5.2 AIR QUALITY

This section of the draft environmental impact report (DEIR) evaluates the potential for the I-15 Corridor Campus Master Plan to impact air quality in a local and regional context. This evaluation is based on the methodology recommended by the South Coast Air Quality Management District (SCAQMD). The analysis focuses on air pollution from regional emissions and localized pollutant concentrations. Criteria air pollutant emissions modeling for the Proposed Project, as modeled using the California Emissions Estimator Model (CalEEMod), is included in Appendix C of this DEIR. Transportation-sector impacts are based on trip generation and vehicle miles traveled provided by IBI Group (see Appendix I). Cumulative impacts related to air quality are based on the regional boundaries of the South Coast Air Basin (SoCAB).

5.2.1 Environmental Setting

5.2.1.1 REGULATORY FRAMEWORK

The Project Site is in the Riverside County portion of the SoCAB. Land use is subject to the rules and regulations imposed by the South Coast Air Quality Management District (SCAQMD), as well as the California ambient air quality standards (AAQS) adopted by the California Air Resources Board (CARB) and National AAQS adopted by the US Environmental Protection Agency (EPA). Air pollutants for which the state and federal government have identified AAQS are known as criteria air pollutants. In addition to criteria air pollutants, both the state and federal government regulate the release of toxic air contaminants (TACs). Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the Proposed Project are summarized below.

Federal and State

Ambient Air Quality Standards

The Clean Air Act was passed in 1963 by the US Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The Clean Air Act allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS.

The National and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect "sensitive receptors" most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

5. Environmental Analysis
AIR QUALITY

Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 5.2-1, *Ambient Air Quality Standards for Criteria Pollutants*. These pollutants are ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 5.2-1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Ozone (O_3)[3]	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m^3	150 µg/m^3	
Respirable Fine Particulate Matter ($PM_{2.5}$)[4]	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m^3	
Lead (Pb)	30-Day Average	1.5 µg/m^3	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 µg/m^3	
	Rolling 3-Month Average	*	0.15 µg/m^3	
Sulfates (SO_4)[5]	24 hours	25 µg/m^3	*	Industrial processes.

Table 5.2-1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Visibility Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hour	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Source: CARB 2016a.
Notes: ppm: parts per million; $\mu g/m^3$: micrograms per cubic meter
* Standard has not been established for this pollutant/duration by this entity.
1 California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, and particulate matter (PM_{10}, $PM_{2.5}$, 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 O_3, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 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 PM_{10}, 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 $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
3 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
4 On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour $PM_{2.5}$ 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 PM_{10} 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.
5 On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. 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.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:

- AB 1493: Pavley Fuel Efficiency Standards (Clean Car Standards)
- California Code of Regulations (CCR), Title 20: Appliance Energy Efficiency Standards
- 24 CCR, Part 6: Building and Energy Efficiency Standards
- 24 CCR, Part 11: Green Building Standards Code

Tanner Air Toxics Act and Air Toxics Hots Information and Assessment Act

Public exposure to TACs is a significant environmental health issue in California. In 1983, the California legislature enacted a program to identify the health effects of TACs and reduce exposure to them. The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health" (17 CCR § 93000). A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 US Code § 7412[b]) is a toxic air contaminant. Under state law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act set up a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit that TAC. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate "toxics best available control technology" to minimize emissions. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- **13 CCR, Chapter 10 § 2485**, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- **13 CCR Chapter 10 § 2480**, Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- **13 CCR § 2477 and Article 8**, Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate

Air Pollutants of Concern

Criteria Air Pollutants

The pollutants emitted into the ambient air by stationary and mobile sources are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide (SO_2), coarse inhalable

particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb) are primary air pollutants. Of these, CO, SO_2, NO_2, PM_{10}, and $PM_{2.5}$ are "criteria air pollutants," which means that AAQS have been established for them. VOC and NO_x are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are the principal secondary pollutants.

A description of each of the primary and secondary criteria air pollutants and its known health effects is presented below.

- **Carbon Monoxide** is a colorless, odorless gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (SCAQMD 2005; USEPA 2017). The SoCAB is designated under the California and National AAQS as being in attainment of CO criteria levels (CARB 2016b).

- **Volatile Organic Compounds** are composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of VOCs. Other sources include evaporative emissions from paints and solvents, asphalt paving, and household consumer products such as aerosols (SCAQMD 2005). There are no AAQS for VOCs. However, because they contribute to the formation of O_3, SCAQMD has established a significance threshold.

- **Nitrogen Oxides** are a by-product of fuel combustion and contribute to the formation of ground-level O_3, PM_{10}, and $PM_{2.5}$. The two major forms of NO_X are nitric oxide (NO) and nitrogen dioxide (NO_2). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. The principal form of NO_X produced by combustion is NO, but NO reacts quickly with oxygen to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. NO_2 is an acute irritant and more injurious than NO in equal concentrations. At atmospheric concentrations, however, NO_2 is only potentially irritating. NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO_2 exposure concentrations near roadways are of particular concern for susceptible individuals, including asthmatics, children, and the elderly. Current scientific evidence links short-term NO_2 exposures, ranging from 30 minutes to 24 hours, with adverse respiratory effects, including airway inflammation in healthy people and increased respiratory symptoms in people with asthma. Also, studies show a connection between elevated short-term NO_2 concentrations and increased visits to emergency departments and hospital admissions for respiratory issues, especially asthma (SCAQMD 2005; USEPA 2017). The SoCAB is designated an attainment area for NO_2 under the National and California AAQS (CARB 2016b).

- **Sulfur Dioxide** is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and chemical

processes at plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO_2. When sulfur dioxide forms sulfates (SO_4) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_X). Thus, SO_2 is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. Current scientific evidence links short-term exposures to SO_2, ranging from 5 minutes to 24 hours, with an array of adverse respiratory effects, including bronchoconstriction and increased asthma symptoms. These effects are particularly adverse for asthmatics at elevated ventilation rates (e.g., while exercising or playing.) At lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue. Studies also show a connection between short-term exposure and increased visits to emergency facilities and hospital admissions for respiratory illnesses, particularly in at-risk populations such as children, the elderly, and asthmatics (SCAQMD 2005; USEPA 2017). The SoCAB is designated attainment under the California and National AAQS (CARB 2016b).

- **Suspended Particulate Matter** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM_{10}, include particulate matter with an aerodynamic diameter of 10 microns or less (i.e., ≤10 millionths of a meter or 0.0004 inch). Inhalable fine particles, or $PM_{2.5}$, have an aerodynamic diameter of 2.5 microns or less (i.e., ≤2.5 millionths of a meter or 0.0001 inch). Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. The EPA's scientific review concluded that $PM_{2.5}$, which penetrates deeply into the lungs, is more likely than PM_{10} to contribute to health effects and at far lower concentrations. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing) (SCAQMD 2005). There has been emerging evidence that ultrafine particulates, which are even smaller particulates with an aerodynamic diameter of <0.1 microns or less (i.e., ≤0.1 millionths of a meter or <0.000004 inch), have human health implications, because their toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs (SCAQMD 2013). However, the EPA or CARB has yet to adopt AAQS to regulate these particulates. Diesel particulate matter is classified by CARB as a carcinogen (CARB 1998). Particulate matter can also cause environmental effects such as visibility impairment,[1] environmental damage,[2] and aesthetic damage[3] (SCAQMD 2005; USEPA 2017). The SoCAB is a nonattainment area for $PM_{2.5}$ under California and National AAQS and a nonattainment area for PM_{10} under the California AAQS (CARB 2016b).

