | 0.0040 | 1,225,127 |
| General Office Building | 4,819,688 | 349 | 0.0330 | 0.0040 | 7,578,110 |
| Regional Shopping Center | 2,686,674 | 349 | 0.0330 | 0.0040 | 1,628,158 |
| Other Asphalt Surfaces | 0.00 | 349 | 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) |
|---|---|---|
| Unrefrigerated Warehouse-No Rail | 191,555,921 | 0.00 |
| User Defined Industrial | 0.00 | 0.00 |
| Regional Shopping Center | 61,357,968 | 0.00 |
| Apartments Mid Rise | 4,626,610 | 0.00 |
| General Office Building | 49,084,800 | 0.00 |

| | | |
|---|---|---|
| Regional Shopping Center | 20,456,638 | 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) |
|---|---|---|
| Unrefrigerated Warehouse-No Rail | 779 | — |
| User Defined Industrial | 0.00 | — |
| Regional Shopping Center | 870 | — |
| Apartments Mid Rise | 82.0 | — |
| General Office Building | 257 | — |
| Regional Shopping Center | 290 | — |
| 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 |
|---|---|---|---|---|---|---|---|
| Regional Shopping Center | Other commercial A/C and heat pumps | R-410A | 2,088 | < 0.005 | 4.00 | 4.00 | 18.0 |
| Regional Shopping Center | Stand-alone retail refrigerators and freezers | User Defined | 150 | 0.04 | 1.00 | 0.00 | 1.00 |
| Apartments Mid Rise | Average room A/C & Other residential A/C and heat pumps | R-410A | 2,088 | < 0.005 | 2.50 | 2.50 | 10.0 |
| Apartments Mid Rise | Household refrigerators and/or freezers | R-134a | 1,430 | 0.12 | 0.60 | 0.00 | 1.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| General Office Building | Household refrigerators and/or freezers | R-134a | 1,430 | 0.02 | 0.60 | 0.00 | 1.00 |
| General Office Building | Other commercial A/C and heat pumps | R-410A | 2,088 | < 0.005 | 4.00 | 4.00 | 18.0 |
| Regional Shopping Center | Other commercial A/C and heat pumps | R-410A | 2,088 | < 0.005 | 4.00 | 4.00 | 18.0 |
| Regional Shopping Center | Stand-alone retail refrigerators and freezers | User Defined | 150 | 0.04 | 1.00 | 0.00 | 1.00 |

## 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 | 26.0 | annual days of extreme heat |
| Extreme Precipitation | 2.80 | annual days with precipitation above 20 mm |
| Sea Level Rise | — | meters of inundation depth |
| Wildfire | 10.8 | 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 ¾ 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 | 3 | 0 | 0 | N/A |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | 1 | 0 | 0 | N/A |
| Wildfire | 1 | 0 | 0 | N/A |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | 0 | 0 | 0 | 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 | 3 | 1 | 1 | 3 |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | 1 | 1 | 1 | 2 |
| Wildfire | 1 | 1 | 1 | 2 |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | N/A | N/A | N/A | N/A |

| | | | | |
|---|---|---|---|---|
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | 1 | 1 | 1 | 2 |

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 | 100 |
| AQ-PM | 57.4 |
| AQ-DPM | 82.8 |
| Drinking Water | 96.3 |
| Lead Risk Housing | 29.2 |
| Pesticides | 74.7 |
| Toxic Releases | 44.2 |
| Traffic | 81.0 |
| Effect Indicators | — |
| CleanUp Sites | 81.9 |
| Groundwater | 47.6 |
| Haz Waste Facilities/Generators | 96.8 |
| Impaired Water Bodies | 12.5 |
| Solid Waste | 0.00 |

| | |
|---|---|
| Sensitive Population | — |
| Asthma | 34.7 |
| Cardio-vascular | 45.1 |
| Low Birth Weights | 75.6 |
| Socioeconomic Factor Indicators | — |
| Education | 39.2 |
| Housing | 89.1 |
| Linguistic | 17.3 |
| Poverty | 55.9 |
| Unemployment | 14.4 |

## 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 | 37.76466059 |
| Employed | 27.51186963 |
| Median HI | 26.53663544 |
| Education | — |
| Bachelor's or higher | 60.5800077 |
| High school enrollment | 100 |
| Preschool enrollment | 11.52316181 |
| Transportation | — |
| Auto Access | 62.47914795 |
| Active commuting | 28.56409598 |
| Social | — |
| 2-parent households | 37.02040293 |
| Voting | 39.83061722 |

| | |
|---|---|
| Neighborhood | — |
| Alcohol availability | 30.07827538 |
| Park access | 50.53252919 |
| Retail density | 65.94379571 |
| Supermarket access | 72.28281791 |
| Tree canopy | 43.62889773 |
| Housing | — |
| Homeownership | 9.303220839 |
| Housing habitability | 37.12305916 |
| Low-inc homeowner severe housing cost burden | 73.38637239 |
| Low-inc renter severe housing cost burden | 66.31592455 |
| Uncrowded housing | 31.19466188 |
| Health Outcomes | — |
| Insured adults | 48.58206082 |
| Arthritis | 92.2 |
| Asthma ER Admissions | 65.8 |
| High Blood Pressure | 95.2 |
| Cancer (excluding skin) | 82.6 |
| Asthma | 30.0 |
| Coronary Heart Disease | 94.7 |
| Chronic Obstructive Pulmonary Disease | 71.2 |
| Diagnosed Diabetes | 92.6 |
| Life Expectancy at Birth | 79.7 |
| Cognitively Disabled | 52.2 |
| Physically  Disabled | 60.6 |
| Heart Attack ER Admissions | 32.7 |
| Mental Health Not Good | 41.5 |
| Chronic Kidney Disease | 95.6 |

| | |
|---|---|
| Obesity | 56.2 |
| Pedestrian Injuries | 53.3 |
| Physical Health Not Good | 67.2 |
| Stroke | 91.3 |
| Health Risk Behaviors | — |
| Binge Drinking | 13.6 |
| Current Smoker | 36.3 |
| No Leisure Time for Physical Activity | 67.1 |
| Climate Change Exposures | — |
| Wildfire Risk | 0.0 |
| SLR Inundation Area | 0.0 |
| Children | 7.3 |
| Elderly | 81.9 |
| English Speaking | 84.0 |
| Foreign-born | 37.0 |
| Outdoor Workers | 85.1 |
| Climate Change Adaptive Capacity | — |
| Impervious Surface Cover | 69.4 |
| Traffic Density | 74.6 |
| Traffic Access | 23.0 |
| Other Indices | — |
| Hardship | 54.2 |
| Other Decision Support | — |
| 2016 Voting | 58.0 |

## 7.3. Overall Health & Equity Scores

| Metric | Result for Project Census Tract |
|---|---|
| CalEnviroScreen 4.0 Score for Project Location (a) | 72.0 |

| | |
|---|---|
| Healthy Places Index Score for Project Location (b) | 32.0 |
| 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 |
|---|---|
| Operations: Vehicle Data | Trip characteristics taken from trip generation. |
| Operations: Fleet Mix | Passenger Car Mix estimated based on CalEEMod default fleet mix and the ratio of the vehicle classes (LDA, LDT1, LDT2, MDV, MCY). Truck Fleet Mix based on 2, 3 and 4 axle trucks |
| Operations: Hearths | SCAQMD Rule 445 no wood burning devices. Wood burning devices added to gas devices. |
| 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. |

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# APPENDIX 3.2:

# CALEEMOD PROPOSED PROJECT EMISSIONS MODEL OUTPUTS

# 14992 - Redlands RHNA Detailed Report

## Table of Contents

# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field | Value |
|---|---|
| Project Name | 14992 - Redlands RHNA |
| Operational Year | 2035 |
| Lead Agency | — |
| Land Use Scale | Plan/community |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 2.50 |
| Precipitation (days) | 24.0 |
| Location | 34.05535, -117.218325 |
| County | San Bernardino-South Coast |
| City | Redlands |
| Air District | South Coast AQMD |
| Air Basin | South Coast |
| TAZ | 5395 |
| EDFZ | 10 |
| Electric Utility | Southern California Edison |
| Gas Utility | Southern California Gas |
| App Version | 2022.1.1.24 |

## 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 |
|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 2,436 | Dwelling Unit | 64.1 | 2,338,560 | 0.00 | — | 8,063 | — |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Day-Care Center | 151 | 1000sqft | 3.47 | 151,048 | 0.00 | — | — | — |
| Other Non-Asphalt Surfaces | 48.6 | Acre | 48.6 | 0.00 | 0.00 | — | — | — |

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

# 2. Emissions Summary

### 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. | 129 | 121 | 89.7 | 608 | 1.61 | 4.63 | 131 | 136 | 4.57 | 33.3 | 37.9 | 1,284 | 202,887 | 204,171 | 137 | 6.41 | 162 | 209,656 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 113 | 106 | 91.3 | 390 | 1.52 | 4.55 | 131 | 136 | 4.51 | 33.3 | 37.8 | 1,284 | 194,171 | 195,455 | 137 | 6.57 | 6.69 | 200,838 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 112 | 107 | 50.7 | 449 | 1.18 | 1.50 | 117 | 119 | 1.45 | 29.8 | 31.3 | 1,284 | 136,407 | 137,690 | 135 | 5.95 | 65.0 | 142,910 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 20.4 | 19.4 | 9.24 | 81.9 | 0.22 | 0.27 | 21.4 | 21.7 | 0.26 | 5.44 | 5.71 | 213 | 22,584 | 22,796 | 22.4 | 0.98 | 10.8 | 23,660 |

