5.2 Air Quality

5.2.1 Introduction

An air quality analysis was prepared by iLanco Environmental, LLC (iLanco) to evaluate the proposed Project's potential impacts on air quality from future development and operations of the proposed Project. The analysis in the following sections focuses on the existing conditions at the Project site and greater study area of the South Coast Air Basin (SCAB), thresholds of significance, analysis methodology, potential short- and long-term air quality impacts of the proposed Project related to the ambient air quality standards (AAQS) and sensitive receptors[1], and mitigation as needed. The "Air Quality and Greenhouse Gas Analysis" study (Air Quality Report) prepared in February 2017 by iLanco is included in Appendix E; the findings and recommendations of that analysis are summarized below. The Air Quality Report analyzes the proposed Project land use changes and proposed backbone infrastructure improvements within the Infrastructure Improvement Areas (IIAs) at a programmatic level.

5.2.2 Environmental Setting

Regional Climate and Meteorology

The climate of the region is classified as semi-arid Mediterranean, which is characterized by hot summers with little precipitation and mild winters with moderate precipitation. The major influences on the regional climate are the Eastern Pacific High, a strong, persistent high-pressure system, and the moderating effects of the Pacific Ocean. Seasonal variations in the position and strength of the Eastern Pacific High are key factors in the weather changes in the area.

The mountain ranges that surround the SCAB constrain the horizontal movement of air and inhibit the dispersion of air pollutants out of the region. These two factors, combined with the air pollution sources from more than 15 million people plus businesses and industries, are responsible for the high pollutant conditions that can occur in the SCAB. In addition, high solar radiation during the summer months promotes the formation of ozone (O_3).

The proximity of the Eastern Pacific High and a thermal low-pressure system in the desert interior to the east produces a sea breeze regime that prevails within the Project region for most of the year, particularly during the spring and summer months. During the fall and winter months, the Eastern Pacific High can combine with high pressure over the continent to produce light winds and extended inversion conditions in the region. These stagnant atmospheric conditions often result in elevated pollutant concentrations in the SCAB. Excessive buildup of high pressure in the desert interior can produce a "Santa Ana" condition, characterized by warm, dry, northeast winds in the basin and offshore regions. Santa Ana winds often help clear the SCAB of air pollutants.

[1] Sensitive receptors refer to places with populations that may be more susceptible to adverse health risks resulting from poor air quality. Example locations include residences, schools, hospitals, and nursing homes.

Meteorological data, including temperatures and precipitation, are measured at meteorological stations operated by the National Weather Service. The average high and low air temperatures at the Elsinore Station (042805), the closest station with a complete temperature and precipitation record, located approximately 0.5 miles northwest of the Project site, were 80 degrees Fahrenheit (°F) and 47°F, respectively.

Ambient Air Quality

Air pollutants are defined as two general types: (1) "criteria" pollutants, representing six pollutants for which national and state health- and welfare-based ambient air quality standards (AAQS) have been established; and (2) toxic air contaminants (TACs), which may lead to serious illness or increased mortality even when present at relatively low concentrations. Generally, TACs do not have AAQS. The three TACs that do have AAQS (i.e., lead, vinyl chloride, and hydrogen sulfide) would not be expected to result from anticipated activities and are not considered to be pollutants of concern for the Project. In addition, sulfates and visibility-reducing particles would also not be expected to result from anticipated activities.

Criteria Pollutants

Air quality at a given location can be described by the concentrations of various air pollutants in the atmosphere near ground level. The significance of a pollutant concentration is determined by comparing the pollutant's concentration to an appropriate national and/or state ambient air quality standard. These standards represent the allowable atmospheric concentrations at which the public health and welfare are protected and include a reasonable margin of safety to protect the more sensitive individuals in the population.

The United States Environmental Protection Agency (EPA), the California Air Resources Board (CARB), and the local air districts classify an area as attainment, unclassified, or nonattainment depending on whether the monitored ambient air quality data show compliance, lack of data, or noncompliance with the ambient air quality standards, respectively. The National and California Ambient Air Quality Standards (NAAQS and CAAQS, respectively) relevant to the Project are provided in Table 5.2-1. Table 5.2-2 summarizes the federal and state attainment status of criteria pollutants for the South Coast Air Quality Management District (SCAQMD) based on the NAAQS and CAAQS, respectively.

The criteria pollutants of primary concern assessed are O_3, particulate matter less than 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2). Of the criteria pollutants of concern, O_3 is unique because it is not directly emitted from project-related sources. Rather, O_3 is a secondary pollutant, formed from precursor pollutants volatile organic compounds (VOC) and nitrogen oxides (NO_X). VOC and NO_X react to form O_3 in the presence of sunlight through a complex series of photochemical reactions. As a result, unlike inert pollutants, O_3 levels usually peak several hours after the precursors are emitted and many miles downwind of the source.