- **Ozone** is commonly referred to as "smog" and is a gas that is formed when VOCs and NO_X, both by-products of internal combustion engine exhaust, undergo photochemical reactions in sunlight. O_3 is a

[1] $PM_{2.5}$ is the main cause of reduced visibility (haze) in parts of the United States.
[2] Particulate matter can be carried over long distances by wind and then settle on ground or water, making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.
[3] Particulate matter can stain and damage stone and other materials, including culturally important objects such as statues and monuments.

secondary criteria air pollutant. O_3 concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for its formation. O_3 poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O_3 can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O_3 also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O_3 also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O_3 harms sensitive vegetation during the growing season (SCAQMD 2005; USEPA 2017). The SoCAB is designated extreme nonattainment under the California AAQS (1-hour and 8-hour) and National AAQS (8-hour) (CARB 2016b).

- **Lead** (Pb) is a metal found naturally in the environment as well as in manufactured products. Once taken into the body, lead distributes throughout the body in the blood and accumulates in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen-carrying capacity of the blood. The effects of lead most commonly encountered in current populations are neurological effects in children and cardiovascular effects in adults (e.g., high blood pressure and heart disease). Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits, and lowered IQ (SCAMQD 2005; USEPA 2017). The major sources of lead emissions have historically been mobile and industrial sources. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. However, in 2008 the EPA and CARB adopted more strict lead standards, and special monitoring sites immediately downwind of lead sources recorded very localized violations of the new state and federal standards.[4] As a result of these violations, the Los Angeles County portion of the SoCAB is designated as nonattainment under the National AAQS for lead (SCAQMD 2012; CARB 2016b). Because emissions of lead are found only in projects that are permitted by SCAQMD, lead is not a pollutant of concern for the Proposed Project.

Toxic Air Contaminants

By the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs (CARB 1999). Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines.

[4] Source-oriented monitors record concentrations of lead at lead-related industrial facilities in the SoCAB, which include Exide Technologies in the City of Commerce; Quemetco, Inc., in the City of Industry; Trojan Battery Company in Santa Fe Springs; and Exide Technologies in Vernon. Monitoring conducted between 2004 through 2007 showed that the Trojan Battery Company and Exide Technologies exceed the federal standards (SCAQMD 2012).

Diesel Particulate Matter

In 1998, CARB identified diesel particulate matter as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs.

Air Quality Management Planning

SCAQMD is the agency responsible for improving air quality in the SoCAB and assuring that the National and California AAQS are attained and maintained. SCAQMD is responsible for preparing the air quality management plan (AQMP) for the SoCAB in coordination with the Southern California Association of Governments (SCAG). Since 1979, a number of AQMPs have been prepared.

2016 AQMP

On March 3, 2017, SCAQMD adopted the 2016 AQMP, which serves as an update to the 2012 AQMP. The 2016 AQMP addresses strategies and measures to attain the 2008 federal 8-hour ozone standard by 2031, the 2012 federal annual PM2.5 standard by 2025, the 2006 federal 24-hour PM2.5 standard by 2019, the 1997 federal 8-hour ozone standard by 2023, and the 1979 federal 1-hour ozone standard by year 2022. It is projected that total NOX emissions in the SoCAB would need to be reduced to 150 tons per day (tpd) by year 2023 and to 100 tpd in year 2031 to meet the 1997 and 2008 federal 8-hour ozone standards. The strategy to meet the 1997 federal 8-hour ozone standard would also lead to attaining the 1979 federal 1-hour ozone standard by year 2022 (SCAQMD 2017), which requires reducing NOX emissions in the SoCAB to 250 tpd. Reducing NOX emissions would also reduce PM2.5 concentrations within the SoCAB. However, as the goal is to meet the 2012 federal annual PM2.5 standard no later than year 2025, SCAQMD is seeking to reclassify the SoCAB from "moderate" to "serious" nonattainment under this federal standard. A "moderate" non-attainment would require meeting the 2012 federal standard by no later than 2021. Overall, the 2016 AQMP is composed of stationary and mobile-source emission reductions from regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile-source strategies, and reductions from federal sources such as aircrafts, locomotives, and ocean-going vessels. Strategies outlined in the 2016 AQMP would be implemented in collaboration between CARB and the EPA (SCAQMD 2017).

Lead Implementation Plan

In 2008, the EPA designated the Los Angeles County portion of the SoCAB as a nonattainment area under the federal lead classification due to the addition of source-specific monitoring under the new federal regulation. This designation was based on two source-specific monitors in the City of Vernon and the City of Industry that exceeded the new standard in the 2007-to-2009 period. The remainder of the SoCAB, outside the Los Angeles County nonattainment area, remains in attainment of the new 2008 lead standard. On May 24, 2012, CARB approved the State Implementation Plan (SIP) revision for the federal lead standard, which the EPA revised in 2008. Lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011. The SIP revision was submitted to the EPA for approval.

SCAQMD Rules and Regulations

All projects are subject to SCAQMD rules and regulations in effect at the time of activity, including the following:

- **Rule 401, Visible Emissions.** This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in visible emissions. Specifically, the rule prohibits the discharge of any air contaminant into the atmosphere by a person from any single source of emission for a period or periods aggregating more than three minutes in any one hour that is as dark as or darker than designated No. 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines.

- **Rule 402, Nuisance.** This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in a public nuisance. Specifically, this rule prohibits any person from discharging quantities of air contaminants or other material from any source such that it would result in an injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. Additionally, the discharge of air contaminants would also be prohibited where it would endanger the comfort, repose, health, or safety of any number of persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

- **Rule 403, Fugitive Dust.** 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, and requires best available control measures to be applied to earth moving and grading activities.

- **Rule 1113, Architectural Coatings.** 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 in the SCAQMD must comply with the current VOC standards set in this rule.

5.2.1.2 EXISTING CONDITIONS

South Coast Air Basin

The Project Site is in the South Coast Air Basin (SoCAB), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The SoCAB is in a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean in the southwest quadrant, with high mountains forming the remainder of the perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds (SCAQMD 2005).

Temperature and Precipitation

The annual average temperature varies little throughout the SoCAB, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station nearest to the Project Site is the Elsinore, California Monitoring Station (ID No. 042805). The average low is reported at 36.4°F in January, and the average high is 98.1°F in July and August (WRCC 2016).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November through April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains. Rainfall averages 12.01 inches per year in the project area (WRCC 2016).

Humidity

Although the SoCAB has a semiarid climate, the air near the earth's surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds, the "ocean effect" is dominant. Periods of heavy fog, especially along the coast, are frequent. Low clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB (SCAQMD 2005).

Wind

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

Between periods of wind, periods of air stagnation may occur, both in the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During the winter and fall months, surface high-pressure systems over the SoCAB, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally continue a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east affect the transport and diffusion of pollutants by inhibiting their eastward transport. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions (SCAQMD 2005).

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, there are two similarly distinct types of temperature inversions that control the vertical depth through which pollutants are mixed. These are the marine/subsidence inversion and the radiation inversion. The combination of winds and inversions are critical determinants in leading to the highly

degraded air quality in summer and the generally good air quality in the winter in the project area (SCAQMD 2005).