### 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 | 52.1 | 47.4 | 40.2 | 442 | 1.29 | 0.66 | 131 | 132 | 0.62 | 33.3 | 33.9 | — | 132,679 | 132,679 | 4.79 | 5.65 | 159 | 134,641 |
| Area | 76.3 | 73.2 | 41.7 | 163 | 0.26 | 3.34 | — | 3.34 | 3.32 | — | 3.32 | 0.00 | 51,689 | 51,689 | 0.98 | 0.10 | — | 51,743 |
| Energy | 0.90 | 0.45 | 7.77 | 3.71 | 0.05 | 0.62 | — | 0.62 | 0.62 | — | 0.62 | — | 17,994 | 17,994 | 1.90 | 0.14 | — | 18,085 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 207 | 525 | 732 | 21.3 | 0.51 | — | 1,417 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 1,077 | 0.00 | 1,077 | 108 | 0.00 | — | 3,767 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.57 | 2.57 |
| Total | 129 | 121 | 89.7 | 608 | 1.61 | 4.63 | 131 | 136 | 4.57 | 33.3 | 37.9 | 1,284 | 202,887 | 204,171 | 137 | 6.41 | 162 | 209,656 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 49.9 | 45.1 | 43.2 | 369 | 1.21 | 0.66 | 131 | 132 | 0.62 | 33.3 | 33.9 | — | 124,359 | 124,359 | 4.95 | 5.82 | 4.12 | 126,221 |
| Area | 62.5 | 60.2 | 40.4 | 17.2 | 0.26 | 3.27 | — | 3.27 | 3.27 | — | 3.27 | 0.00 | 51,292 | 51,292 | 0.97 | 0.10 | — | 51,345 |
| Energy | 0.90 | 0.45 | 7.77 | 3.71 | 0.05 | 0.62 | — | 0.62 | 0.62 | — | 0.62 | — | 17,994 | 17,994 | 1.90 | 0.14 | — | 18,085 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 207 | 525 | 732 | 21.3 | 0.51 | — | 1,417 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 1,077 | 0.00 | 1,077 | 108 | 0.00 | — | 3,767 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.57 | 2.57 |
| Total | 113 | 106 | 91.3 | 390 | 1.52 | 4.55 | 131 | 136 | 4.51 | 33.3 | 37.8 | 1,284 | 194,171 | 195,455 | 137 | 6.57 | 6.69 | 200,838 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 43.5 | 39.2 | 39.2 | 344 | 1.11 | 0.60 | 117 | 118 | 0.56 | 29.8 | 30.4 | — | 114,102 | 114,102 | 4.42 | 5.28 | 62.4 | 115,849 |
| Area | 67.6 | 66.9 | 3.68 | 101 | 0.02 | 0.27 | — | 0.27 | 0.26 | — | 0.26 | 0.00 | 3,785 | 3,785 | 0.08 | 0.01 | — | 3,789 |
| Energy | 0.90 | 0.45 | 7.77 | 3.71 | 0.05 | 0.62 | — | 0.62 | 0.62 | — | 0.62 | — | 17,994 | 17,994 | 1.90 | 0.14 | — | 18,085 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 207 | 525 | 732 | 21.3 | 0.51 | — | 1,417 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 1,077 | 0.00 | 1,077 | 108 | 0.00 | — | 3,767 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.57 | 2.57 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 112 | 107 | 50.7 | 449 | 1.18 | 1.50 | 117 | 119 | 1.45 | 29.8 | 31.3 | 1,284 | 136,407 | 137,690 | 135 | 5.95 | 65.0 | 142,910 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 7.94 | 7.15 | 7.16 | 62.8 | 0.20 | 0.11 | 21.4 | 21.5 | 0.10 | 5.44 | 5.55 | — | 18,891 | 18,891 | 0.73 | 0.87 | 10.3 | 19,180 |
| Area | 12.3 | 12.2 | 0.67 | 18.4 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | 0.00 | 627 | 627 | 0.01 | < 0.005 | — | 627 |
| Energy | 0.16 | 0.08 | 1.42 | 0.68 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 2,979 | 2,979 | 0.32 | 0.02 | — | 2,994 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 34.3 | 87.0 | 121 | 3.52 | 0.08 | — | 235 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 178 | 0.00 | 178 | 17.8 | 0.00 | — | 624 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.42 | 0.42 |
| Total | 20.4 | 19.4 | 9.24 | 81.9 | 0.22 | 0.27 | 21.4 | 21.7 | 0.26 | 5.44 | 5.71 | 213 | 22,584 | 22,796 | 22.4 | 0.98 | 10.8 | 23,660 |

# 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | 33.6 | 30.1 | 28.5 | 323 | 0.97 | 0.49 | 99.3 | 99.8 | 0.46 | 25.2 | 25.7 | — | 99,943 | 99,943 | 3.35 | 4.11 | 120 | 101,372 |
| Day-Care Center | 18.5 | 17.2 | 11.7 | 118 | 0.32 | 0.17 | 31.9 | 32.1 | 0.16 | 8.10 | 8.26 | — | 32,736 | 32,736 | 1.44 | 1.54 | 38.7 | 33,269 |
| Other Non-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 | 52.1 | 47.4 | 40.2 | 442 | 1.29 | 0.66 | 131 | 132 | 0.62 | 33.3 | 33.9 | — | 132,679 | 132,679 | 4.79 | 5.65 | 159 | 134,641 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | 32.2 | 28.8 | 30.6 | 267 | 0.91 | 0.49 | 99.3 | 99.8 | 0.46 | 25.2 | 25.7 | — | 93,641 | 93,641 | 3.44 | 4.23 | 3.12 | 94,992 |
| Day-Care Center | 17.7 | 16.4 | 12.5 | 102 | 0.30 | 0.17 | 31.9 | 32.1 | 0.16 | 8.10 | 8.26 | — | 30,718 | 30,718 | 1.51 | 1.59 | 1.00 | 31,229 |
| Other Non-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 | 49.9 | 45.1 | 43.2 | 369 | 1.21 | 0.66 | 131 | 132 | 0.62 | 33.3 | 33.9 | — | 124,359 | 124,359 | 4.95 | 5.82 | 4.12 | 126,221 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | 5.66 | 5.04 | 5.50 | 49.0 | 0.16 | 0.09 | 17.3 | 17.4 | 0.08 | 4.40 | 4.48 | — | 15,200 | 15,200 | 0.55 | 0.68 | 8.35 | 15,426 |
| Day-Care Center | 2.29 | 2.11 | 1.66 | 13.8 | 0.04 | 0.02 | 4.12 | 4.14 | 0.02 | 1.05 | 1.07 | — | 3,691 | 3,691 | 0.18 | 0.19 | 1.99 | 3,754 |
| Other Non-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 | 7.94 | 7.15 | 7.16 | 62.8 | 0.20 | 0.11 | 21.4 | 21.5 | 0.10 | 5.44 | 5.55 | — | 18,891 | 18,891 | 0.73 | 0.87 | 10.3 | 19,180 |

## 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartme Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | 7,512 | 7,512 | 0.95 | 0.12 | — | 7,570 |
| Day-Car e Center | — | — | — | — | — | — | — | — | — | — | — | — | 700 | 700 | 0.09 | 0.01 | — | 705 |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 8,212 | 8,212 | 1.04 | 0.13 | — | 8,276 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartme nts Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | 7,512 | 7,512 | 0.95 | 0.12 | — | 7,570 |
| Day-Car e Center | — | — | — | — | — | — | — | — | — | — | — | — | 700 | 700 | 0.09 | 0.01 | — | 705 |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 8,212 | 8,212 | 1.04 | 0.13 | — | 8,276 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartme nts Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | 1,244 | 1,244 | 0.16 | 0.02 | — | 1,253 |
| Day-Car e Center | — | — | — | — | — | — | — | — | — | — | — | — | 116 | 116 | 0.01 | < 0.005 | — | 117 |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 1,360 | 1,360 | 0.17 | 0.02 | — | 1,370 |

## 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | 0.79 | 0.40 | 6.79 | 2.89 | 0.04 | 0.55 | — | 0.55 | 0.55 | — | 0.55 | — | 8,617 | 8,617 | 0.76 | 0.02 | — | 8,641 |
| Day-Care Center | 0.11 | 0.05 | 0.98 | 0.82 | 0.01 | 0.07 | — | 0.07 | 0.07 | — | 0.07 | — | 1,165 | 1,165 | 0.10 | < 0.005 | — | 1,169 |
| Other Non-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 | 0.90 | 0.45 | 7.77 | 3.71 | 0.05 | 0.62 | — | 0.62 | 0.62 | — | 0.62 | — | 9,782 | 9,782 | 0.87 | 0.02 | — | 9,809 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | 0.79 | 0.40 | 6.79 | 2.89 | 0.04 | 0.55 | — | 0.55 | 0.55 | — | 0.55 | — | 8,617 | 8,617 | 0.76 | 0.02 | — | 8,641 |
| Day-Care Center | 0.11 | 0.05 | 0.98 | 0.82 | 0.01 | 0.07 | — | 0.07 | 0.07 | — | 0.07 | — | 1,165 | 1,165 | 0.10 | < 0.005 | — | 1,169 |
| Other Non-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 | 0.90 | 0.45 | 7.77 | 3.71 | 0.05 | 0.62 | — | 0.62 | 0.62 | — | 0.62 | — | 9,782 | 9,782 | 0.87 | 0.02 | — | 9,809 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | 0.14 | 0.07 | 1.24 | 0.53 | 0.01 | 0.10 | — | 0.10 | 0.10 | — | 0.10 | — | 1,427 | 1,427 | 0.13 | < 0.005 | — | 1,431 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Day-Car Center | 0.02 | 0.01 | 0.18 | 0.15 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 193 | 193 | 0.02 | < 0.005 | — | 193 |
| Other Non-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 | 0.16 | 0.08 | 1.42 | 0.68 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 1,620 | 1,620 | 0.14 | < 0.005 | — | 1,624 |

## 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hearths | 4.73 | 2.36 | 40.4 | 17.2 | 0.26 | 3.27 | — | 3.27 | 3.27 | — | 3.27 | 0.00 | 51,292 | 51,292 | 0.97 | 0.10 | — | 51,345 |
| Consumer Products | 53.4 | 53.4 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 4.36 | 4.36 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 13.8 | 13.0 | 1.33 | 145 | 0.01 | 0.07 | — | 0.07 | 0.06 | — | 0.06 | — | 397 | 397 | 0.02 | < 0.005 | — | 398 |
| Total | 76.3 | 73.2 | 41.7 | 163 | 0.26 | 3.34 | — | 3.34 | 3.32 | — | 3.32 | 0.00 | 51,689 | 51,689 | 0.98 | 0.10 | — | 51,743 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hearths | 4.73 | 2.36 | 40.4 | 17.2 | 0.26 | 3.27 | — | 3.27 | 3.27 | — | 3.27 | 0.00 | 51,292 | 51,292 | 0.97 | 0.10 | — | 51,345 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Consumer Products | 53.4 | 53.4 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 4.36 | 4.36 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | 62.5 | 60.2 | 40.4 | 17.2 | 0.26 | 3.27 | — | 3.27 | 3.27 | — | 3.27 | 0.00 | 51,292 | 51,292 | 0.97 | 0.10 | — | 51,345 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hearths | 0.06 | 0.03 | 0.51 | 0.21 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | 0.00 | 582 | 582 | 0.01 | < 0.005 | — | 582 |
| Consumer Products | 9.75 | 9.75 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.80 | 0.80 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 1.72 | 1.63 | 0.17 | 18.2 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 45.0 | 45.0 | < 0.005 | < 0.005 | — | 45.1 |
| Total | 12.3 | 12.2 | 0.67 | 18.4 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | 0.00 | 627 | 627 | 0.01 | < 0.005 | — | 627 |