Because of the complexity and uncertainty in predicting photochemical pollutant concentrations, O_3 impacts are indirectly addressed by comparing project-generated emissions of VOC and NO_X to daily emission thresholds set by SCAQMD.

Table 5.2-1. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards	Health Effects
Ozone (O_3)	1-hour	0.09 ppm	—	Breathing difficulties, lung tissue damage
	8-hour[2]	0.070 ppm	0.075 ppm	
Respirable particulate matter (PM_{10})	24-hour	50 µg/m^3	150 µg/m^3	Increased respiratory disease, lung damage, cancer, premature death
	Annual	20 µg/m^3	—	
Fine particulate matter ($PM_{2.5}$)	24-hour[3]	—	35 µg/m^3	Increased respiratory disease, lung damage, cancer, premature death
	Annual	12 µg/m^3	12 µg/m^3	
Carbon monoxide (CO)	1-hour	20 ppm	35 pm	Chest pain in heart patients, headaches, reduced mental alertness
	8-hour	9.0 ppm	9 ppm	
Nitrogen dioxide (NO_2)	1-hour	0.18 ppm	0.100 ppm [1]	Lung irritation and damage
	Annual	0.030 ppm	0.053 ppm	
Sulfur dioxide (SO_2)	1-hour	0.25 ppm	0.075 ppm [1]	Increases lung disease and breathing problems for asthmatics
	3-hour	—	0.5 ppm	
	24-hour	0.04 ppm	—	
Lead	30-day	1.5 µg/m^3	—	Increased body burden and impairment of blood formation and nerve conduction
	Quarter	—	1.5 µg/m^3	
	3-month	—	0.15 µg/m^3	
Sulfates	24-hour	25 µg/m^3	—	Decrease in ventilator function, aggravation of asthmatic symptoms, aggravation of cardio-pulmonary disease
Visibility-Reducing Particles	8-hour	In sufficient amount to give an extinction coefficient of >0.23 inverse kilometers (visual range to less than 10 miles with relative humidity less than 70%)	—	
Hydrogen Sulfide	1-hour	0.03 ppm	—	Odor

Pollutant	Averaging Time	California Standards	National Standards	Health Effects
Vinyl Chloride	24-hour	0.01 ppm	—	Short-term exposure: central nervous system effects – dizziness, drowsiness, and headaches Long-term exposure: liver damage, cancer

ppm = parts per million; µg/m^3 = micrograms per cubic meter; "—" = no standards
[1] The federal 1-hour NO_2 and SO_2 standards are based on the 3-year average of the 98th and 99th percentile of daily maximum values, respectively.
[2] The federal 8-hour O_3 standard is based on the annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years.
[3] The federal 24-hour $PM_{2.5}$ standard is based on the 3-year average of the 98th percentile of the daily values.
Source: (CARB, Air Quality Standards, 2013) found in Air Quality Report (iLanco, 2015).

Table 5.2-2. SCAB Attainment Status

Pollutant	Attainment Status	
	Federal	State
Ozone	Extreme Nonattainment	Nonattainment
PM_{10}	Attainment/Maintenance	Nonattainment
$PM_{2.5}$	Moderate Nonattainment	Nonattainment
CO	Attainment/Maintenance	Attainment
NO_2	Attainment/Maintenance	Attainment
SO_2	Attainment	Attainment

Source: CARB, 2013b found in Air Quality Report (iLanco, 2015).

Local Air Quality Monitoring

Air quality within the SCAB has improved since the inception of air pollutant monitoring in 1976 by the SCAQMD. This improvement is due to the implementation of stationary source emission-reduction strategies by SCAQMD and lower polluting on-road motor vehicles. This trend toward cleaner air has occurred despite continued population growth. For example, while the national 8-hour ozone standard was exceeded on 134 days in 1989, at the Lake Elsinore monitoring station, the standard was exceeded on 19 days in 2015.

CARB and SCAQMD operate a network of pollutant monitoring and meteorological stations in the SCAB. The station closest to the proposed Project site is the Lake Elsinore West Flint Street station, located approximately one (1) mile northwest of the proposed Project site. Table 5.2-3 presents the maximum pollutant concentrations measured at the Lake Elsinore monitoring stations from 2013-2015. Exceedances of the CAAQS and NAAQS are shown in bold text. These data show that the 1-hour state, 8-hour national and 8-hour state standards for ozone were exceeded in 2013, 2014, and 2015 and the annual state standard for $PM_{2.5}$ was exceeded in 2013, 2014, and 2015. All other national and state standards were met during this 3-year period.