SoCAB Nonattainment Areas

The AQMP provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards through the SIP. Areas are classified as attainment or nonattainment areas for particular pollutants depending on whether they meet the ambient air quality standards. Severity classifications for ozone nonattainment range in magnitude from marginal, moderate, and serious to severe and extreme.

- **Unclassified.** A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- **Attainment.** A pollutant is in attainment if the AAQS for that pollutant was not violated at any site in the area during a three-year period.
- **Nonattainment.** A pollutant is in nonattainment if there was at least one violation of an AAQS for that pollutant in the area.
- **Nonattainment/Transitional.** A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the SoCAB is shown in Table 5.2-2, *Attainment Status of Criteria Pollutants in the South Coast Air Basin*.

Table 5.2-2 Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
Ozone – 1-hour	Extreme Nonattainment	No Federal Standard
Ozone – 8-hour	Extreme Nonattainment	Extreme Nonattainment
PM_{10}	Serious Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	Attainment	Nonattainment (Los Angeles County only)[1]
All others	Attainment/Unclassified	Attainment/Unclassified

Source: CARB 2016b.
[1] In 2010, the Los Angeles portion of the SoCAB was designated nonattainment for lead under the new 2008 federal AAQS as a result of large industrial emitters. Remaining areas in the SoCAB are unclassified.

Multiple Air Toxics Exposure Study IV

The Multiple Air Toxics Exposure Study (MATES) is a monitoring and evaluation study on ambient concentrations of TACs and the potential health risks from air toxics in the SoCAB. In 2008, SCAQMD

conducted its third update to the MATES study (MATES III) based on the Office of Environmental Health Hazards Assessment (OEHHA) 2003 Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (2003 HRA Guidance Manual). The results showed that the overall risk for excess cancer from a lifetime exposure to ambient levels of air toxics was about 1,200 in a million in the SoCAB. The largest contributor to this risk was diesel exhaust, which accounted for 84 percent of the cancer risk (SCAQMD 2008a).

SCAQMD released the fourth update (MATES IV), which was also based on OEHHA's 2003 HRA Guidance Manual. The results showed that the overall monitored risk for excess cancer from a lifetime exposure to ambient levels of air toxics decreased to approximately 418 in one million in the SoCAB. Compared to the 2008 MATES III, monitored excess cancer risks decreased by approximately 65 percent. Approximately 90 percent of the risk is attributed to mobile sources, and 10 percent is attributed to TACs from stationary sources, such as refineries, metal processing facilities, gas stations, and chrome plating facilities. The largest contributor to this risk was diesel exhaust, which accounted for approximately 68 percent of the air toxics risk. Compared to MATES III, MATES IV found substantial improvement in air quality and an associated decrease in air toxics exposure. As a result, the estimated basinwide population-weighted risk had decreased by approximately 57 percent since MATES III (SCAQMD 2015a).

OEHHA updated the guidelines for estimating cancer risks on March 6, 2015. The new method uses higher estimates of cancer potency during early life exposures, which result in a higher calculation of risk. There are also differences in the assumptions on breathing rates and length of residential exposures. When combined together, SCAQMD estimates that risks for a given inhalation exposure level will be about 2.7 times higher using the proposed updated methods from MATES IV (e.g., 2.7 times higher than 418 in one million overall excess cancer risk) (SCAQMD 2015a).

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the Project Site and project area are best documented by measurements made by SCAQMD. The Project Site is in Source Receptor Area (SRA) 26 – Temecula Valley. The air quality monitoring station closest to the project is the Lake Elsinore – W Flint Street Station. This station monitors O_3, CO, and NO_2. Data for SO_2, and $PM_{2.5}$ is supplemented by the Riverside - Rubidoux Monitoring Station and data for PM_{10} is supplemented by the Perris Monitoring Station. The most current five years of data monitored at these monitoring stations are included in Table 5.2-3, *Ambient Air Quality Monitoring Summary*. The data show that the area regularly exceeds the state and federal O_3 standards. The state PM_{10} and federal $PM_{2.5}$ standards are regularly exceeded. The CO, SO_2, and NO_2 standards have not been exceeded in the last five years in the project vicinity.

Table 5.2-3 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels during Such Violations				
	2012	2013	2014	2015	2016
Ozone (O3)[1]					
State 1-Hour ≥ 0.09 ppm	10	6	4	18	15
State 8-hour ≥ 0.07 ppm	32	25	13	35	45
Federal 8-Hour > 0.075 ppm	17	12	6	19	25
Max. 1-Hour Conc. (ppm)	0.111	0.102	0.104	0.131	0.124
Max. 8-Hour Conc. (ppm)	0.090	0.090	0.086	0.098	0.093
Carbon Monoxide (CO)[1]					
State 8-Hour > 9.0 ppm	0	*	*	*	*
Federal 8-Hour ≥ 9.0 ppm	0	*	*	*	*
Max. 8-Hour Conc. (ppm)	0.52	*	*	*	*
Nitrogen Dioxide (NO_2)[1]					
State 1-Hour ≥ 0.18 ppm	0	0	0	0	0
Max. 1-Hour Conc. (ppb)	0.0483	0.0465	0.0453	0.0472	0.0513
Sulfur Dioxide (SO_2)[2]					
State 1-Hour ≥ 0.04 ppm	0	*	*	*	*
Max. 1-Hour Conc. (ppm)	0.001	*	*	*	*
Coarse Particulates (PM_{10})[3]					
State 24-Hour > 50 µg/m^3	1	7	6	4	*
Federal 24-Hour > 150 µg/m^3	0	0	0	1	0
Max. 24-Hour Conc. (µg/m^3)	62	70	87	188	76
Fine Particulates ($PM_{2.5}$)[2]					
Federal 24-Hour > 35 µg/m^3	7	6	5	9	5
Max. 24-Hour Conc. (µg/m^3)	38.1	60.3	48.9	54.7	51.5

Source: CARB 2017.
Notes: ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter
* Data not available.
[1] Data obtained from the Lake Elsinore – W Flint Street Monitoring Station.
[2] Data obtained from the Riverside - Rubidoux Monitoring Station.
[3] Data obtained from the Perris Monitoring Station.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases.

Residential areas are also considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, because

the majority of the workers tend to stay indoors most of the time. In addition, the workforce is generally the healthiest segment of the population.

The nearest sensitive receptors to the Project Site are the residences to the west across Salida Del Sol and the adjacent planned single-family community to the east. Other nearby sensitive receptors include the planned single-family community to the northwest across La Estrella Street.

5.2.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

AQ-1 Conflict with or obstruct implementation of the applicable air quality plan.

AQ-2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

AQ-3 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

AQ-4 Expose sensitive receptors to substantial pollutant concentrations.

AQ-5 Create objectionable odors affecting a substantial number of people.

The Initial Study, included as Appendix A, substantiates that impacts associated with the following thresholds would be less than significant:

- Threshold AQ-5: Create objectionable odors affecting a substantial number of people.

This impact will not be addressed in the following analysis.

5.2.2.1 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT THRESHOLDS

The analysis of the Proposed Project's air quality impacts follows the guidance and methodologies recommended in SCAQMD's *CEQA Air Quality Handbook* and the significance thresholds on SCAQMD's website (SCAQMD 1993; SCAQMD 2016).[5] CEQA allows the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. SCAQMD has established thresholds of significance for regional air quality emissions for construction activities and project operation. In addition to the daily thresholds listed above, projects are also subject to the AAQS. These are addressed through an analysis of localized CO impacts and localized significance thresholds (LSTs).