## 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 195 | 494 | 688 | 20.0 | 0.48 | — | 1,332 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Day-Care Center | — | — | — | — | — | — | — | — | — | — | — | 12.4 | 31.5 | 43.9 | 1.28 | 0.03 | — | 85.0 |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 207 | 525 | 732 | 21.3 | 0.51 | — | 1,417 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 195 | 494 | 688 | 20.0 | 0.48 | — | 1,332 |
| Day-Care Center | — | — | — | — | — | — | — | — | — | — | — | 12.4 | 31.5 | 43.9 | 1.28 | 0.03 | — | 85.0 |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 207 | 525 | 732 | 21.3 | 0.51 | — | 1,417 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 32.2 | 81.8 | 114 | 3.31 | 0.08 | — | 221 |
| Day-Care Center | — | — | — | — | — | — | — | — | — | — | — | 2.06 | 5.22 | 7.27 | 0.21 | 0.01 | — | 14.1 |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 34.3 | 87.0 | 121 | 3.52 | 0.08 | — | 235 |

## 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 971 | 0.00 | 971 | 97.0 | 0.00 | — | 3,396 |
| Day-Care Center | — | — | — | — | — | — | — | — | — | — | — | 106 | 0.00 | 106 | 10.6 | 0.00 | — | 370 |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 1,077 | 0.00 | 1,077 | 108 | 0.00 | — | 3,767 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 971 | 0.00 | 971 | 97.0 | 0.00 | — | 3,396 |
| Day-Care Center | — | — | — | — | — | — | — | — | — | — | — | 106 | 0.00 | 106 | 10.6 | 0.00 | — | 370 |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 1,077 | 0.00 | 1,077 | 108 | 0.00 | — | 3,767 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 161 | 0.00 | 161 | 16.1 | 0.00 | — | 562 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Day-Care Center | — | — | — | — | — | — | — | — | — | — | — | 17.5 | 0.00 | 17.5 | 1.75 | 0.00 | — | 61.3 |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 178 | 0.00 | 178 | 17.8 | 0.00 | — | 624 |

## 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.46 | 2.46 |
| Day-Care Center | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.11 | 0.11 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.57 | 2.57 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.46 | 2.46 |
| Day-Care Center | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.11 | 0.11 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.57 | 2.57 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.41 | 0.41 |
| Day-Care Center | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.02 | 0.02 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.42 | 0.42 |

## 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)

| Vegetation | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sequest | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

# 5. Activity Data

## 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 |
|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 11,059 | 11,133 | 9,184 | 3,942,701 | 139,204 | 140,124 | 115,594 | 49,626,266 |
| Day-Care Center | 7,193 | 58.9 | 55.9 | 1,881,285 | 45,033 | 688 | 653 | 11,810,581 |
| Other Non-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

| Hearth Type | Unmitigated (number) |
|---|---|
| Apartments Mid Rise | — |
| Wood Fireplaces | 0 |
| Gas Fireplaces | 2436 |
| Propane Fireplaces | 0 |

| | |
|---|---|
| Electric Fireplaces | 0 |
| No Fireplaces | 0 |

### 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) |
|---|---|---|---|---|
| 4735584 | 1,578,528 | 226,572 | 75,524 | 127,047 |

### 5.10.3. Landscape Equipment

| Season | Unit | Value |
|---|---|---|
| Snow Days | day/yr | 0.00 |
| Summer Days | day/yr | 250 |

## 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) |
|---|---|---|---|---|---|
| Apartments Mid Rise | 10,514,171 | 261 | 0.0330 | 0.0040 | 26,886,569 |
| Day-Care Center | 979,777 | 261 | 0.0330 | 0.0040 | 3,636,128 |
| Other Non-Asphalt Surfaces | 0.00 | 261 | 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) |
|---|---|---|
| Apartments Mid Rise | 101,535,342 | 0.00 |

| | | |
|---|---|---|
| Day-Care Center | 6,478,403 | 0.00 |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 |

## 5.13. Operational Waste Generation

### 5.13.1. Unmitigated

| Land Use | Waste (ton/year) | Cogeneration (kWh/year) |
|---|---|---|
| Apartments Mid Rise | 1,801 | — |
| Day-Care Center | 196 | — |
| Other Non-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 |
|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | Average room A/C & Other residential A/C and heat pumps | User Defined | 750 | < 0.005 | 2.50 | 2.50 | 10.0 |
| Apartments Mid Rise | Household refrigerators and/or freezers | User Defined | 150 | 0.12 | 0.60 | 0.00 | 1.00 |
| Day-Care Center | User Defined | User Defined | 150 | 0.02 | 0.60 | 0.00 | 1.00 |
| Day-Care Center | Other commercial A/C and heat pumps | User Defined | 750 | < 0.005 | 4.00 | 4.00 | 18.0 |
| Day-Care Center | Stand-alone retail refrigerators and freezers | User Defined | 150 | < 0.005 | 1.00 | 0.00 | 1.00 |
| Day-Care Center | Walk-in refrigerators and freezers | User Defined | 150 | < 0.005 | 7.50 | 7.50 | 20.0 |

## 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 | 26.0 | annual days of extreme heat |
| Extreme Precipitation | 2.80 | annual days with precipitation above 20 mm |
| Sea Level Rise | — | meters of inundation depth |
| Wildfire | 10.8 | 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 ¾ 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 | 3 | 0 | 0 | N/A |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | 1 | 0 | 0 | N/A |
| Wildfire | 1 | 0 | 0 | N/A |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | 0 | 0 | 0 | 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 | 3 | 1 | 1 | 3 |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | 1 | 1 | 1 | 2 |
| Wildfire | 1 | 1 | 1 | 2 |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | 1 | 1 | 1 | 2 |

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 | 100 |
| AQ-PM | 57.4 |
| AQ-DPM | 82.8 |
| Drinking Water | 96.3 |
| Lead Risk Housing | 29.2 |
| Pesticides | 74.7 |
| Toxic Releases | 44.2 |
| Traffic | 81.0 |
| Effect Indicators | — |
| CleanUp Sites | 81.9 |
| Groundwater | 47.6 |
| Haz Waste Facilities/Generators | 96.8 |
| Impaired Water Bodies | 12.5 |
| Solid Waste | 0.00 |
| Sensitive Population | — |
| Asthma | 34.7 |
| Cardio-vascular | 45.1 |
| Low Birth Weights | 75.6 |
| Socioeconomic Factor Indicators | — |

| | |
|---|---|
| Education | 39.2 |
| Housing | 89.1 |
| Linguistic | 17.3 |
| Poverty | 55.9 |
| Unemployment | 14.4 |

## 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 | 37.76466059 |
| Employed | 27.51186963 |
| Median HI | 26.53663544 |
| Education | — |
| Bachelor's or higher | 60.5800077 |
| High school enrollment | 100 |
| Preschool enrollment | 11.52316181 |
| Transportation | — |
| Auto Access | 62.47914795 |
| Active commuting | 28.56409598 |
| Social | — |
| 2-parent households | 37.02040293 |
| Voting | 39.83061722 |
| Neighborhood | — |
| Alcohol availability | 30.07827538 |
| Park access | 50.53252919 |
| Retail density | 65.94379571 |

| | |
|---|---|
| Supermarket access | 72.28281791 |
| Tree canopy | 43.62889773 |
| Housing | — |
| Homeownership | 9.303220839 |
| Housing habitability | 37.12305916 |
| Low-inc homeowner severe housing cost burden | 73.38637239 |
| Low-inc renter severe housing cost burden | 66.31592455 |
| Uncrowded housing | 31.19466188 |
| Health Outcomes | — |
| Insured adults | 48.58206082 |
| Arthritis | 92.2 |
| Asthma ER Admissions | 65.8 |
| High Blood Pressure | 95.2 |
| Cancer (excluding skin) | 82.6 |
| Asthma | 30.0 |
| Coronary Heart Disease | 94.7 |
| Chronic Obstructive Pulmonary Disease | 71.2 |
| Diagnosed Diabetes | 92.6 |
| Life Expectancy at Birth | 79.7 |
| Cognitively Disabled | 52.2 |
| Physically  Disabled | 60.6 |
| Heart Attack ER Admissions | 32.7 |
| Mental Health Not Good | 41.5 |
| Chronic Kidney Disease | 95.6 |
| Obesity | 56.2 |
| Pedestrian Injuries | 53.3 |
| Physical Health Not Good | 67.2 |

| | |
|---|---|
| Stroke | 91.3 |
| Health Risk Behaviors | — |
| Binge Drinking | 13.6 |
| Current Smoker | 36.3 |
| No Leisure Time for Physical Activity | 67.1 |
| Climate Change Exposures | — |
| Wildfire Risk | 0.0 |
| SLR Inundation Area | 0.0 |
| Children | 7.3 |
| Elderly | 81.9 |
| English Speaking | 84.0 |
| Foreign-born | 37.0 |
| Outdoor Workers | 85.1 |
| Climate Change Adaptive Capacity | — |
| Impervious Surface Cover | 69.4 |
| Traffic Density | 74.6 |
| Traffic Access | 23.0 |
| Other Indices | — |
| Hardship | 54.2 |
| Other Decision Support | — |
| 2016 Voting | 58.0 |

## 7.3. Overall Health & Equity Scores

| Metric | Result for Project Census Tract |
|---|---|
| CalEnviroScreen 4.0 Score for Project Location (a) | 72.0 |
| Healthy Places Index Score for Project Location (b) | 32.0 |
| 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 |
|---|---|
| Operations: Vehicle Data | Trip characteristics taken from Trip Generation |
| Operations: Hearths | SCAQMD Rule 445 no wood burning devices. Wood burning devices added to gas devices. |
| Operations: Architectural Coatings | SCAQMD Rule 1113 |
| 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.<br>Beginning 1 January 2025, all new air conditioning equipment may not use refrigerants with a GWP of 750 or greater. |

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# APPENDIX 3.3:

# SCAQMD AMICUS BRIEF

S219783

**IN THE SUPREME COURT OF C ALIFORNIA**

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SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,

Plaintiffs and Appellants,

v.

COUNTY OF FRESNO,

Defendant and Respondent,

and,

FRIANT RANCH, L.P.,

Real Party in Interest and Respondent.



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After a Published Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726
Honorable Rosendo A. Pena, Jr.