Table 5.2-3. Maximum Pollutant Concentrations Measured at the Lake Elsinore-West Flint Street Station

Pollutant	Averaging Period	Standard	Highest Monitored Concentration [a] / Number of Days Above Standard		
			2013	2014	2015
Ozone (ppm)	1-hour State [b]	0.09	**0.11 / 6**	**0.11 / 4**	**0.11 / 18**
	8-hour National [c]	0.075	**0.086 / 12**	**0.082 / 6**	**0.084 / 19**
	8-hour State [b]	0.07	**0.094 / 25**	**0.090 / 13**	**0.093 / 35**
CO (ppm)	1-hour National	35	--	--	--
	1-hour State	20	--	--	--
	8-hour National and State	9	--	--	--
NO_2 (ppm)	1-hour National [d]	0.100	0.041 / 0	0.040 / 0	0.039 / 0
	1-hour State [d]	0.18	0.050 / 0	0.050 / 0	0.050 / 0
	Annual National	0.053	0.009 / --	0.008 / --	0.009 / --
	Annual State	0.030	0.01 / --	0.01 / --	0.008 / --
SO_2 (ppm)	1-hour National	0.075	-- / --	-- / --	-- / --
	1-hour State	0.25	-- / --	-- / --	-- / --
	24-hour State	0.04	-- / --	-- / --	-- / --
PM_{10} (µg/m^3)	24-hour National [e]	150	46.7 / 0	81.1 / 0	78.4 / 0
	24-hour State	50	-- / --	-- / --	-- / --
	Annual State	20	-- / --	-- / --	-- / --
$PM_{2.5}$ (µg/m^3)	24-hour National [f]	35	-- / --	-- / --	-- / --
	Annual National	12	-- / --	-- / --	-- / --
	Annual State	12	**11 / --**	**12 / --**	**12 / --**

Notes:

[a] Exceedances of the standards are shown in **bold**. All reported values represent the highest recorded concentration unless otherwise noted.

[b] The monitored concentrations reported for the state 1-hour and 8-hour O_3 standards represent the California designation values.

[c] The monitored concentrations reported for the national 8-hour O_3 national standard design value.

[d] The monitored concentrations reported for the national 1-hour NO_2 standard represent the national standard design values. The monitored concentrations reported for the state 1-hour NO_2 standard represent the CA designation values.

[e] The monitored concentrations reported for the national 24-hour PM_{10} standard represent the 2nd highest concentration recorded during each calendar year. The standard is attained when the number of days per calendar year exceeding 150 ug/m^3 is equal to or less than one.

[f] The monitored concentrations reported for the national 24-hour $PM_{2.5}$ standard represents the 3-year average (including the reported year and the prior two years) of the 98th percentile of the annual distribution of daily average concentrations.

Source: iADAM Database (CARB, 2012-2014) found in Air Quality Report (iLanco, 2015).

Toxic Air Contaminants

TACs are airborne compounds that are known or suspected to cause adverse human health effects after long-term (i.e., chronic) and/or short-term (i.e., acute) exposure. Cancer risk can result from chronic exposure, and non-cancer health effects can result from either chronic or acute exposure. Examples of TAC sources in the SCAB include diesel- and gasoline-powered internal combustion engines in mobile sources, such as construction equipment and vehicles; industrial processes and stationary sources, such as dry cleaners, gasoline stations, and paint and solvent operations; and stationary fossil fuel-burning combustion sources, such as power plants.

Cancer risk due to TACs has declined in the SCAB as a result of federal, state and local regulations. SCAQMD initiated the first urban toxic air pollution study, Multiple Air Toxics Exposure Study (MATES) in 1998. The subsequent 2000 MATES II study estimated a 44% to 63% decrease in cancer risk since 1990. The 2008 MATES III study reported a SCAB-wide decrease of 8% from MATES II and the 2015 MATES IV study reported a SCAB-wide decrease of 57% from MATES III. The SCAQMD MATES studies show a steady decline in SCAB cancer risk despite continuing population growth.

MATES IV shows that the background cancer risk in the Project vicinity is between 301 to 416 per million, and that more than 90 percent of the background airborne air toxics cancer risk in the SCAB is due to diesel particulate exhaust.

Secondary $PM_{2.5}$ Formation

Within the SCAB, $PM_{2.5}$ particles are both directly emitted into the atmosphere (e.g., primary particles) and formed through atmospheric chemical reactions from precursor gases (e.g., secondary particles). Primary $PM_{2.5}$ includes diesel soot, combustion products, road dust, and other fine particles. Secondary $PM_{2.5}$, which includes chemicals such as sulfates, nitrates, and complex carbon compounds, are formed from reactions with directly emitted NO_X, SO_X, VOCs, and ammonia. Emissions of NO_X, SO_X, and VOCs generated by the proposed Project would contribute toward secondary $PM_{2.5}$ formation some distance downwind of the emission sources. However, the air quality analysis focuses on the effects of direct $PM_{2.5}$ emissions generated by the proposed Project and its alternatives. This approach is consistent with the recommendations of the SCAQMD.