[5] SCAQMD's Air Quality Significance Thresholds are current as of March 2011 and can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook.

Regional Significance Thresholds

SCAQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the SoCAB, shown in Table 5.2-4, *SCAQMD Regional Significance Thresholds*. The table lists thresholds that are applicable for all projects uniformly, regardless of size or scope. There is growing evidence that although UFPs contribute a very small portion of the overall atmospheric mass concentration, they represent a greater proportion of the health risk from PM. However, the EPA and CARB have not adopted AAQS to regulate UFPs; therefore, SCAQMD has not developed thresholds for them.

Table 5.2-4 SCAQMD Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase
Reactive Organic Gases (ROGs)/Volatile Organic Compounds (VOCs)	75 lbs/day	55 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Nitrogen Oxides (NO_X)	100 lbs/day	55 lbs/day
Sulfur Oxides (SO_X)	150 lbs/day	150 lbs/day
Particulates (PM_{10})	150 lbs/day	150 lbs/day
Particulates ($PM_{2.5}$)	55 lbs/day	55 lbs/day

Source: SCAQMD 2015b.

Projects that exceed the regional significance threshold contribute to the nonattainment designation of the SoCAB. The attainment designations are based on the AAQS, which are set at levels of exposure that are determined to not result in adverse health effects. Exposure to fine particulate pollution and ozone causes myriad health impacts, particularly to the respiratory and cardiovascular systems:

- Increases cancer risk ($PM_{2.5}$, TACs)
- Aggravates respiratory disease (O_3, $PM_{2.5}$)
- Increases bronchitis (O_3, $PM_{2.5}$)
- Causes chest discomfort, throat irritation, and increased effort to take a deep breath (O_3)
- Reduces resistance to infections and increases fatigue (O_3)
- Reduces lung growth in children ($PM_{2.5}$)
- Contributes to heart disease and heart attacks ($PM_{2.5}$)
- Contributes to premature death (O_3, $PM_{2.5}$)
- Contributes to lower birth weight in newborns ($PM_{2.5}$) (SCAQMD 2015c)

Exposure to fine particulates and ozone aggravates asthma attacks and can amplify other lung ailments such as emphysema and chronic obstructive pulmonary disease. Exposure to current levels of $PM_{2.5}$ is responsible for an estimated 4,300 cardiopulmonary-related deaths per year in the SoCAB. In addition, University of Southern California scientists, in a landmark children's health study, found that lung growth improved as air pollution declined for children aged 11 to 15 in five communities in the SoCAB (SCAQMD 2015d).

Mass emissions in Table 5.2-4 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the SoCAB. Therefore, regional emissions from a single project do not single-handedly trigger a regional health impact, and it is speculative to identify how many more individuals in the air basin would be affected by the health effects listed above. In addition, the analysis to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment is within the scope of the AQMP. SCAQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals exposed to elevated concentrations of air pollutants in the SoCAB. To achieve the health-based standards established by the EPA, SCAQMD prepares an AQMP that details regional programs to attain the AAQS.

Localized Significance Thresholds

SCAQMD identifies localized significance thresholds, shown in Table 5.2-5, *SCAQMD Localized Significance Thresholds*. 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) could expose sensitive receptors to substantial concentrations of criteria air pollutants. A project that generates emissions that trigger a violation of the AAQS when added to the local background concentrations would generate a significant impact.

Table 5.2-5 SCAQMD Localized Significance Thresholds

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 NO_2 Standard (CAAQS)	0.03 ppm
24-Hour PM_{10} Standard – Construction (SCAQMD)[1]	10.4 µg/m^3
24-Hour $PM_{2.5}$ Standard – Construction (SCAQMD)[1]	10.4 µg/m^3
24-Hour PM_{10} Standard – Operation (SCAQMD)[1]	2.5 µg/m^3
24-Hour $PM_{2.5}$ Standard – Operation (SCAQMD)[1]	2.5 µg/m^3
Annual Average PM_{10} Standard (SCAQMD)[1]	1.0 µg/m^3

Source: SCAQMD 2015b.
ppm = parts per million; µg/m^3 = micrograms per cubic meter
[1] Threshold is based on SCAQMD Rule 403. Since the SoCAB is in nonattainment for PM_{10} and $PM_{2.5}$, the threshold is established as an allowable change in concentration. Therefore, background concentration is irrelevant.

To assist lead agencies, SCAQMD developed screening-level LSTs to back-calculate the mass amount (lbs. per day) of emissions generated on-site that would trigger the levels shown in Table 5.2-5 for projects under five acres. Screening-level LSTs are based on the ambient concentrations of that pollutant within the project SRA and the distance to the nearest sensitive receptor. Screening-level LST analyses are the localized significance thresholds for all projects of five acres and less; however, they can be used as screening criteria for larger projects to determine whether or not dispersion modeling may be required to compare concentrations of air pollutants generated by the project to the localized concentrations shown in Table 5.2-5.

The construction screening-level LSTs in SRA 26 are shown in Table 5.2-6, *SCAQMD Screening-Level Localized Significance Thresholds*. For construction activities, LSTs are based on the acreage disturbed per day based on

equipment use (SCAQMD 2011). The different types of construction activities would require different equipment mixes, resulting in multiple LSTs. Because the Proposed Project is not an industrial project that has the potential to emit substantial sources of stationary emissions, operational LSTs are not an air quality impact of concern, but they are shown in Table 5.2-6 for reference.

Table 5.2-6 SCAQMD Screening-Level Localized Significance Thresholds

Acreage Disturbed	Threshold (lbs/day)			
	Nitrogen Oxides (NO_X)	Carbon Monoxide (CO)	Coarse Particulates (PM_{10})	Fine Particulates ($PM_{2.5}$)
Construction				
Phase 1[1]				
1.31 Acres Disturbed Per Day	211	1,112	11	4
2.5 Acres Disturbed Per Day	284	1,579	18	6
3.5 Acres Disturbed Per Day	330	1,927	23	7
Phase 2[2]				
1.31 Acres Disturbed Per Day	184	849	11	4
2.5 Acres Disturbed Per Day	257	1,244	18	6
3.5 Acres Disturbed Per Day	302	1,532	23	7
Phase 3[3]				
1.31 Acres Disturbed Per Day	184	859	19	6
2.5 Acres Disturbed Per Day	257	1,244	28	8
3.5 Acres Disturbed Per Day	302	1,532	35	9
Phase 4[4]				
1.31 Acres Disturbed Per Day	184	859	5	3
3.5 Acres Disturbed Per Day	302	1,532	10	6
4.0 Acres Disturbed Per Day	325	1,676	11	7
Operation[4]				
=>5-Acre Area	371	1,965	4	2

Source: SCAQMD 2008b, Based on receptors in SRA 26.
[1] LSTs are based on receptors within 135 feet (41 meters).
[2] PM_{10} and $PM_{2.5}$ LSTs are based on receptors within 135 feet (41 meters). NO_X and CO LSTs are based on receptors within 82 feet (25 meters).
[3] PM_{10} and $PM_{2.5}$ LSTs are based on receptors within 205 feet (62 meters). NO_X and CO LSTs are based on receptors within 82 feet (25 meters).
[4] LSTs are based on receptors within 82 feet (25 meters).

CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. With the turnover of older vehicles and introduction of cleaner fuels as well as implementation of control technology on industrial facilities, CO concentrations in the SoCAB and the state have steadily declined.