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# APPLICATION OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT FOR LEAVE TO FILE BRIEF OF *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY AND *[PROPOSED]* BRIEF OF *AMICUS CURIAE*

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## TABLE OF CONTENTS

## TABLE OF AUTHORITIES

**State Cases**

**State Cases (cont'd)**



**California Statutes**

**California Statutes (cont'd)**



**California Regulations**

Cal. Code Regs., tit. 14, §§ 15000, et seq. ("CEQA Guidelines")





**Federal Statutes**

**Rules**



**Other**

**TO THE HONORABLE CHIEF JUSTICE AND JUSTICES OF THE SUPREME COURT:**

## APPLICATION FOR LEAVE TO FILE *AMICUS CURIAE* BRIEF

Pursuant to Rule 8.520(f) of the California Rules of Court, the South Coast Air Quality Management District (SCAQMD) respectfully requests leave to file the attached *amicus curiae* brief. Because SCAQMD's position differs from that of either party, we request leave to submit this amicus brief in support of neither party.

## HOW THIS BRIEF WILL ASSIST THE COURT

SCAQMD's proposed amicus brief takes a position on two of the issues in this case. In both instances, its position differs from that of either party. The issues are:

1) Does the California Environmental Quality Act (CEQA) require an environmental impact report (EIR) to correlate a project's air pollution emissions with specific levels of health impacts?
2) What is the proper standard of review for determining whether an EIR provides sufficient information on the health impacts caused by a project's emission of air pollutants?

This brief will assist the Court by discussing the practical realities of correlating identified air quality impacts with specific health outcomes. In short, CEQA requires agencies to provide detailed information about a project's air quality impacts that is sufficient for the public and decisionmakers to adequately evaluate the project and meaningfully understand its impacts. However, the level of analysis is governed by a rule of reason; CEQA only requires agencies to conduct analysis if it is reasonably feasible to do so.

With regard to health-related air quality impacts, an analysis that correlates a project's air pollution emissions with specific levels of health impacts will be feasible in some cases but not others. Whether it is feasible depends on a variety of factors, including the nature of the project and the nature of the analysis under consideration. The feasibility of analysis may also change over time as air districts and others develop new tools for measuring projects' air quality related health impacts. Because SCAQMD has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, it is uniquely situated to express an opinion on the extent to which the Court should hold that CEQA requires lead agencies to correlate air quality impacts with specific health outcomes.

SCAQMD can also offer a unique perspective on the question of the appropriate standard of review. SCAQMD submits that the proper standard of review for determining whether an EIR is sufficient as an informational document is more nuanced than argued by either party. In our view, this is a mixed question of fact and law. It includes determining whether additional analysis is feasible, which is primarily a factual question that should be reviewed under the substantial evidence standard. However, it also involves determining whether the omission of a particular analysis renders an EIR insufficient to serve CEQA's purpose as a meaningful, informational document. If a lead agency has not determined that a requested analysis is infeasible, it is the court's role to determine whether the EIR nevertheless meets CEQA's purposes, and courts should not defer to the lead agency's conclusions regarding the legal sufficiency of an EIR's analysis. The ultimate question of whether an EIR's analysis is "sufficient" to serve CEQA's informational purposes is predominately a question of law that courts should review de novo.

This brief will explain the rationale for these arguments and may assist the Court in reaching a conclusion that accords proper respect to a lead agency's factual conclusions while maintaining judicial authority over the ultimate question of what level of analysis CEQA requires.

## STATEMENT OF INTEREST OF *AMICUS CURIAE*

The SCAQMD is the regional agency primarily responsible for air pollution control in the South Coast Air Basin, which consists of all of Orange County and the non-desert portions of the Los Angeles, Riverside, and San Bernardino Counties. (Health & Saf. Code § 40410; Cal. Code Regs., tit. 17, § 60104.) The SCAQMD participates in the CEQA process in several ways. Sometimes it acts as a lead agency that prepares CEQA documents for projects. Other times it acts as a responsible agency when it has permit authority over some part of a project that is undergoing CEQA review by a different lead agency. Finally, SCAQMD also acts as a commenting agency for CEQA documents that it receives because it is a public agency with jurisdiction by law over natural resources affected by the project.

In all of these capacities, SCAQMD will be affected by the decision in this case. SCAQMD sometimes submits comments requesting that a lead agency perform an additional type of air quality or health impacts analysis. On the other hand, SCAQMD sometimes determines that a particular type of health impact analysis is not feasible or would not produce reliable and informative results. Thus, SCAQMD will be affected by the Court's resolution of the extent to which CEQA requires EIRs to correlate emissions and health impacts, and its resolution of the proper standard of review.

## CERTIFICATION REGARDING AUTHORSHIP AND FUNDING

No party or counsel in the pending case authored the proposed amicus curiae brief in whole or in part, or made any monetary contribution intended to fund the preparation or submission of the brief. No person or entity other than the proposed *Amicus Curiae* made any monetary contribution intended to fund the preparation or submission of the brief.

Respectfully submitted,

DATED: April 3, 2015

SOUTH COAST AIR QUALITY
MANAGEMENT DISTRICT
KURT R. WIESE, GENERAL COUNSEL
BARBARA BAIRD, CHIEF DEPUTY COUNSEL

By: Barbara Baird
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*Attorneys for [proposed] Amicus Curiae*
*SOUTH COAST AIR QUALITY*
*MANAGEMENT DISTICT*

## BRIEF OF AMICUS CURIAE

## SUMMARY OF ARGUMENT

The South Coast Air Quality Management District (SCAQMD) submits that this Court should not try to establish a hard-and-fast rule concerning whether lead agencies are required to correlate emissions of air pollutants with specific health consequences in their environmental impact reports (EIR). The level of detail required in EIRs is governed by a few, core CEQA (California Environmental Quality Act) principles. As this Court has stated, "[a]n EIR must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project." (*Laurel Heights Improvement Assn. v. Regents of the Univ of Cal.* (1988) 47 Cal.3d 376, 405 ["*Laurel Heights I*"]) Accordingly, "an agency must use its best efforts to find out and disclose all that it reasonably can." (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 428 (quoting CEQA Guidelines § 15144)[1].). However, "[a]nalysis of environmental effects need not be exhaustive, but will be judged in light of what is reasonably feasible." (*Association of Irritated Residents v. County of Madera* (2003) 107 Cal.App.4th 1383, 1390; CEQA Guidelines §§ 15151, 15204(a).)

With regard to analysis of air quality related health impacts, EIRs must generally quantify a project's pollutant emissions, but in some cases it is not feasible to correlate these emissions to specific, quantifiable health impacts (e.g., premature mortality; hospital admissions). In such cases, a general description of the adverse health impacts resulting from the pollutants at issue may be sufficient. In other cases, due to the magnitude

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[1] The CEQA Guidelines are found at Cal. Code Regs., tit. 14 §§ 15000, *et seq*.

or nature of the pollution emissions, as well as the specificity of the project involved, it may be feasible to quantify health impacts. Or there may be a less exacting, but still meaningful analysis of health impacts that can feasibly be performed. In these instances, agencies should disclose those impacts.

SCAQMD also submits that whether or not an EIR complies with CEQA's informational mandates by providing sufficient, feasible analysis is a mixed question of fact and law. Pertinent here, the question of whether an EIR's discussion of health impacts from air pollution is sufficient to allow the public to understand and consider meaningfully the issues involves two inquiries: (1) Is it feasible to provide the information or analysis that a commenter is requesting or a petitioner is arguing should be required?; and (2) Even if it is feasible, is the agency relying on other policy or legal considerations to justify not preparing the requested analysis? The first question of whether an analysis is feasible is primarily a question of fact that should be judged by the substantial evidence standard. The second inquiry involves evaluating CEQA's information disclosure purposes against the asserted reasons to not perform the requested analysis. For example, an agency might believe that its EIR meets CEQA's informational disclosure standards even without a particular analysis, and therefore choose not to conduct that analysis. SCAQMD submits that this is more of a legal question, which should be reviewed de novo as a question of law.

## ARGUMENT

## I. RELEVANT FACTUAL AND LEGAL FRAMEWORK.

### A. Air Quality Regulatory Background

The South Coast Air Quality Management District (SCAQMD) is one of the local and regional air pollution control districts and air quality

management districts in California. The SCAQMD is the regional air pollution agency for the South Coast Air Basin, which consists of all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. (Health & Saf. Code § 40410, 17 Cal. Code Reg. § 60104.) The SCAQMD also includes the Coachella Valley in Riverside County (Palm Springs area to the Salton Sea). (SCAQMD, *Final 2012 AQMP (Feb. 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "chapter 7" hyperlink; pp 7-1, 7-3 (last visited Apr. 1, 2015).) The SCAQMD's jurisdiction includes over 16 million residents and has the worst or nearly the worst air pollution levels in the country for ozone and fine particulate matter. (SCAQMD, *Final 2012 AQMP (Feb. 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "Executive Summary" hyperlink p. ES-1 (last visited Apr. 1, 2015).)

Under California law, the local and regional districts are primarily responsible for controlling air pollution from all sources except motor vehicles. (Health & Saf. Code § 40000.) The California Air Resources Board (CARB), part of the California Environmental Protection Agency, is primarily responsible for controlling pollution from motor vehicles. (*Id.*) The air districts must adopt rules to achieve and maintain the state and federal ambient air quality standards within their jurisdictions. (Health & Saf. Code § 40001.)

The federal Clean Air Act (CAA) requires the United States Environmental Protection Agency (EPA) to identify pollutants that are widely distributed and pose a threat to human health, developing a so-called "criteria" document. (42 U.S.C. § 7408; CAA § 108.) These pollutants are frequently called "criteria pollutants." EPA must then establish "national ambient air quality standards" at levels "requisite to protect public health",

allowing "an adequate margin of safety." (42 U.S.C. § 7409; CAA § 109.) EPA has set standards for six identified pollutants: ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, particulate matter (PM), and lead. (U.S. EPA, National Ambient Air Quality Standards (NAAQS), http://www.epa.gov/air/criteria.html (last updated Oct. 21, 2014).)[2]

Under the Clean Air Act, EPA sets emission standards for motor vehicles and "nonroad engines" (mobile farm and construction equipment, marine vessels, locomotives, aircraft, etc.). (42 U.S.C. §§ 7521, 7547; CAA §§ 202, 213.) California is the only state allowed to establish emission standards for motor vehicles and most nonroad sources; however, it may only do so with EPA's approval. (42 U.S.C. §§ 7543(b), 7543(e); CAA §§ 209(b), 209(c).) Sources such as manufacturing facilities, power plants and refineries that are not mobile are often referred to as "stationary sources." The Clean Air Act charges state and local agencies with the primary responsibility to attain the national ambient air quality standards. (42 U.S.C. § 7401(a)(3); CAA § 101(a)(3).) Each state must adopt and implement a plan including enforceable measures to achieve and maintain the national ambient air quality standards. (42 U.S.C. § 7410; CAA § 110.) The SCAQMD and CARB jointly prepare portion of the plan for the South Coast Air Basin and submit it for approval by EPA. (Health & Saf. Code §§ 40460, et seq.)