Ultrafine Particles

Although EPA and the State of California currently monitor and regulate PM_{10} and $PM_{2.5}$, research is being done on ultrafine particles (UFPs), particles classified as less than 0.1 micron in diameter. UFPs are formed usually during combustion, independent of fuel type. When diesel fuel is used, UFPs can be formed directly from fuel combustion. With gasoline and natural gas (liquefied or compressed), UFPs are formed mostly from the burning of lubricant oils. UFPs are emitted directly from the tailpipe as solid particles (soot, or elemental carbon and metal oxides) and semi-volatile particles (sulfates and hydrocarbons) that coagulate to form particles. The research regarding UFPs suggests UFPs might be more dangerous to human health than the larger PM_{10} and $PM_{2.5}$ particles (termed fine particles) due to size and shape. Because of the smaller size, UFPs can travel more deeply into the lung (the alveoli) and are deposited in the deep lung regions more efficiently than fine particles.

UFPs are inert; therefore, normal bodily defense does not recognize the particle. UFPs can travel across cell layers and enter the bloodstream and/or into individual cells. With a large surface area-to-volume ratio, other entities might attach to the particle and travel into the cell as a kind of "hitchhiker." Recent studies have found that UFPs may also pose a risk to cardiovascular health, particular in at-risk individuals, and may be a risk-factor for heart arrhythmias. Current UFP research focuses primarily on roadway exposure. Preliminary studies suggest that over 50 percent of an individual's daily exposure is from driving on highways. Levels appear to drop off rapidly as one moves away from major roadways.

Atmospheric Deposition

The fallout of air pollutants to the surface of the earth is known as atmospheric deposition. Atmospheric deposition occurs in both a wet and dry form. Wet deposition occurs in the form of precipitation or cloud water and is associated with the conversion in the atmosphere of directly emitted pollutants into secondary pollutants such as acids. Dry deposition occurs in the form of directly emitted pollutants or the conversion of gaseous pollutants into secondary PM. Atmospheric deposition can produce watershed acidification, aquatic toxic pollutant loading, deforestation, damage to building materials, and respiratory problems.

Construction and operational emission sources from the proposed Project would produce diesel particulate matter (DPM), which contains trace amounts of toxic chemicals, and gaseous pollutants. Proposed Project elements and mitigation measures would serve to reduce air pollutants from future operations, which would in turn reduce atmospheric deposition.

5.2.3 Existing Conditions

Existing Development and Facilities

Zoning in the existing ELSP allows for predominantly residential development; however, much of the Project site remains undeveloped except for the existing Summerly residential neighborhood and The Links at Summerly Golf Course in proposed Planning Area 1; Serenity residential neighborhood in proposed Planning Area 4; Lake Elsinore Motocross facility in proposed Planning Area 2; Skylark Airport and minimal industrial development in proposed Planning Area 3; and sparse residential development in proposed Planning Area 8. Existing development was analyzed as part of the baseline conditions that include the following:

- 325 low-rise apartment dwelling units;
- 911 single-family housing dwelling units;
- 169 acres of golf club;
- 535 acres of open space;
- 243 acres of active recreation space (inclusive of the Lake Elsinore Motorsports Park);
- 5.5 acres of City park; and
- Skylark Airport

Sensitive Receptors

The impact of air emissions on sensitive members of the population is a special concern. Sensitive receptor groups include children and infants, pregnant women, the elderly, and the acutely and chronically ill. According to SCAQMD guidance, sensitive receptor locations include schools, hospitals, convalescent homes, child-care centers, and other locations where children, chronically ill individuals, or other sensitive persons could be exposed. In addition to receptors specified in SCAQMD guidance, this analysis also includes residents as potential sensitive receptors. The following receptors were identified as sensitive receptors in vicinity of the proposed Project:

- The proposed Project site is surrounded by adjacent residential receptors.
- The closest schools are:
    - Railroad Canyon Elementary School, located approximately 240 meters to the north of proposed Planning Area 8, on Mill Street.
    - Jean Hayman Elementary School, located approximately 450 meters to the west of proposed Planning Area 2, on Lemon Street.
    - William Collier Elementary School, located approximately 330 meters to the south of proposed Planning Area 3, on Mayhall Drive.
    - Lakeland Village Middle School, located approximately 600 meters to the southwest of proposed Planning Area 3 and 5, on Grand Avenue.
- The closest child-care center is Lilly Macedo Day Care, located in proposed Planning Area 4, on Silverwood Drive.
- The next closest child-care center is Honore Family Childcare, located approximately 450 meters north of proposed Planning Area 8, on N. Langstaff Street.
- The closest assisted living facility is Heritage Residential Care, located just to the west of proposed Planning Area 1, on Mariposa Road.
- The closest hospital is the Loma Linda University Medical Center, located approximately 7.3 miles southwest of the proposed Project, on Baxter Road in Murrieta.

5.2.4 Regulatory Setting

Sources of air emissions in the SCAB are regulated by EPA, CARB, and SCAQMD. In addition, regional and local jurisdictions play a role in air quality management. The role of each regulatory agency is discussed below.