Health Risk Analysis

Whenever a project would require use of chemical compounds that have been identified in SCAQMD Rule 1401, placed on CARB's air toxics list pursuant to AB 1807, or placed on the EPA's National Emissions Standards for Hazardous Air Pollutants, a health risk assessment is required by the SCAQMD. Table 5.2-7, *SCAQMD Toxic Air Contaminants Incremental Risk Thresholds*, lists the SCAQMD's TAC incremental risk thresholds for operation of a project. Residential, commercial, and office uses do not use substantial quantities of TACs, and these thresholds typically apply to new industrial projects.

Table 5.2-7 SCAQMD Toxic Air Contaminants Incremental Risk Thresholds

Maximum Incremental Cancer Risk	≥ 10 in 1 million
Cancer Burden (in areas ≥ 1 in 1 million)	> 0.5 excess cancer cases
Hazard Index (project increment)	≥ 1.0

Source: SCAQMD 2015b.

Although the project would not be a major source of toxic air contaminants, vehicle traffic and other project emissions will contribute to existing sources of TACs. Under the California Supreme Court's decision in *California Building Industry Association v. Bay Area Air Quality Management District [2015] 62 Cal.4th 369 [Case No. S213478])*., where a project will exacerbate an existing environmental hazard, CEQA requires an analysis of the worsened condition on future project residents and the public at large. Projects that do not generate emissions that exceed the values in Table 5.2-7 would not substantially contribute to cumulative air quality hazards or exacerbate an existing environmental hazard. Residential, commercial, office, and institutional uses (such as the proposed campus) do not use substantial quantities of TACs and typically do not exacerbate existing hazards, so these thresholds are typically applied to new industrial projects and are not applicable to the Proposed Project.

5.2.3 Plans, Programs, and Policies

Regulatory Requirements (RR)

RR AIR-1 Construction activities will be conducted in compliance with any applicable South Coast Air Quality Management District (SCAQMD) rules and regulations, including but not limited to the following:

- Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance.
- Rule 402, Nuisance, which states that a Project shall not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property".

- Rule 401, which is intended to prevent the discharge of pollutant emissions from an emissions source that results in visible emissions.
- Rule 1113, which limits the volatile organic compound content of architectural coatings.

RR AIR-2 Construction activities will be conducted in compliance with 13 California Code of Regulations (CCR) Section 2499, which requires that nonessential idling of construction equipment is restricted to five minutes or less.

RR AIR-3 New buildings are required to achieve the current California Building Energy and Efficiency Standards (Title 24, Part 6) and California Green Building Standards Code (CALGreen) (Title 24, Part 11). The 2016 Building and Energy Efficiency Standards are effective starting on January 1, 2017. The Building Energy and Efficiency Standards and CALGreen are updated tri-annually with a goal to achieve net zero energy (NZE) for residential buildings by 2020 and non-residential buildings by 2030.

RR AIR-4 New buildings are required to adhere to the California Green Building Standards Code (CALGreen) requirement to provide bicycle parking for new non-residential buildings, or meet local bicycle parking ordinances, whichever is stricter (CALGreen Sections 5.106.4.1, 5.106.4.1.2, and 5.106.5.2). The Proposed Project would be required to provide anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for five percent of new visitor motorized vehicle parking spaces being added. For employee, long-term secured bicycle parking is required to be provided for five percent of the tenant-occupied (i.e., staff) motorized vehicle parking spaces being added. The Proposed Project is also required to designate parking for low-emitting, fuel-efficient, and carpool/vanpool spaces identified in CALGreen.

5.2.4 Environmental Impacts

Methodology

This air quality evaluation was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur in conjunction with implementation of the Proposed Project. SCAQMD has published the *CEQA Air Quality Handbook* (Handbook) and updates on its website to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts. The Handbook provides standards, methodologies, and procedures for conducting air quality analyses in environmental impact reports and was used extensively in the preparation of this analysis. The SCAQMD has published additional guidance for LSTs—*Localized Significance Threshold Methodology for CEQA Evaluations* (SCAQMD 2008c)—that are intended to provide guidance in evaluating localized effects from emissions generated by a project. These documents were also used in the preparation of this analysis.

The analysis also makes use of the CalEEMod, Version 2016.3.1, for determination of daily construction and operational emissions and are based on the following:

- **Transportation:** Based on the annual average trip generation and average trip distance provided by IBI Group (Appendix I of this DEIR). For purposes of this analysis, an average trip distance of 9.02 miles is utilized, which doubles the average trip distance of 4.51 miles provided by IBI Group (IBI Group 2016). Per the methodology utilized by IBI Group, the 4.51 average trip distance is based on anticipated student capture areas and represents an aggregate of all distances from neighborhoods and activity centers to/from the proposed school site. Utilizing an average trip distance of 9.02 miles provides a conservative estimate for mobile-source and overall emissions.

- **Area Sources:** Area and stationary sources are based on the CalEEMod defaults for use of consumer products and cleaning supplies.

- **Energy:** Criteria air pollutant emissions from energy use are based on the CalEEMod defaults for natural gas usage by nonresidential land uses. For purposes of this analysis, new buildings are assumed to comply with the 2016 Building Energy Efficiency Standards, which are 5 percent more energy efficient for nonresidential buildings than the 2013 Building Energy Efficiency Standards.

- **Construction:** Construction emissions are based on the construction information provided by the MSJCCD. Where specific information was not available, construction assumptions were based on CalEEMod defaults such as construction equipment mix and worker, vendor, and haul trips.

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.2-1: The Proposed Project would be consistent with the South Coast Air Quality Management District's Air Quality Management Plan. [Threshold AQ-1]

Impact Analysis: SCAQMD is directly responsible for reducing emissions from area, stationary, and mobile sources in the SoCAB to achieve National and California AAQS. SCAQMD has responded to this requirement by preparing an AQMP. On March 3, 2017, the SCAQMD Governing Board adopted the 2016 AQMP, which is a regional and multiagency effort (SCAQMD, CARB, SCAG, and EPA). A consistency determination with the AQMP plays an important role in local agency project review by linking local planning and individual projects to the AQMP. It fulfills the CEQA goal of informing decision makers of the environmental efforts of the project under consideration early enough to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to the clean air goals in the AQMP. The two principal criteria for conformance to an AQMP are:

1. Whether the project would exceed the assumptions in the AQMP.

2. Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards.

The regional emissions inventory for the SoCAB is compiled by SCAQMD and SCAG. Regional population, housing, and employment projections developed by SCAG are based, in part, on the city's general plan land

use designations. These projections form the foundation for the emissions inventory of the AQMP. These demographic trends are incorporated into the RTP/SCS, compiled by SCAG to determine priority transportation projects and vehicle miles traveled (VMT) within the SCAG region. The AQMP strategy is based on projections from local general plans. Projects that are consistent with the local general plan are considered consistent with the air quality-related regional plan. Typically, only new or amended general plan elements, specific plans, and major projects that have the potential to affect the regional population and employment forecasts need to undergo a consistency review. Changes in population, housing, or employment growth projections have the potential to affect SCAG's demographic projections and therefore the assumptions in SCAQMD's AQMP.