The Clean Air Act also requires state and local agencies to adopt a permit program requiring, among other things, that new or modified "major" stationary sources use technology to achieve the "lowest achievable emission rate," and to control minor stationary sources as

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[2] Particulate matter (PM) is further divided into two categories: fine particulate or $PM_{2.5}$ (particles with a diameter of less than or equal to 2.5 microns) and coarse particulate ($PM_{10}$) (particles with a diameter of 10 microns or less). (U.S. EPA, Particulate Matter (PM), http://www.epa.gov/airquality/particlepollution/ (last visited Apr. 1, 2015).)

needed to help attain the standards. (42 U.S.C. §§ 7502(c)(5), 7503(a)(2), 7410(a)(2)(C); CAA §§ 172(c)(5), 173(a)(2), 110(a)(2)(C).) The air districts implement these permit programs in California. (Health & Saf. Code §§ 42300, et seq.)

The Clean Air Act also sets out a regulatory structure for over 100 so-called "hazardous air pollutants" calling for EPA to establish "maximum achievable control technology" (MACT) for sources of these pollutants. (42 U.S.C. § 7412(d)(2); CAA § 112(d)(2).) California refers to these pollutants as "toxic air contaminants" (TACs) which are subject to two state-required programs. The first program requires "air toxics control measures" for specific categories of sources. (Health & Saf. Code § 39666.) The other program requires larger stationary sources and sources identified by air districts to prepare "health risk assessments" for impacts of toxic air contaminants. (Health & Saf. Code §§ 44320(b), 44322, 44360.) If the health risk exceeds levels identified by the district as "significant," the facility must implement a "risk reduction plan" to bring its risk levels below "significant" levels. Air districts may adopt additional more stringent requirements than those required by state law, including requirements for toxic air contaminants. (Health & Saf. Code § 41508; *Western Oil & Gas Assn. v. Monterey Bay Unified APCD* (1989) 49 Cal.3d 408, 414.) For example, SCAQMD has adopted a rule requiring new or modified sources to keep their risks below specified levels and use best available control technology (BACT) for toxics. (SCAQMD, *Rule 1401-New Source Review of Toxic Air Contaminants*, http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xiv; then follow "Rule 1401" hyperlink (last visited Apr. 1, 2015).)

## B. The SCAQMD's Role Under CEQA

The California Environmental Quality Act (CEQA) requires public agencies to perform an environmental review and appropriate analysis for projects that they implement or approve. (Pub. Resources Code § 21080(a).) The agency with primary approval authority for a particular project is generally the "lead agency" that prepares the appropriate CEQA document. (CEQA Guidelines §§ 15050, 15051.) Other agencies having a subsequent approval authority over all or part of a project are called "responsible" agencies that must determine whether the CEQA document is adequate for their use. (CEQA Guidelines §§ 15096(c), 15381.) Lead agencies must also consult with and circulate their environmental impact reports to "trustee agencies" and agencies "with jurisdiction by law" including "authority over resources which may be affected by the project." (Pub. Resources Code §§ 21104(a), 21153; CEQA Guidelines §§ 15086(a)(3), 15073(c).) The SCAQMD has a role in all these aspects of CEQA.

Fulfilling its responsibilities to implement its air quality plan and adopt rules to attain the national ambient air quality standards, SCAQMD adopts a dozen or more rules each year to require pollution reductions from a wide variety of sources. The SCAQMD staff evaluates each rule for any adverse environmental impact and prepares the appropriate CEQA document. Although most rules reduce air emissions, they may have secondary environmental impacts such as use of water or energy or disposal of waste—e.g., spent catalyst from control equipment.[3]

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[3] The SCAQMD's CEQA program for its rules is a "Certified Regulatory Program" under which it prepares a "functionally equivalent" document in lieu of a negative declaration or EIR. (Pub. Resources Code § 21080.5, CEQA Guidelines § 15251(l).)

The SCAQMD also approves a large number of permits every year to construct new, modified, or replacement facilities that emit regulated air pollutants. The majority of these air pollutant sources have already been included in an earlier CEQA evaluation for a larger project, are currently being evaluated by a local government as lead agency, or qualify for an exemption. However, the SCAQMD sometimes acts as lead agency for major projects where the local government does not have a discretionary approval. In such cases, SCAQMD prepares and certifies a negative declaration or environmental impact report (EIR) as appropriate.[4] SCAQMD evaluates perhaps a dozen such permit projects under CEQA each year. SCAQMD is often also a "responsible agency" for many projects since it must issue a permit for part of the projects (e.g., a boiler used to provide heat in a commercial building). For permit projects evaluated by another lead agency under CEQA, SCAQMD has the right to determine that the CEQA document is inadequate for its purposes as a responsible agency, but it may not do so because its permit program already requires all permitted sources to use the best available air pollution control technology. (SCAQMD, *Rule 1303(a)(1) – Requirements*, http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xiii; then follow "Rule 1303" hyperlink (last visited Apr. 1, 2015).)

Finally, SCAQMD receives as many as 60 or more CEQA documents each month (around 500 per year) in its role as commenting agency or an agency with "jurisdiction by law" over air quality—a natural resource affected by the project. (Pub. Resources Code §§ 21104(a), 21153; CEQA Guidelines § 15366(a)(3).) The SCAQMD staff provides comments on as many as 25 or 30 such documents each month.

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[4] The SCAQMD's permit projects are not included in its Certified Regulatory Program, and are evaluated under the traditional local government CEQA analysis. (Pub. Resources Code §§ 21150-21154.)

(SCAQMD Governing Board Agenda, Apr. 3, 2015, Agenda Item 16, Attachment A, http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-april-3-2015; then follow "16. Lead Agency Projects and Environmental Documents Received by SCAQMD" hyperlink (last visited Apr. 1, 2015).) Of course, SCAQMD focuses its commenting efforts on the more significant projects.

Typically, SCAQMD comments on the adequacy of air quality analysis, appropriateness of assumptions and methodology, and completeness of the recommended air quality mitigation measures. Staff may comment on the need to prepare a health risk assessment detailing the projected cancer and noncancer risks from toxic air contaminants resulting from the project, particularly the impacts of diesel particulate matter, which CARB has identified as a toxic air contaminant based on its carcinogenic effects. (California Air Resources Board, Resolution 98-35, Aug. 27, 1998, http://www.arb.ca.gov/regact/diesltac/diesltac.htm; then follow Resolution 98-35 hyperlink (last visited Apr. 1, 2015).) Because SCAQMD already requires new or modified stationary sources of toxic air contaminants to use the best available control technology for toxics and to keep their risks below specified levels, (SCAQMD Rule 1401, supra, note 15), the greatest opportunity to further mitigate toxic impacts through the CEQA process is by reducing emissions—particularly diesel emissions—from vehicles.

## II. THIS COURT SHOULD NOT SET A HARD-AND-FAST RULE CONCERNING THE EXTENT TO WHICH AN EIR MUST CORRELATE A PROJECT'S EMISSION OF POLLUTANTS WITH RESULTING HEALTH IMPACTS.

Numerous cases hold that courts do not review the correctness of an EIR's conclusions but rather its sufficiency as an informative document. (*Laurel Heights 1*, *supra*, 47 Cal.3d at p. 392; *Citizens of Goleta Valley v.*

*Bd. of Supervisors* (1990) 52 Cal.3d 553, 569; *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1197.)

As stated by the Court of Appeal in this case, where an EIR has addressed a topic, but the petitioner claims that the information provided about that topic is insufficient, courts must "draw[] a line that divides *sufficient* discussions from those that are *insufficient*." (*Sierra Club v. County of Fresno* (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271, 290.) The Court of Appeal readily admitted that "[t]he terms themselves – sufficient and insufficient – provide little, if any, guidance as to where the line should be drawn. They are simply labels applied once the court has completed its analysis." (*Id.*)

The CEQA Guidelines, however, provide guidance regarding what constitutes a sufficient discussion of impacts. Section 15151 states that "the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." Case law reflects this: "Analysis of environmental effects need not be exhaustive, but will be judged in light of what was reasonably feasible." (*Association of Irritated Residents v. County of Madera, supra,* 107 Cal.App.4th at p. 1390; see also CEQA Guidelines § 15204(a).)

Applying this test, this Court cannot realistically establish a hard-and-fast rule that an analysis correlating air pollution impacts of a project to quantified resulting health impacts is always required, or indeed that it is never required. Simply put, in some cases such an analysis will be "feasible"; in some cases it will not.

For example, air pollution control districts often require a proposed new source of toxic air contaminants to prepare a "health risk assessment" before issuing a permit to construct. District rules often limit the allowable cancer risk the new source may cause to the "maximally exposed individual" (worker and residence exposures). (*See, e.g.*, SCAQMD Rule 1401(c)(8); 1401(d)(1), *supra* note 15.) In order to perform this analysis, it

is necessary to have data regarding the sources and types of air toxic contaminants, location of emission points, velocity of emissions, the meteorology and topography of the area, and the location of receptors (worker and residence). (SCAQMD, *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB2588), pp. 11-16*; (last visited Apr. 1, 2015) http://www.aqmd.gov/home/library/documents-support-material; "Guidelines" hyperlink; AB2588; then follow AB2588 Risk Assessment Guidelines hyperlink.)

Thus, it is feasible to determine the health risk posed by a new gas station locating at an intersection in a mixed use area, where receptor locations are known. On the other hand, it may not be feasible to perform a health risk assessment for airborne toxics that will be emitted by a generic industrial building that was built on "speculation" (i.e., without knowing the future tenant(s)). Even where a health risk assessment can be prepared, however, the resulting maximum health risk value is only a calculation of risk—it does not necessarily mean anyone will contract cancer as a result of the project.

In order to find the "cancer burden" or expected additional cases of cancer resulting from the project, it is also necessary to know the numbers and location of individuals living within the "zone of impact" of the project: i.e., those living in areas where the projected cancer risk from the project exceeds one in a million. (SCAQMD, Health Risk Assessment Summary form, http://www.aqmd.gov/home/forms ; filter by "AB2588" category; then "Health Risk Assessment" hyperlink (last visited Apr. 1, 2015).) The affected population is divided into bands of those exposed to at least 1 in a million risk, those exposed to at least 10 in a million risk, etc. up to those exposed at the highest levels. (*Id.*) This data allows agencies to calculate an approximate number of additional cancer cases expected from

the project. However, it is not possible to predict which particular individuals will be affected.