Federal Regulations

The Federal Clean Air Act (CAA) of 1969 and its subsequent amendments form the basis for the nation's air pollution control effort. EPA is responsible for implementing most aspects of the CAA. Basic elements of the act include the NAAQS for major air pollutants, hazardous air pollutant standards, attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O_3 protection, and enforcement provisions.

The CAA delegates enforcement of the federal standards to the states. In California, CARB is responsible for enforcing air pollution regulations. CARB, in turn, delegates to local air agencies the responsibility of regulating stationary emission sources. In the SCAB, SCAQMD has this responsibility.

State Implementation Plan

For areas that do not attain the NAAQS, the CAA requires the preparation of a State Implementation Plan (SIP), detailing how the State will attain the NAAQS within mandated timeframes. In response to this requirement, SCAQMD in relation with the Southern California Association of Governments (SCAG) developed the 2003 AQMP. The focus of the 2003 AQMP was to demonstrate attainment of the federal PM_{10} standard by 2006 and the federal one-hour O_3 standard by 2010, while making progress toward attainment of State standards. The 2003 AQMP also included an NO_2 maintenance plan. The 2003 AQMP was partially approved and partially disapproved by EPA. SCAQMD is initiating an early development process for the 2016 AQMP, which will be a comprehensive and integrated plan primarily focused on addressing the O_3 standards.

Emission Standards for Non-Road Diesel Engines (2004)

EPA established a series of cleaner emission standards for new off-road diesel engines culminating in the Tier 4 Final Rule of June 2004. The Tier 1, Tier 2, Tier 3, and Tier 4 standards require compliance with progressively more stringent emission standards. Tier 1 standards were phased in from 1996 to 2000 (year of manufacture), depending on the engine horsepower category. Tier 2 standards were phased in from 2001 to 2006, and the Tier 3 standards were phased in from 2006 to 2008. Tier 4 standards require approximately an additional 90 percent reduction in PM and NO_X compared to Tier 3 standards and are being phased in starting with smaller engines in 2008 until all but the very largest diesel engines meet NO_X and PM standards in 2015. To meet these standards, engine manufacturers will produce new engines with advanced emissions control technologies similar to those already in place for on-road heavy-duty diesel vehicles. These standards apply to the proposed Project's construction equipment.

Highway Diesel Fuel Rule (2010)

With this rule, EPA set sulfur limitations for on-road diesel fuel to 15 parts per million starting June 1, 2006.

Emission Standards for On-Road Trucks (2010)

To reduce emissions from on-road, heavy-duty diesel trucks, EPA established a series of cleaner emission standards for new engines starting in 1988. These emission standards regulations have been revised over time, and the latest effective regulation, the 2010 Heavy-Duty Highway Rule, provides for reductions in PM, NO_X, and non-methane hydrocarbon emissions that were phased in during the model years 2007 through 2010.

California Optional Low NO_X Standards (2014)

Under this project, manufacturers may choose to certify their engines to three optional NO_X emission standards: 0.10, 0.05 or 0.02 g/bhp·hr.

State Regulations and Agreements

California Clean Air Act (1998)

In California, CARB is designated as the responsible agency for all air quality regulations. CARB, which became part of the California Environmental Protection Agency (CalEPA) in 1991, is responsible for implementing the requirements of the federal CAA, regulating emissions from motor vehicles and consumer products, and implementing the California Clean Air Act of 1988 (CCAA). The CCAA outlines a program to attain the CAAQS for O_3, NO_2, SO_2, and CO by the earliest practical date. Because the CAAQS are often more stringent than the NAAQS, attainment of these more stringent CAAQS requires greater emission reductions than what is required to show attainment of the NAAQS. Similar to the federal system, the State requirements and compliance dates are based on the severity of the ambient air quality standard violation within a region.

Assembly Bill 1807 – Air Toxics Program (1983)

In 1983, Assembly Bill (AB) 1807 established California's Air Toxics Program, a two-phased program for the identification and control of air toxics. During the first phase (identification), CARB and the Office of Environmental Health Hazard Assessment (OEHHA) prepare draft reports on exposure assessment and health assessment. The draft reports are distributed for public review and comment. The reports are then submitted to the independent scientific review panel, which reviews the reports for scientific accuracy and submits its findings to CARB. At a public hearing, the CARB Board decides whether to list the substance as a TAC.

Heavy-Duty In-Use Vehicle Regulation (2008 and 2010 Statewide Truck and Bus Regulation)

In December 2008, CARB adopted its Truck and Bus Regulation, which places requirements on in-use heavy-duty vehicles (HDVs) operating throughout the state. Under the Truck and Bus Regulation, existing HDVs are required to be replaced with HDVs meeting the latest NO_X and PM Best Available Control Technology (BACT). By January 1, 2021, all model year 2007 trucks are required to meet NO_X and PM BACT (i.e., 2010+ EPA Engine Standards). Model year 2008 and 2009 HDVs must be replaced with 2010+ engines by January 1, 2022, and January 1, 2023, respectively. Amended in 2010, the regulation provides more time for fleets to comply. The amended regulation requires installation of PM retrofits beginning January 1, 2012, and replacement of older trucks starting January 1, 2015. By January 1, 2023, nearly all vehicles would need to have 2010 model year engines or equivalent.