The Proposed Project would provide an academic institution to serve the educational needs of the local community and potentially provide a closer college option for the nearby communities that surround the proposed college campus. According to the MSJCCD, the Proposed Project would fulfill the current demand within the portion of the MSJCCD that the Proposed Project would serve. In providing another college option for this area of the MSJCCD to alleviate the current unmet demand at the Menifee Valley Campus, it would be able to accommodate students who could otherwise attend institutions farther away such as Palomar College in the City of San Marcos or colleges within the Riverside Community College District. Thus, providing a closer college option could contribute to reducing overall vehicle miles traveled in the region. Furthermore, the City of Wildomar is a considered a "housing rich" community and the anticipated 400 employees the college would generate would provide a beneficial jobs-housing balance impact (see Section 3.13(b) of the Initial Study), which would be consistent with the RTP/SCS goal of reducing VMT. Furthermore, with respect to the second criterion, as discussed in Impact 5.2-3, long-term emissions generated by the Proposed Project would not generate criteria air pollutants that exceed the SCAQMD regional significance thresholds. Therefore, the Proposed Project would be considered consistent with the AQMP, and impacts would be less than significant.

Level of Significance before Mitigation: Based on the analysis above, Impact 5.2-1 would be less than significant without mitigation.

Impact 5.2-2: Construction activities associated with the Proposed Project would not generate short-term emissions in exceedance of the South Coast Air Quality Management District's regional construction significance threshold. [Thresholds AQ-2 and AQ-3]

Impact Analysis: Construction activities produce combustion emissions from various sources, such as on-site heavy-duty construction vehicles, vehicles hauling materials to and from the site, and motor vehicles transporting the construction crew. Site preparation activities produce fugitive dust emissions (PM_{10} and $PM_{2.5}$) from soil-disturbing activities, such as grading and excavation. Air pollutant emissions from construction activities on-site would vary daily as construction activity levels change.

The Proposed Project would be built in four development phases. Phase I would involve the construction of the proposed 60,000 square foot New Center Template along with a surface parking lot providing up to 337 parking spaces. Phase II would involve development of the proposed student services building, library and technology center, and multipurpose building totaling 197,000 square feet in addition to construction of

another surface parking lot that would provide up to 376 parking spaces. A general classroom building and the science classroom building totaling 94,000 square feet in addition to a surface parking lot providing up to 402 parking spaces would be built in Phase III. Lastly, Phase IV would include the construction of the other general classroom building, maintenance and operations building, STEM building, the gym/fitness center, and the track and field. Phase IV would also involve construction of two additional surface parking lots that would provide up to 768 parking spaces. At full buildout, the Proposed Project would provide approximately 495,000 square feet of building space and 1,883 parking spaces on the 78.3-acre campus. Construction air pollutant emissions are based on the preliminary information provided by the MSJCCD. Activities would include grading of the site, construction of the college buildings and facilities, trail improvements, asphalt paving, and architectural coating activities.

Phase I

Phase I is anticipated to be begin construction in 2018 and be completed by mid-2021. The proposed 60,000 square foot New Center Template along with a surface parking lot providing up to 337 parking spaces would be constructed in this phase. An estimate of maximum daily construction emissions for Phase I of the Proposed Project is provided in Table 5.2-8, *Maximum Daily Regional Construction Emissions Per Development Phase*. As shown in this table, maximum daily construction emissions generated from Phase I construction activities would not exceed the SCAQMD's regional construction significance thresholds for any of the criteria air pollutants. Therefore, impacts to regional air quality from Phase I-related construction activities would be less than significant.

Phase II

Phase II is anticipated to begin construction in Year 2024 and be completed by late 2027. This development phase would oversee the construction of the 76,000 square foot Student Services Building, the 74,000 square foot Library and Technology Center, and the 47,000 square foot Multipurpose Building. Furthermore, an additional surface parking lot providing 376 parking stalls would also be added. As shown in the Table 5.2-8, the maximum daily construction-related emissions during Phase II would not exceed SCAQMD's regional construction significance thresholds. Therefore, impacts to regional air quality from Phase II-related construction activities would be less than significant.

Phase III

Phase III is anticipated to begin construction in Year 2029 and be completed by year 2032. A general classroom building and the Science classroom building, both 47,000 square feet in size in addition to a surface parking lot providing up to 402 parking spaces would be built. As shown in the Table 5.2-8, the maximum daily emissions generated from construction activities occurring during Phase III would not exceed SCAQMD's regional construction significance thresholds. Therefore, impacts to regional air quality from Phase III-related construction activities would be less than significant.

Phase IV

Phase IV is anticipated to begin construction in Year 2035 and be completed by year 2038 and would include the construction of the other 47,000 square-foot general classroom building, an 8,000 Maintenance and Operations building, the 47,000 square-foot STEM building, the 42,000 square-foot Gym/Fitness center, and the track and field. Two additional surface parking lots providing up to 768 parking spaces would also be constructed. At full buildout, the Proposed Project would provide approximately 495,000 square feet of building space and 1,883 parking spaces on the 78.3-acre campus. As shown in the Table 5.2-8, the maximum daily construction-related emissions generated during Phase IV would not exceed SCAQMD's regional construction significance thresholds. Therefore, impacts to regional air quality from Phase IV-related construction activities would be less than significant.

Table 5.2-8 Maximum Daily Regional Construction Emissions Per Development Phase

Construction Phase(s)	Criteria Air Pollutants (pounds per day)[1, 2]					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Phase I						
Year 2018						
Site Preparation	5	49	23	<1	11	7
Year 2019						
Grading	3	35	18	<1	4	3
Building Construction	3	25	21	<1	2	2
Year 2020						
Building Construction	3	22	20	<1	2	1
Year 2021						
Building Construction	2	20	20	<1	2	1
Building Construction, Asphalt Paving, and Architectural Coating Overlap	17	35	37	<1	3	2
Maximum Daily Emissions	17	49	37	<1	11	7
SCAQMD Regional Construction Threshold	75	100	550	150	150	55
Significant?	No	No	No	No	No	No
Phase II						
Year 2024						
Site Preparation	3	27	19	<1	9	5
Year 2025						
Rough Grading	2	19	15	<1	4	2
Building Construction	2	16	20	<1	2	1
Year 2026						
Building Construction	2	16	20	<1	2	1
Year 2027						
Building Construction	2	16	20	<1	2	1
Building Construction, Asphalt Paving, and Architectural Coating Overlap	46	26	37	<1	3	2
Maximum Daily Emissions	46	27	37	<1	9	5
SCAQMD Regional Construction Threshold	75	100	550	150	150	55

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Table 5.2-8 Maximum Daily Regional Construction Emissions Per Development Phase

Construction Phase(s)	Criteria Air Pollutants (pounds per day)[1, 2]					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Significant?	No	No	No	No	No	No
Phase III						
Year 2029						
Site Preparation	3	25	18	<1	9	5
Grading	2	18	15	<1	4	2
Building Construction	2	15	19	<1	2	1
Year 2030						
Building Construction	2	10	18	<1	1	<1
Year 2031						
Building Construction	2	10	18	<1	1	<1
Year 2032						
Building Construction	2	10	18	<1	1	<1
Building Construction, Asphalt Paving, and Architectural Coating Overlap	24	18	37	<1	2	1
Maximum Daily Emissions	24	25	37	<1	9	5
SCAQMD Regional Construction Threshold	75	100	550	150	150	55
Significant?	No	No	No	No	No	No
Phase VI						
Year 2035						
Site Preparation	2	10	16	<1	8	5
Year 2036						
Grading	3	16	24	<1	4	2
Building Construction	2	11	20	<1	2	1
Year 2037						
Building Construction	2	11	20	<1	2	1
Year 2038						
Building Construction	2	11	20	<1	2	1
Building Construction, Asphalt Paving, and Architectural Coating Overlap	44	17	38	<1	3	1
Maximum Daily Emissions	44	17	38	<1	8	5
SCAQMD Regional Construction Threshold	75	100	550	150	150	55
Significant?	No	No	No	No	No	No

Source: CalEEMod Version 2016.3.1. Highest winter or summer emissions are reported.
[1] Based on information provided by the MSJCCD. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by SCAQMD of construction equipment and phasing for comparable projects.
[2] Includes implementation of fugitive dust control measures required by SCAQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186–compliant sweepers.