For the so-called criteria pollutants[5], such as ozone, it may be more difficult to quantify health impacts. Ozone is formed in the atmosphere from the chemical reaction of the nitrogen oxides ($NO_x$) and volatile organic compounds (VOC) in the presence of sunlight. (U.S. EPA, Ground Level Ozone, http://www.epa.gov/airquality/ozonepollution/ (last updated Mar. 25, 2015).) It takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources. (U.S. EPA, *Guideline on Ozone Monitoring Site Selection* (Aug. 1998) EPA-454/R-98-002 § 5.1.2, http://www.epa.gov/ttnamti1/archive/cpreldoc.html (last visited Apr. 1, 2015).) $NO_x$ and VOC are known as "precursors" of ozone.

Scientifically, health effects from ozone are correlated with increases in the ambient level of ozone in the air a person breathes. (U.S. EPA, *Health Effects of Ozone in the General Population,* Figure 9, http://www.epa.gov/apti/ozonehealth/population.html#levels (last visited Apr. 1, 2015).) However, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire region. For example, the SCAQMD's 2012 AQMP showed that reducing $NO_x$ by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion. (South Coast Air Quality Management District, *Final 2012 AQMP (February 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "Appendix V: Modeling & Attainment Demonstrations" hyperlink,

[5] See discussion of types of pollutants, supra, Part I.A.

pp. v-4-2, v-7-4, v-7-24.) SCAQMD staff does not currently know of a way to accurately quantify ozone-related health impacts caused by $NO_x$ or VOC emissions from relatively small projects.

On the other hand, this type of analysis may be feasible for projects on a regional scale with very high emissions of $NO_x$ and VOCs, where impacts are regional. For example, in 2011 the SCAQMD performed a health impact analysis in its CEQA document for proposed Rule 1315, which authorized various newly-permitted sources to use offsets from the districts "internal bank" of emission reductions. This CEQA analysis accounted for essentially *all* the increases in emissions due to new or modified sources in the District between 2010 and 2030.[6] The SCAQMD was able to correlate this very large emissions increase (e.g., 6,620 pounds per day $NO_x$ (1,208 tons per year), 89,180 pounds per day VOC (16,275 tons per year)) to expected health outcomes from ozone and particulate matter (e.g., 20 premature deaths per year and 89,947 school absences in the year 2030 due to ozone).[7] (SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System* (see hyperlink in fn 6*)* at p. 4.1-35, Table 4.1-29.)

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[6] (SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, Attachment G, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System, Vol. 1, p.4.0-6,* http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-february-4-2011; the follow "26. Adopt Proposed Rule 1315 – Federal New Source Review Tracking System" (last visited April 1, 2015).)

[7] The SCAQMD was able to establish the location of future $NO_x$ and VOC emissions by assuming that new projects would be built in the same locations and proportions as existing stationary sources. This CEQA document was upheld by the Los Angeles County Superior Court in *Natural Res. Def. Council v SCAQMD*, Los Angeles Superior Court No. BS110792).

However, a project emitting only 10 tons per year of $NO_x$ or VOC is small enough that its regional impact on ambient ozone levels may not be detected in the regional air quality models that are currently used to determine ozone levels. Thus, in this case it would not be feasible to directly correlate project emissions of VOC or $NO_x$ with specific health impacts from ozone. This is in part because ozone formation is not linearly related to emissions. Ozone impacts vary depending on the location of the emissions, the location of other precursor emissions, meteorology and seasonal impacts, and because ozone is formed some time later and downwind from the actual emission. (EPA Guideline on Ozone Monitoring Site Selection (Aug. 1998) EPA-454/R-98-002, § 5.1.2; https://www.epa.gov/ttnamti1/archive/cpreldoc.html; then search "Guideline on Ozone Monitoring Site Selection" click on pdf) (last viewed Apr. 1, 2015).)

SCAQMD has set its CEQA "significance" threshold for $NO_x$ and VOC at 10 tons per year (expressed as 55 lb/day). (SCAQMD, *Air Quality Analysis Handbook*, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook; then follow "SCAQMD Air Quality Significance Thresholds" hyperlink (last visited Apr. 1, 2015).) This is because the federal Clean Air Act defines a "major" stationary source for "extreme" ozone nonattainment areas such as SCAQMD as one emitting 10 tons/year. (42 U.S.C. §§ 7511a(e), 7511a(f); CAA §§ 182(e), 182(f).) Under the Clean Air Act, such sources are subject to enhanced control requirements (42 U.S.C. §§ 7502(c)(5), 7503; CAA §§ 172(c)(5), 173), so SCAQMD decided this was an appropriate threshold for making a CEQA "significance" finding and requiring feasible mitigation. Essentially, SCAQMD takes the position that a source that emits 10 tons/year of $NO_x$ or VOC would contribute cumulatively to ozone formation. Therefore, lead agencies that use SCAQMD's thresholds of significance may determine

that many projects have "significant" air quality impacts and must apply all feasible mitigation measures, yet will not be able to precisely correlate the project to quantifiable health impacts, unless the emissions are sufficiently high to use a regional modeling program.

In the case of particulate matter ($PM_{2.5}$)[8], another "criteria" pollutant, SCAQMD staff is aware of two possible methods of analysis. SCAQMD used regional modeling to predict expected health impacts from its proposed Rule 1315, as mentioned above. Also, the California Air Resources Board (CARB) has developed a methodology that can predict expected mortality (premature deaths) from large amounts of $PM_{2.5}$. (California Air Resources Board, *Health Impacts Analysis: PM Premature Death Relationship*, http://www.arb.ca.gov/research/health/pm-mort/pm-mort_arch.htm (last reviewed Jan. 19, 2012).) SCAQMD used the CARB methodology to predict impacts from three very large power plants (e.g., 731-1837 lbs/day). (Final Environmental Assessment for Rule 1315, *supra*, pp 4.0-12, 4.1-13, 4.1-37 (e.g., 125 premature deaths in the entire SCAQMD in 2030), 4.1-39 (0.05 to 1.77 annual premature deaths from power plants.) Again, this project involved large amounts of additional $PM_{2.5}$ in the District, up to 2.82 tons/day (5,650 lbs/day of $PM_{2.5}$, or, or 1029 tons/year. (*Id.* at table 4.1-4, p. 4.1-10.)

However, the primary author of the CARB methodology has reported that this $PM_{2.5}$ health impact methodology is not suited for small projects and may yield unreliable results due to various uncertainties. [9] (SCAQMD, *Final Subsequent Mitigated Negative Declaration for: Warren*

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[8] SCAQMD has not attained the latest annual or 24-hour national ambient air quality standards for "$PM_{2.5}$" or particulate matter less than 2.5 microns in diameter.

[9] Among these uncertainties are the representativeness of the population used in the methodology, and the specific source of PM and the corresponding health impacts. (*Id.* at p. 2-24.)

*E&P, Inc. WTU Central Facility, New Equipment Project (certified July 19, 2011)*, http://www.aqmd.gov/home/library/documents-support-material/lead-agency-permit-projects/permit-project-documents---year-2011; then follow "Final Subsequent Mitigated Negative Declaration for Warren E&P Inc. WTU Central Facility, New Equipment Project" hyperlink, pp. 2-22, 2-23 (last visited Apr. 1, 2015).) Therefore, when SCAQMD prepared a CEQA document for the expansion of an existing oil production facility, with very small $PM_{2.5}$ increases (3.8 lb/day) and a very small affected population, staff elected not to use the CARB methodology for using estimated $PM_{2.5}$ emissions to derive a projected premature mortality number and explained why it would be inappropriate to do so. (*Id.* at pp 2-22 to 2-24.) SCAQMD staff concluded that use of this methodology for such a small source could result in unreliable findings and would not provide meaningful information. (*Id.* at pp. 2-23, 2-25.) This CEQA document was not challenged in court.

In the above case, while it may have been technically possible to plug the data into the methodology, the results would not have been reliable or meaningful. SCAQMD believes that an agency should not be required to perform analyses that do not produce reliable or meaningful results. This Court has already held that an agency may decline to use even the "normal" "existing conditions" CEQA baseline where to do so would be misleading or without informational value. (*Neighbors for Smart Rail v. Exposition Metro Line* (2013) 57 Cal.4th 439, 448, 457.) The same should be true for a decision that a particular study or analysis would not provide reliable or meaningful results.[10]

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[10] Whether a particular study would result in "informational value" is a part of deciding whether it is "feasible." CEQA defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and

Therefore, it is not possible to set a hard-and-fast rule on whether a correlation of air quality impacts with specific quantifiable health impacts is required in all cases. Instead, the result turns on whether such an analysis is reasonably feasible in the particular case.[11] Moreover, what is reasonably feasible may change over time as scientists and regulatory agencies continually seek to improve their ability to predict health impacts. For example, CARB staff has been directed by its Governing Board to reassess and improve the methodology for estimating premature deaths. (California Air Resources Board, *Health Impacts Analysis: PM Mortality Relationship*, http://www.arb.ca.gov/research/health/pm-mort/pm-mort.htm (last reviewed Dec. 29, 2010).) This factor also counsels against setting any hard-and-fast rule in this case.

## III. THE QUESTION OF WHETHER AN EIR CONTAINS SUFFICIENT ANALYSIS TO MEET CEQA'S REQUIREMENTS IS A MIXED QUESTION OF FACT AND LAW GOVERNED BY TWO DIFFERENT STANDARDS OF REVIEW.

### A. Standard of Review for Feasibility Determination and Sufficiency as an Informative Document

A second issue in this case is whether courts should review an EIR's informational sufficiency under the "substantial evidence" test as argued by Friant Ranch or the "independent judgment" test as argued by Sierra Club.

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technological factors." (Pub. Resources Code § 21061.1.) A study cannot be "accomplished in a *successful* manner" if it produces unreliable or misleading results.

[11] In this case, the lead agency did not have an opportunity to determine whether the requested analysis was feasible because the comment was non-specific. Therefore, SCAQMD suggests that this Court, after resolving the legal issues in the case, direct the Court of Appeal to remand the case to the lead agency for a determination of whether the requested analysis is feasible. Because Fresno County, the lead agency, did not seek review in this Court, it seems likely that the County has concluded that at least some level of correlation of air pollution with health impacts is feasible.