CARB In-Use Off-Road Diesel Vehicle Rule (2010)

In July 2007, CARB adopted a rule that requires owners of off-road mobile equipment powered by diesel engines 25 horsepower or larger to meet the fleet average or BACT requirements for NO_X and PM emissions by March 1 of each year. The rule is structured by fleet size: large, medium, and small. Medium-sized fleets receive deferred compliance, and small fleets are exempt from NO_X requirements and also get deferred compliance. The original Regulation for In-Use Off-Road Diesel Vehicles was adopted in April 2008. CARB subsequently amended the regulation in 2010 to delay the turnover of Tier 1 equipment for meeting the NO_X performance requirements of the regulation, and then to delay overall

implementation of the equipment turnover compliance schedule in response to the economic downturn in 2008 and 2009. For purposes of this analysis, the regulation applies to construction equipment.

California Diesel Fuel Regulations (2004)

In 2004, CARB set limits on the sulfur content of diesel fuel sold in California for use in on-road and off-road motor vehicles. Under this rule, diesel fuel used in motor vehicles, except harbor craft and intrastate locomotives, has been limited to 500 parts per million sulfur since 1993. The sulfur limit was reduced to 15 parts per million beginning September 1, 2006.

Statewide Portable Equipment Registration Program

CARB's Statewide Portable Equipment Registration Program (PERP) establishes a uniform program to regulate portable engines and portable engine–driven equipment units. Once registered in the PERP, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts, if the equipment is located at a single location for no more than 12 months. For purposes of this analysis, much of the construction equipment is subject to PERP registration.

Regional and Local Plans, Programs and Policies

SCAQMD is primarily responsible for planning, implementing, and enforcing federal and State ambient standards within this portion of the SCAB. As part of its planning responsibilities, SCAQMD prepares the AQMP based on the attainment status of the air basins within its jurisdiction. The SCAQMD is also responsible for permitting and controlling stationary source criteria and air toxic pollutants as delegated by EPA.

Through the attainment planning process, SCAQMD develops the SCAQMD Rules and Regulations to regulate sources of air pollution in the SCAB. The applicable SCAQMD rules to the Project are listed below.

SCAQMD Rule 401 – Visible Emissions

This rule prohibits discharge of air contaminants or other material that are as dark or darker in shade as that designated No. 1 on the Ringelmann Chart or that obscure an observer's view.

SCAQMD Rule 402 – Nuisance

This rule prohibits discharge 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.

SCAQMD Rule 403 – Fugitive Dust

The purpose of this rule is to control the amount of PM entrained in the atmosphere from man-made sources of fugitive dust. Fugitive dust particles are composed mainly of soil minerals (e.g. oxides of silicon, aluminum, calcium, and iron), but can also contain sea salt, pollen, spores, tire particles, etc. that

become airborne from activities such as construction, commercial mining, demolition, and soil and wind erosion. Under Rule 403, no person shall conduct active operations without utilizing the applicable best available control measures to minimize fugitive dust emissions. Construction and operation fugitive dust emission sources are subject to this rule, which covers all fugitive dust emissions sources, such as unpaved and paved roads, storage piles, and earthmoving operations.

During project construction, best available control measures identified in the rule would be required to minimize fugitive dust emissions from proposed earth-moving and grading activities. These measures would include site watering as necessary to maintain sufficient soil moisture content. Additional requirements apply to operations on a property with 50 or more acres of disturbed surface area, or for any earth-moving operation with a daily earth-moving or throughput volume of 5,000 cubic yards or more, three times during the most recent 365-day period. These requirements include submittal of a dust control plan, maintaining dust control records, and designating an SCAQMD-certified dust control supervisor.

SCAQMD Rules 1108 and 1108.1 – Cutback Asphalt and Emulsified Asphalt

The purpose of these rules is to limit the emissions from asphalting activities.

SCAQMD Regulation XI – Source Specific Standards

This regulation is composed of several dozen individual rules, most of which are not applicable to the Project. Specific rules that may be applicable include:

Rule 1113 *Architectural Coatings*

This rule limits the VOC contents of paints applied to various surfaces that would be applicable to application of architectural coatings.

Rule 1166 *Volatile Organic Compound Emissions from Decommissioning of Soils*

This rule sets requirements to control emissions from excavating, grading, handling, and treating VOC-contaminated soils that may be encountered during project construction.

SCAQMD Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities

The purpose of this rule is to limit emissions of asbestos, which is a TAC, from demolition/renovation activities. The rule requires SCAQMD to be notified of proposed demolition/renovation activities and to survey these structures for the presence of asbestos-containing materials. The rule also includes notification requirements for any intent to disturb asbestos-containing materials; emission control measures; and asbestos-containing materials removal, handling, and disposal techniques.