Level of Significance before Mitigation: Based on the analysis above and upon implementation of regulatory requirements RR AIR-1 and RR AIR-2, Impact 5.2-2 would be less than significant without mitigation.

Impact 5.2-3: Implementation of the Proposed Project would not generate long-term emissions in exceedance of the South Coast Air Quality Management District's regional operation-phase thresholds. [Thresholds AQ-2 and AQ-3]

Impact Analysis: Buildout of the Proposed Project would result in criteria air pollutant emissions from transportation, area (e.g., landscaping equipment), and energy sources (i.e., natural gas use). Criteria air pollutant emissions were modeled using CalEEMod. Impacts are based on criteria air pollutant emissions generated on a day that all registered students and employees would be on campus and represents a conservative scenario as it is not anticipated that all students and employees would visit the campus on any given day. Under this scenario, an estimated 12,300 vehicle trips on a single day would be generated, which would accumulate approximately 110,946 vehicle miles traveled based on the utilized average trip distance of 9.02 miles per trip (IBI Group 2016). The results of the criteria air pollutant modeling are shown in Table 5.2-9, *Maximum Daily Regional Operational Emissions*.

Table 5.2-9 Maximum Daily Regional Operational Emissions

	Pollutants (lb/day)					
Source	**VOC**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Area	11	<1	<1	<1	<1	<1
Energy	<1	2	1	<1	<1	<1
Mobile Sources	11	52	139	1	85	23
Total	**23**	**54**	**141**	**1**	**85**	**23**
SCAQMD Regional Threshold	55	55	550	150	150	55
Exceeds Regional Threshold?	No	No	No	No	No	No

Source: CalEEMod Version 2016.3.1. Highest winter or summer emissions are reported. The operational emissions are based on a year 2035 model run per CalEEMod methodology, because CalEEMod only includes scenario years 2035 and 2040 and not 2038.

As shown in this table, project-related long-term air pollutant emissions would not exceed SCAQMD's regional significance thresholds. Therefore, impacts to the regional air quality from project-related operational phase emissions would be less than significant.

Level of Significance before Mitigation: Based on the analysis above and upon implementation of regulatory requirements RR AIR-3 and RR AIR-4, Impact 5.2-3 would be less than significant without mitigation.

Impact 5.2-4: Construction of the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations. [Threshold AQ-4]

Impact Analysis: The Proposed Project could expose sensitive receptors to elevated pollutant concentrations during construction activities if it would cause or contribute significantly to elevated levels. Unlike the mass of construction and operations emissions shown in the regional emissions analysis in Tables 5.2-8 and 5.2-9, which are described in pounds per day, localized concentrations refer to an amount of pollutant in a volume of air (ppm or $\mu g/m^3$) and can be correlated to potential health effects.

Health Risks

SCAQMD currently does not require health risk assessments to be conducted for short-term emissions from construction equipment. Emissions from construction equipment primarily consist of diesel particulate matter (DPM). OEHHA has recently adopted new guidance for the preparation of health risk assessments issued in March 2015 (OEHHA 2015). OEHHA has developed a cancer risk factor and non-cancer chronic reference exposure level for DPM, but these factors are based on continuous exposure over a 30-year time frame. No short-term acute exposure levels have been developed for DPM.

The Proposed Project would be developed over four development phases. It is anticipated that the construction duration of each development phase would last in duration of approximately 30 months on average. In addition, construction of each development phase would not be continuous, but is anticipated to be spread out incrementally over a 20-year period which would limit the exposure to on- and offsite receptors. Furthermore, project-related construction activities would not exceed LST significance thresholds, as demonstrated above. For these reasons, it is anticipated that construction emissions would not pose a threat to on and offsite receptors at or near the Project Site. Therefore, project-related construction health impacts would be less than significant and no mitigation measures are necessary.

LSTs

The screening-level LSTs are the amount of project-related emissions at which localized concentrations (ppm or $\mu g/m^3$) could exceed the ambient air quality standards for criteria air pollutants for which the SoCAB is designated nonattainment. Screening-level LSTs are based on the Proposed Project Site size and distance to the nearest sensitive receptor. Thresholds are based on the California AAQS, which are the most stringent AAQS, established to provide a margin of safety in the protection of the public health and welfare. They are designed to protect sensitive receptors most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise.

Table 5.2-10, *Maximum Daily On-site Localized Construction Emissions*, shows the maximum daily construction emissions (pounds per day) generated during on-site construction activities compared with the SCAQMD's screening-level LSTs. As shown in the table, maximum daily construction emissions would not exceed the SCAQMD screening-level LSTs for NO_X, CO, PM_{10}, or $PM_{2.5}$. Therefore, construction emissions would not exceed the California AAQS, and project construction would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant.

Table 5.2-10 Maximum Daily On-site Localized Construction Emissions

Source	Pollutants (pounds per day)[1, 2]			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Phase I[3]				
Building Construction – 2019	21	17	1	1
Building Construction – 2020	19	17	1	1
Building Construction – 2021	17	17	1	1
Building Construction, Asphalt Paving, and Architectural Coating Overlap – 2021	32	33	2	2
1.31-Acre LSTs	211	1,112	11	4
Exceeds LSTs?	No	No	No	No
Grading – 2019	28	16	4	3
2.50-Acre LSTs	284	1,579	18	6
Exceeds LSTs?	No	No	No	No
Site Preparation – 2018	48	22	10	6.61
3.50-Acre LSTs	330	1,927	23	7.29
Exceeds LSTs?	No	No	No	No
Phase II[4]				
Building Construction – 2025	12	16	1	<1
Building Construction – 2026	12	16	1	<1
Building Construction – 2027	12	16	1	<1
Building Construction, Asphalt Paving, and Architectural Coating Overlap – 2027	22	32	1	1
1.31-Acre LSTs	184	859	11	4
Exceeds LSTs?	No	No	No	No
Grading – 2025	15	15	3	2
2.50-Acre LSTs	257	1,244	18	6
Exceeds LSTs?	No	No	No	No
Site Preparation – 2024	27	18	9	5
3.50-Acre LSTs	302	1,532	23	7
Exceeds LSTs?	No	No	No	No
Phase III[5]				
Building Construction – 2029	12	16	1	<1
Building Construction – 2030 to 2032	8	16	<1	<1
Building Construction, Asphalt Paving, and Architectural Coating Overlap – 2032	16	33	<1	<1
1.31-Acre LSTs	184	859	19	6
Exceeds LST?	No	No	No	No
Grading – 2029	15	15	3	2
2.50-Acre LSTs	257	1,244	28	8
Exceeds LSTs?	No	No	No	No
Site Preparation – 2029	25	18	9	5
3.50-Acre LSTs	302	1,532	35	9
Exceeds LSTs?	No	No	No	No