As this Court has explained, "a reviewing court must adjust its scrutiny to the nature of the alleged defect, depending on whether the claim is predominantly one of improper procedure or a dispute over the facts." (*Vineyard Area Citizens v. City of Rancho Cordova, supra,* 40 Cal.4th at 435.) For questions regarding compliance with proper procedure or other legal questions, courts review an agency's action de novo under the "independent judgment" test. (*Id.*) On the other hand, courts review factual disputes only for substantial evidence, thereby "accord[ing] greater deference to the agency's substantive factual conclusions." (*Id.*)

Here, Friant Ranch and Sierra Club agree that the case involves the question of whether an EIR includes sufficient information regarding a project's impacts. However, they disagree on the proper standard of review for answering this question: Sierra Club contends that courts use the independent judgment standard to determine whether an EIR's analysis is sufficient to meet CEQA's informational purposes,[12] while Friant Ranch contends that the substantial evidence standard applies to this question.

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[12] Sierra Club acknowledges that courts use the substantial evidence standard when reviewing predicate factual issues, but argues that courts ultimately decide as a matter of law what CEQA requires. (Answering Brief, pp. 14, 23.)

SCAQMD submits that the issue is more nuanced than either party contends. We submit that, whether a CEQA document includes sufficient analysis to satisfy CEQA's informational mandates is a mixed question of fact and law,[13] containing two levels of inquiry that should be judged by different standards.[14]

The state CEQA Guidelines set forth standards for the adequacy of environmental analysis. Guidelines Section 15151 states:

> An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good-faith effort at full disclosure.

In this case, the basic question is whether the underlying analysis of air quality impacts made the EIR "sufficient" as an informative document. However, whether the EIR's analysis was sufficient is judged in light of what was reasonably feasible. This represents a mixed question of fact and law that is governed by two different standards of review.

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[13] Friant Ranch actually states that the claim that an EIR lacks sufficient relevant information is, "most properly thought of as raising mixed questions of fact and law." (Opening Brief, p. 27.) However, the remainder of its argument claims that the court should apply the substantial evidence standard of review to all aspects of the issue.

[14] Mixed questions of fact and law issues may implicate predominantly factual subordinate questions that are reviewed under the substantial evidence test even though the ultimate question may be reviewed by the independent judgment test. *Crocker National Bank v. City and County of San Francisco* (1989) 49 Cal.3d 881, 888-889.

SCAQMD submits that an EIR's sufficiency as an informational document is ultimately a legal question that courts should determine using their independent judgment. This Court's language in *Laurel Heights I* supports this position. As this Court explained: "The court does not pass upon the correctness of the EIR's environmental conclusions, but only upon its *sufficiency as an informative document.*" (*Laurel Heights I, supra,* 47 Cal.3d at 392-393) (emphasis added.) As described above, the Court in *Vineyard Area Citizens v. City of Rancho Cordova, supra,* 40 Cal.4th at 431, also used its independent judgment to determine what level of analysis CEQA requires for water supply impacts. The Court did not defer to the lead agency's opinion regarding the law's requirements; rather, it determined for itself what level of analysis was necessary to meet "[t]he law's informational demands." (*Id.* at p. 432.) Further, existing case law also holds that where an agency fails to comply with CEQA's information disclosure requirements, the agency has "failed to proceed in the manner required by law." (*Save Our Peninsula Comm. v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 118.)

However, whether an EIR satisfies CEQA's requirements depends in part on whether it was reasonably feasible for an agency to conduct additional or more thorough analysis. EIRs must contain "a detailed statement" of a project's impacts (Pub. Res. Code § 21061), and an agency must "use its best efforts to find out and disclose all that it reasonably can." (CEQA Guidelines § 15144.) Nevertheless, "the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." (CEQA Guidelines § 15151.)

SCAQMD submits that the question of whether additional analysis or a particular study suggested by a commenter is "feasible" is generally a question of fact. Courts have already held that whether a particular alternative is "feasible" is reviewed by the substantial evidence test.

(*Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, 598-99; *Center for Biological Diversity v. County of San Bernardino* (2010) 185 Cal.App.4th 866, 883.) Thus, if a lead agency determines that a particular study or analysis is infeasible, that decision should generally be judged by the substantial evidence standard. However, SCAQMD urges this Court to hold that lead agencies must explain the basis of any determination that a particular analysis is infeasible in the EIR itself. An EIR must discuss information, including issues related to the feasibility of particular analyses "in sufficient detail to enable meaningful participation and criticism by the public. '[W]hatever is required to be considered in an EIR must be in that formal report; what any official might have known from other writings or oral presentations cannot supply what is lacking in the report.'" (*Laurel Heights I, supra*, 47 Cal.3d at p. 405 (quoting *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3d 818, 831) (discussing analysis of alternatives).) The evidence on which the determination is based should also be summarized in the EIR itself, with appropriate citations to reference materials if necessary. Otherwise commenting agencies such as SCAQMD would be forced to guess where the lead agency's evidence might be located, thus thwarting effective public participation.

Moreover, if a lead agency determines that a particular study or analysis would not result in reliable or useful information and for that reason is not feasible, that determination should be judged by the substantial evidence test. (See *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority, supra*, 57 Cal.4th 439, 448, 457:

whether "existing conditions" baseline would be misleading or uninformative judged by substantial evidence standard.[15])

If the lead agency's determination that a particular analysis or study is not feasible is supported by substantial evidence, then the agency has not violated CEQA's information disclosure provisions, since it would be infeasible to provide additional information. This Court's decisions provide precedent for such a result. For example, this Court determined that the issue of whether the EIR should have included a more detailed discussion of future herbicide use was resolved because substantial evidence supported the agency's finding that "the precise parameters of future herbicide use could not be predicted." *Ebbetts Pass Forest Watch v. California Dept. of Forestry & Fire Protection* (2008) 43 Cal.4th 936, 955.

Of course, SCAQMD expects that courts will continue to hold lead agencies to their obligations to consult with, and not to ignore or misrepresent, the views of sister agencies having special expertise in the area of air quality. (*Berkeley Keep Jets Over the Bay v. Board of Port Commissioners* (2007) 91 Cal.App.4th 1344, 1364 n.11.) In some cases, information provided by such expert agencies may establish that the purported evidence relied on by the lead agency is not in fact "substantial". (*Id.* at pp. 1369-1371.)

In sum, courts retain ultimate responsibility to determine what CEQA requires. However, the law does not require exhaustive analysis, but only what is reasonably feasible. Agencies deserve deference for their factual determinations regarding what type of analysis is reasonably feasible. On the other hand, if a commenter requests more information, and the lead agency declines to provide it but does *not* determine that the

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[15] The substantial evidence standard recognizes that the courts "have neither the resources nor the scientific expertise" to weigh conflicting evidence on technical issues. (*Laurel Heights I, supra,* 47 Cal.3d 376, 393.)

requested study or analysis would be infeasible, misleading or uninformative, the question becomes whether the omission of that analysis renders the EIR inadequate to satisfy CEQA's informational purposes. (*Id.* at pp. 1370-71.) Again, this is predominantly a question of law and should be judged by the de novo or independent judgment standard of review. Of course, this Court has recognized that a "project opponent or reviewing court can always imagine some additional study or analysis that might provide helpful information. It is not for them to design the EIR. That further study...might be helpful does not make it necessary." (*Laurel Heights I, supra,* 47 Cal.3d 376, 415 – see also CEQA Guidelines § 15204(a) [CEQA "does not require a lead agency to conduct every test. . . recommended or demanded by commenters."].) Courts, then, must adjudicate whether an omission of particular information renders an EIR inadequate to serve CEQA's informational purposes.[16]

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[16] We recognize that there is case law stating that the substantial evidence standard applies to "challenges to the scope of an EIR's analysis of a topic" as well as the methodology used and the accuracy of the data relied on in the document "because these types of challenges involve factual questions." (*Bakersfield Citizens for Local Control v. City of Bakersfield, supra,* 124 Cal.App.4th 1184, 1198, and cases relied on therein.) However, we interpret this language to refer to situations where the question of the scope of the analysis really is factual—that is, where it involves whether further analysis is feasible, as discussed above. This interpretation is supported by the fact that the *Bakersfield* court expressly rejected an argument that a claimed "omission of information from the EIR should be treated as inquiries whether there is substantial evidence supporting the decision approving the project. " *Bakersfield, supra,* 124 Cal.App.4th at p. 1208. And the *Bakersfield* court ultimately decided that the lead agency must analyze the connection between the identified air pollution impacts and resulting health impacts, even though the EIR already included some discussion of air-pollution-related respiratory illnesses. *Bakersfield, supra,* 124 Cal.App.4th at p. 1220. Therefore, the court must not have interpreted this question as one of the "scope of the analysis" to be judged by the substantial evidence standard.

### B. Friant Ranch's Rationale for Rejecting the Independent Judgment Standard of Review is Unsupported by Case Law.

In its brief, Friant Ranch makes a distinction between cases where a required CEQA topic is not discussed at all (to be reviewed by independent judgment as a failure to proceed in the manner required by law) and cases where a topic is discussed, but the commenter claims the information provided is insufficient (to be judged by the substantial evidence test). (Opening Brief, pp. 13-17.) The Court of Appeal recognized these two types of cases, but concluded that both raised questions of law. (*Sierra Club v. County of Fresno* (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271, 290.) We believe the distinction drawn by Friant Ranch is unduly narrow, and inconsistent with cases which have concluded that CEQA documents are insufficient. In many instances, CEQA's requirements are stated broadly, and the courts must interpret the law to determine what level of analysis satisfies CEQA's mandate for providing meaningful information, even though the EIR discusses the issue to some extent.

For example, the CEQA Guidelines require discussion of the existing environmental baseline. In *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 954-955, the lead agency had discussed the environmental baseline by describing historic month-end water levels in the affected lakes. However, the court held that this was not an adequate baseline discussion because it failed to discuss the timing and amounts of past actual water releases, to allow comparison with the proposed project. The court evidently applied the independent judgment test to its decision, even though the agency discussed the issue to some extent.

Likewise, in *Vineyard Area Citizens* (2007) 40 Cal.4th 412, this Court addressed the question of whether an EIR's analysis of water supply impacts complied with CEQA. The parties agreed that the EIR was required to analyze the effects of providing water to the development project, "and that in order to do so the EIR had, in some manner, to identify the planned sources of that water." (*Vineyard Area Citizens, supra,* at p. 428.) However, the parties disagreed as to the level of detail required for this analysis and "what level of uncertainty regarding the availability of water supplies can be tolerated in an EIR . . . ." (*Id.*) In other words, the EIR had analyzed water supply impacts for the project, but the petitioner claimed that the analysis was insufficient.