5.2.5 Thresholds of Significance

Implementation of the proposed Project would result in a significant adverse environmental impact if any of the scenarios listed below would occur resulting from project implementation. Within each threshold area, specific thresholds of significance are identified under the appropriate federal, state and/or local jurisdictional authority where applicable to the Project. The applicable thresholds are based

on thresholds set by SCAQMD. The proposed Project would produce a significant air quality impact under any of the following circumstances:

Threshold AQ-A *Conflicts with or obstruct implementation of the applicable air quality plan.*

Threshold AQ-B *Violates any air quality standard or contributes substantially to an existing or projected air quality violation.*

SCAQMD Thresholds:

- Project construction or operation emissions exceed any of the SCAQMD daily thresholds of significance in Table 5.2-4.
- Project construction or operation results in offsite ambient air pollutant concentrations that exceed any of the SCAQMD thresholds of significance shown in Table 5.2-4.

Table 5.2-4. SCAQMD CEQA Significance Thresholds

Daily Emission Thresholds		
Air Pollutant	**Construction Threshold (lb./day)**	**Operation Threshold (lb./day)**
Nitrogen Oxide (NO_X)	100	55
Volatile Organic Compounds (VOC)	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_X	150	150
CO	550	550
Ambient Pollutant Concentration Thresholds		
Air Pollutant	**Ambient Concentration Threshold**	
NO_2 1-hour average 1-hour average Annual average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (339 µg/m^3) (State) 0.100 ppm (188 µg/m^3)[b] (Federal) 0.03 ppm (57 µg/m^3) (State)	
PM_{10} 24-hour average 24-hour average Annual average	 10.4 µg/m^3 (construction) 2.5 µg/m^3 (operation) 1.0 µg/m^3	
$PM_{2.5}$ 24-hour average	 10.4 µg/m^3 (construction) 2.5 µg/m^3 (operation)	

SO_2 1-hour average 24-hour average	 0.25 ppm (state) & 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (23,000 µg/m^3) (State) and 35 ppm (federal) 9.0 ppm (10,000 µg/m^3) (State/Federal)
Toxic Air Contaminants (TAC) and Odor Thresholds	
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment)
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402
Cumulative Threshold	
Criteria Pollutants	Cumulative thresholds are the same as the project-level thresholds, above.
Health Impacts	Cumulative thresholds are the same as the project-level thresholds, above, excepting the Hazard Index threshold, which is 3.0
Notes: Lb/day – pounds per day ppm – parts per million SP – service population = residential population + employment population TACs – toxic air contaminants µg/m3 – micrograms per cubed meter Source: Air Quality and Greenhouse Gas Analysis (iLanco, 2015).	

Threshold AQ-C *Results 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).*

Threshold AQ-D *Exposes sensitive receptors to substantial pollutant concentrations.*

Applicable Threshold:

- Project emissions expose the public to significant levels of TACs.

Threshold AQ-E *Creates objectionable odors affecting a substantial number of people.*

5.2.6 Evaluation of Impacts

5.2.6.1 Methodology

Proposed Land Use and Future Development

The proposed Project would indirectly result in a variety of construction and operational activities associated with future development that may affect air quality in the region. The analysis evaluates air quality impacts from reasonably foreseeable construction and operational activities although the timing and specific details of future development is not available now. Reasonable assumptions were made to enable a general evaluation of potential air quality impacts. Future quantitative analysis may be required to ensure future implementing development project's specific actions are consistent with the analysis and determinations made in this EIR. The following land uses and development targets outlined in the ELSPA No. 11 were utilized for the analysis:

- Low-rise apartment: 495 dwelling units by 2022 and 1,050 dwelling units by 2040;
- Single-family housing: 2,420 dwelling units by 2022 and 2,950 dwelling units by 2040;
- Commercial/light industrial/retail space: 73,500 square feet by 2022 and 458,000 square feet by 2040;
- Restaurant space: 9,000 square feet by 2022 and 67,500 square feet by 2040;
- Golf club: continuation of existing 169 acres;
- Hotel space: 90 rooms by 2022 and 540 rooms by 2040;
- Open space: 800 acres by 2022 and no change thereafter;
- Sports arena: 100 acres by 2022 and no change thereafter;
- Active recreation space: 523 acres by 2022 and 630 acres by 2040 (inclusive of the Lake Elsinore Motorsports Park);
- City park: 5.5 acres by 2022 and no change thereafter;
- The paving/widening of Cereal Street, Lucerne Street, and Malaga/Sylvester Road;
- Improvements to the existing Lake berm; and
- Skylark Airport.

Construction Impacts

Evaluation of construction impacts is based on daily emissions and as such requires specific information pertaining to each proposed construction element as well as the potential overlap of construction elements. Due to the programmatic nature of the proposed Project, air quality impacts from proposed construction were analyzed qualitatively to avoid speculation.