Table 5.2-10 Maximum Daily On-site Localized Construction Emissions

Source	Pollutants (pounds per day)[1, 2]			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Phase IV[6]				
Building Construction – 2036 to 2038	7	16	<1	<1
Building Construction, Asphalt Paving, and Architectural Coating Overlap – 2038	13	34	<1	<1
1.31-Acre LSTs	184	859	5	3
Exceeds LSTs?	No	No	No	No
Grading – 2036	10	23	4	2
4.00-Acre LSTs	325	1,676	11	7
Exceeds LSTs?	No	No	No	No
Site Preparation and Haul – 2035	10	16	8	5
3.50-Acre LSTs	302	1,532	10	6
Exceeds LSTs?	No	No	No	No

Source: CalEEMod Version 2016.3.1., SCAQMD 2008b, and SCAQMD 2011. Highest winter or summer emissions are reported.
1 Based on the preliminary information provided by the MSJCCD. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by SCAQMD of construction equipment and phasing for comparable projects.
2 Includes implementation of fugitive dust control measures required by SCAQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186–compliant sweepers.
3 LSTs are based on receptors within 135 feet (41 meters).
4 PM_{10} and $PM_{2.5}$ LSTs are based on receptors within 135 feet (41 meters). NO_X and CO LSTs are based on receptors within 82 feet (25 meters).
5 PM_{10} and $PM_{2.5}$ LSTs are based on receptors within 205 feet (62 meters). NO_X and CO LSTs are based on receptors within 82 feet (25 meters).
6 LSTs are based on receptors within 82 feet (25 meters).

Level of Significance before Mitigation: Based on the analysis above, Impact 5.2-4 would be less than significant without mitigation.

Impact 5.2-5: Operation of the Proposed Project would not expose off-site sensitive receptors to substantial pollutant concentrations. [Threshold AQ-4]

Impact Analysis: The following discusses the potential localized air quality impacts from implementation of the proposed I-15 Corridor Campus Master Plan.

Operational LSTs

Operation of the Proposed Project would not generate substantial quantities of emission from on-site, stationary sources. Land uses that have the potential to generate substantial emissions that would require a permit from SCAQMD include industrial land uses, such as chemical processing and warehousing operations where substantial truck idling could occur on-site. The Proposed Project does not fall within these categories of uses. While operation of the Proposed Project would result in the use of standard on-site mechanical equipment (such as heating, ventilation, and air conditioning units) and occasional use of landscaping equipment for Project Site maintenance, air pollutant emissions generated from these activities would be below the SCAQMD screening-level LSTs thresholds, as shown in Table 5.2-11, *Maximum Daily On-site*

Localized Operation Emissions. Therefore, localized air quality impacts related to stationary-source emissions would be less than significant.

Table 5.2-11 Maximum Daily On-site Localized Operation Emissions

Source	Pollutants (pounds per day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Area	<1	<1	<1	<1
Energy	2	1	<1	<1
Maximum Daily On-site Operation Emissions	2	2	<1	<1
SCAQMD LST	371	1,965	4	2
Exceeds LST?	No	No	No	No

Source: CalEEMod, version 2016.3.1; SCAQMD 2008b.
Notes: In accordance with SCAQMD methodology, only on-site stationary sources and mobile equipment occurring within the Proposed Project Site are included in the analysis. LSTs are based on sensitive receptors within 82 feet (25 meters) of the Proposed Project Site within SRA 26.

Operation of the Proposed Project would not generate substantial quantities of emissions from on-site, stationary sources. Land uses that have the potential to generate substantial stationary sources of emissions that would require a permit from SCAQMD include industrial land uses, such as chemical processing, and warehousing operations where substantial truck idling could occur on-site. Air pollutant emissions generated from these activities are nominal, and no significant impact would occur.

CO Hotspot Analysis

CO hotspots have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. At the time of the 1993 Handbook, the SoCAB was designated nonattainment under the California AAQS and National AAQS for CO. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the SoCAB and in the state have steadily declined. In 2007, the SCAQMD was designated in attainment for CO under both the California AAQS and National AAQS. As identified in SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SoCAB were a result of unusual meteorological and topographical conditions and not a result of congestion at a particular intersection. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix (e.g., bridges and tunnels)—in order to generate a significant CO impact (BAAQMD 2017). The Proposed Project could generate up to 1,200 peak hour trips and would not produce the volume of traffic required to generate a CO hotspot (IBI Group 2016). Therefore, CO hotspots are not an environmental impact of concern for the Proposed Project and localized air quality impacts related to mobile-source emissions would be less than significant.

Level of Significance before Mitigation: Based on the analysis above and upon implementation of regulatory requirements RR AIR-3 and RR AIR-4, Impact 5.2-5 would be less than significant without mitigation.

5.2.5 Cumulative Impacts

In accordance with SCAQMD's methodology, any project that produces a significant project-level regional air quality impact in an area that is in nonattainment contributes to the cumulative impact. Cumulative projects within the local area include new development and general growth within the project area. The greatest source of emissions within the SoCAB is mobile sources. Due to the extent of the area potentially impacted from cumulative project emissions (i.e., the SoCAB), SCAQMD considers a project cumulatively significant when project-related emissions exceed the SCAQMD regional emissions thresholds shown in Table 5.2-4. No significant cumulative impacts were identified with regard to CO hotspots.

Construction

The SoCAB is designated nonattainment for O_3 and $PM_{2.5}$ under the California and National AAQS and nonattainment for PM_{10} and lead (Los Angeles County only) under the National AAQS. Construction of cumulative projects will further degrade the regional and local air quality. Air quality will be temporarily impacted during construction activities. However, development of the Proposed Project would not generate construction-related criteria air pollutant emissions that would exceed the SCAQMD regional significance thresholds for construction. Therefore, the project's contribution to cumulative air quality impacts would be less than cumulatively considerable and therefore less than significant.

Operation

For operational air quality emissions, any project that does not exceed or can be mitigated to less than the daily regional threshold values is not considered by SCAQMD to be a substantial source of air pollution and does not add significantly to a cumulative impact. Operation of the project would not result in emissions in excess of the SCAQMD regional emissions thresholds. Furthermore, the Proposed Project would be consistent with regional plans to reduce air pollution. Therefore, the project's operational phase air pollutant emissions would not be cumulatively considerable and are less than significant.

5.2.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements, the following impacts would be less than significant:

- **Impact 5.2-1:** The Proposed Project would be consistent with the South Coast Air Quality Management District's Air Quality Management Plan.
- **Impact 5.2-2:** Construction activities associated with the Proposed Project would not generate short-term emissions in exceedance of the South Coast Air Quality Management District's regional construction significance threshold.
- **Impact 5.2-3:** Implementation of the Proposed Project would not generate long-term emissions in exceedance of the South Coast Air Quality Management District's regional operation-phase thresholds.

- **Impact 5.2-4:** Construction of the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations. .
- **Impact 5.2-5:** Operation of the Proposed Project would not expose off-site sensitive receptors to substantial pollutant concentrations.

5.2.7 Mitigation Measures

No mitigation measures are required.

5.2.8 Level of Significance After Mitigation

The existing applicable regulations would reduce potential impacts associated with air quality to a level that is less than significant. Therefore, no significant unavoidable adverse impacts relating to air quality have been identified.

5.2.9 References

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