This Court noted that neither CEQA's statutory language or the CEQA Guidelines specifically addressed the question of how precisely an EIR must discuss water supply impacts. (*Id.*) However, it explained that CEQA "states that '[w]hile foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.'" (*Id.*, [Guidelines § 15144].) The Court used this general principle, along with prior precedent, to elucidate four "principles for analytical adequacy" that are necessary in order to satisfy "CEQA's informational purposes." (*Vineyard Area Citizens, supra,* at p. 430.) The Court did not defer to the agency's determination that the EIR's analysis of water supply impacts was sufficient. Rather, this Court used its independent judgment to determine for itself the level of analysis required to satisfy CEQA's fundamental purposes. (*Vineyard Area Citizens, supra*, at p. 441: an EIR does not serve its purposes where it neglects to explain likely sources of water and "... leaves long term water supply considerations to later stages of the project.")

Similarly, the CEQA Guidelines require an analysis of noise impacts of the project. (Appendix G, "Environmental Checklist Form."[17]) In *Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1123, the court held that the lead agency's noise impact analysis was inadequate even though it had addressed the issue and concluded that the increase would not be noticeable. If the court had been using the substantial evidence standard, it likely would have upheld this discussion.

Therefore, we do not agree that the issue can be resolved on the basis suggested by Friant Ranch, which would apply the substantial evidence standard to *every* challenge to an analysis that addresses a required CEQA topic. This interpretation would subvert the courts' proper role in interpreting CEQA and determining what the law requires.

Nor do we agree that the Court of Appeal in this case violated CEQA's prohibition on courts interpreting its provisions "in a manner which imposes procedural or substantive requirements beyond those explicitly stated in this division or in the state guidelines." (Pub. Resources Code § 21083.1.) CEQA requires an EIR to describe *all* significant impacts of the project on the environment. (Pub. Resources Code § 21100(b)(2); *Vineyard Area Citizens, supra,* at p. 428.) Human beings are part of the environment, so CEQA requires EIRs to discuss a project's significant impacts on human health. However, except in certain particular circumstances,[18] neither the CEQA statute nor Guidelines specify the precise level of analysis that agencies must undertake to satisfy the law's requirements. (see, e.g., CEQA Guidelines § 15126.2(a) [EIRs must describe "health and safety problems caused by {a project's} physical changes"].) Accordingly, courts must interpret CEQA as a whole to

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[17] Association of Environmental Professionals, 2015 CEQA Statute and Guidelines (2015) p.287.

[18] E.g., Pub. Resources Code § 21151.8(C)(3)(B)(iii) (requiring specific type of health risk analysis for siting schools).

determine whether a particular EIR is sufficient as an informational document. A court determining whether an EIR's discussion of human health impacts is legally sufficient does not constitute imposing a new substantive requirement.[19] Under Friant Ranch's theory, the above-referenced cases holding a CEQA analysis inadequate would have violated the law. This is not a reasonable interpretation.

## IV. COURTS MUST SCRUPULOUSLY ENFORCE THE REQUIREMENTS THAT LEAD AGENCIES CONSULT WITH AND OBTAIN COMMENTS FROM AIR DISTRICTS

Courts must "scrupulously enforce" CEQA's legislatively mandated requirements. (*Vineyard Area Citizens, supra*, 40 Cal.4th 412, 435.) Case law has firmly established that lead agencies must consult with the relevant air pollution control district before conducting an initial study, and must provide the districts with notice of the intention to adopt a negative declaration (or EIR). (*Schenck v. County of Sonoma* (2011) 198 Cal.App.4th 949, 958.) As *Schenck* held, neither publishing the notice nor providing it to the State Clearinghouse was a sufficient substitute for sending notice directly to the air district. (*Id.*) Rather, courts "must be satisfied that [administrative] agencies have fully complied with the procedural requirements of CEQA, since only in this way can the important public purposes of CEQA be protected from subversion." *Schenck,* 198 Cal.App.4th at p. 959 (citations omitted).[20]

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[19] We submit that Public Resources Code Section 21083.1 was intended to prevent courts from, for example, holding that an agency must analyze economic impacts of a project where there are no resulting environmental impacts (see CEQA Guidelines § 15131) , or imposing new procedural requirements, such as imposing additional public notice requirements not set forth in CEQA or the Guidelines.

[20] Lead agencies must consult air districts, as public agencies with jurisdiction by law over resources affected by the project, *before* releasing an EIR. (Pub. Resources Code §§ 21104(a); 21153.) Moreover, air

Lead agencies should be aware, therefore, that failure to properly seek and consider input from the relevant air district constitutes legal error which may jeopardize their project approvals. For example, the court in *Fall River Wild Trout Foundation v. County of Shasta,* (1999) 70 Cal.App.4th 482, 492 held that the failure to give notice to a trustee agency (Department of Fish and Game) was prejudicial error requiring reversal. The court explained that the lack of notice prevented the Department from providing any response to the CEQA document. (*Id.* at p. 492.) It therefore prevented relevant information from being presented to the lead agency, which was prejudicial error because it precluded informed decision-making. (*Id.*)[21]

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districts should be considered "state agencies" for purposes of the requirement to consult with "trustee agencies" as set forth in Public Resources Code § 20180.3(a). This Court has long ago held that the districts are not mere "local agencies" whose regulations are superseded by those of a state agency regarding matters of statewide concern, but rather have concurrent jurisdiction over such issues. (*Orange County Air Pollution Control District v. Public Util. Com.* (1971) 4 Cal.3d 945, 951, 954.) Since air pollution is a matter of statewide concern, *Id* at 952, air districts should be entitled to trustee agency status in order to ensure that this vital concern is adequately protected during the CEQA process.

[21] In *Schenck,* the court concluded that failure to give notice to the air district was not prejudicial, but this was partly because the trial court had already corrected the error before the case arrived at the Court of Appeal. The trial court issued a writ of mandate requiring the lead agency to give notice to the air district. The air district responded by concurring with the lead agency that air impacts were not significant. (*Schenck,* 198 Cal.App.4th 949, 960.) We disagree with the *Schenck* court that the failure to give notice to the air district would not have been prejudicial (even in the absence of the trial court writ) merely because the lead agency purported to follow the air district's published CEQA guidelines for significance. (*Id.*, 198 Cal.App.4th at p. 960.) In the first place, absent notice to the air district, it is uncertain whether the lead agency properly followed those guidelines. Moreover, it is not realistic to expect that an air district's published guidelines would necessarily fully address all possible air-quality related issues that can arise with a CEQA project, or that those

Similarly, lead agencies must obtain additional information requested by expert agencies, including those with jurisdiction by law, if that information is necessary to determine a project's impacts. (*Sierra Club v. State Bd. Of Forestry* (1994) 7 Cal.4th 1215, 1236-37.) Approving a project without obtaining that information constitutes a failure to proceed in the manner prescribed by CEQA. (*Id.* at p. 1236.)

Moreover, a lead agency can save significant time and money by consulting with the air district early in the process. For example, the lead agency can learn what the air district recommends as an appropriate analysis on the facts of its case, including what kinds of health impacts analysis may be available, and what models are appropriate for use. This saves the lead agency from the need to do its analysis all over again and possibly needing to recirculate the document after errors are corrected, if new significant impacts are identified. (CEQA Guidelines § 15088.5(a).) At the same time, the air district's expert input can help the lead agency properly determine whether another commenter's request for additional analysis or studies is reasonable or feasible. Finally, the air district can provide input on what mitigation measures would be feasible and effective.

Therefore, we suggest that this Court provide guidance to lead agencies reminding them of the importance of consulting with the relevant air districts regarding these issues. Otherwise, their feasibility decisions may be vulnerable to air district evidence that establishes that there is no substantial evidence to support the lead agency decision not to provide specific analysis. (*See Berkeley Keep Jets Over the Bay, supra,* 91 Cal.App.4th 1344, 1369-1371.)

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guidelines would necessarily be continually modified to reflect new developments. Therefore we believe that, had the trial court not already ordered the lead agency to obtain the air district's views, the failure to give notice would have been prejudicial, as in *Fall River, supra,* 70 Cal.App.4th 482, 492.

## CONCLUSION

The SCAQMD respectfully requests this Court *not* to establish a hard-and-fast rule concerning whether CEQA requires a lead agency to correlate identified air quality impacts of a project with resulting health outcomes. Moreover, the question of whether an EIR is "sufficient as an informational document" is a mixed question of fact and law containing two levels of inquiry. Whether a particular proposed analysis is feasible is predominantly a question of fact to be judged by the substantial evidence standard of review. Where the requested analysis is feasible, but the lead agency relies on legal or policy reasons not to provide it, the question of whether the EIR is nevertheless sufficient as an informational document is predominantly a question of law to be judged by the independent judgment standard of review.

Respectfully submitted,

DATED: April 3, 2015

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
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## CERTIFICATE OF WORD COUNT

Pursuant to Rule 8.520(c)(1) of the California Rules of Court, I hereby certify that this brief contains 8,476 words, including footnotes, but excluding the Application, Table of Contents, Table of Authorities, Certificate of Service, this Certificate of Word Count, and signature blocks. I have relied on the word count of the Microsoft Word Vista program used to prepare this Certificate.

DATED: April 3, 2015 Respectfully submitted,

Barbara Baird

Barbara Baird

## PROOF OF SERVICE

I am employed in the County of Los Angeles, California. I am over the age of 18 years and not a party to the within action. My business address is 21865 Copley Drive, Diamond Bar, California 91765.

On April 3, 2015 I served true copies of the following document(s) described as **APPLICATION OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT FOR LEAVE TO FILE BRIEF OF *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY AND *[PROPOSED]* BRIEF OF *AMICUS CURIAE*** by placing a true copy of the foregoing document(s) in a sealed envelope addressed as set forth on the attached service list as follows:

**BY MAIL:** I enclosed the document(s) in a sealed envelope or package addressed to the persons at the addresses listed in the Service List and placed the envelope for collection and mailing following our ordinary business practices. I am readily familiar with this District's practice for collection and processing of correspondence for mailing. Under that practice, the correspondence would be deposited with the United States Postal Service, with postage thereon fully prepaid at Diamond Bar, California, in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on April 3, 2015 at Diamond Bar, California.

Patricia Anderson

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Clerk of the Court
California Court of Appeal
Fifth Appellate District
2424 Ventura Street
Fresno, CA 93721
*(via U.S. Mail & Electronic Transmission)*

Clerk of the Court
Superior Court of California
County of Fresno
1130 O Street
Fresno, CA 93721

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