Operational Impacts

Baseline Emissions

The California Emissions Estimator Model (CalEEMod), version 2016.3.1, was used to quantify baseline emissions as described above. CalEEMod is approved by the SCAQMD, the regulatory authority for projects with air quality considerations in the City. CalEEMod defaults were used for all aspects of the

baseline land use. Skylark Airport emissions were calculated outside of CalEEMod, using activity provided by Skylark Airport and emission factors from the 2016 AQMP.

Proposed Project Emissions

Project operational emissions were estimated for the interim year 2022 and the anticipated build-out year 2040. CalEEMod was also used to quantify emissions from anticipated operational activities. CalEEMod quantifies criteria pollutant emissions for the following source types, based on land use designations and size parameters:

- Mobile sources such as residential/visitor vehicles;
- Energy use such as natural gas use; and
- Area sources such as architectural coating, use of consumer products, hearth, and landscaping.

The analysis of air quality impacts is based on a comparison of the proposed Project during each milestone year to the baseline existing conditions. Baseline emissions were subtracted from proposed Project emissions and the incremental emissions were compared to SCAQMD's peak day regional emission thresholds. Skylark Airport emissions were calculated outside of CalEEMod, using activity provided by Skylark Airport and emission factors from the 2016 AQMP.

Localized Impacts – Ambient Air and Health Risk Assessment (HRA)

Localized ambient air, cancer risk, and health impact analyses are sensitive to the geographic distribution of emission sources and nearby sensitive receptors. Given the programmatic nature of the proposed Project, air dispersion modeling to quantify localized impacts from future activities is not possible as it requires project-specific information regarding source and receptor geometries and locations; therefore, ambient air and health impacts were considered qualitatively by considering proposed land uses in relation to existing sensitive receptor locations surrounding the Project vicinity.

Threshold AQ-A *Conflicts with or obstruct implementation of the applicable air quality plan.*

Air Quality Management Plan

Construction and operation of the proposed Project would produce emissions of nonattainment pollutants primarily from diesel combustion equipment and fugitive dust during construction and from on-road automobiles during operation.

The AQMP proposes emission-reduction measures that are designed to bring the SCAB into attainment of the CAAQS and NAAQS. Because AQMP attainment strategies include mobile source control measures and clean fuel projects that are enforced at the state and federal levels on engine manufacturers and petroleum refiners and retailers, proposed Project activities would comply with these control measures. SCAQMD also adopts AQMP control measures into the SCAQMD rules and regulations, which are then used to regulate sources of air pollution in the SCAB. Compliance with these requirements would further ensure that the proposed Project's activities would not obstruct implementation of the AQMP.

Growth projections from general city plans are provided to the SCAG, which develops regional growth forecasts. SCAG's regional growth forecasts are then used to develop future air quality forecasts for the AQMP. Therefore, developments consistent with the growth projections in the City's General Plan are consistent with the AQMP. The proposed Project would be consistent with growth projections of the General Plan as detailed in the East Lake Specific Plan, Consistency with the General Plan and Zoning Ordinance, Appendix A; and therefore, consistent with the AQMP. ***No impact would occur and no mitigation is required***.

Threshold AQ-B *Violates any air quality standard or contributes substantially to an existing or projected air quality violation.*

Threshold AQ-D Exposes sensitive receptors to substantial pollutant concentrations.

5.2.6.2 Construction Criteria Pollutant Emissions

Future construction activities at the Project site could potentially lead to a violation in SCAQMD air quality emission standards as described above in Table 5.2-4. Construction emissions could also impact sensitive receptors located near a future construction site in the Project vicinity. Sensitive receptors within the Project vicinity are identified in Section 5.2.3, Existing Conditions, Sensitive Receptors.

Quantitative analysis of construction emissions requires specific information pertaining to each proposed construction element as well as the understanding of overlapping construction elements such as types of equipment and construction schedules. Quantitative evaluation of localized construction impacts also requires well-defined emissions as well as a well-defined geographic distribution of emission sources and nearby sensitive receptors. Due to the programmatic nature of the proposed Project, data beyond proposed land use type and associated area or dwelling units is not currently available. Therefore, indirect air quality impacts associated with future construction at the Project site are discussed qualitatively in this section, to avoid speculation.

Construction activities would include the use of off-road construction equipment, on-road trucks, and worker vehicles. These sources would primarily use diesel fuel and would generate combustive emissions in the form of VOCs, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. In addition, off-road construction equipment traveling over unpaved surfaces and performing earthmoving activities such as site clearing or grading would generate fugitive dust emissions in the form of PM_{10} and $PM_{2.5}$. Worker commuter vehicles also would generate exhaust and paved road dust emissions. Finally, paving and architectural coating activities would generate VOC emissions.

Combustive and fugitive dust emissions associated with construction activities would result mainly from equipment utilization, construction equipment engines, and overlap of construction elements. EPA regulates engine emissions for new engines and CARB regulates engine emissions for in-use engines. Compliance with EPA and CARB regulations is mandated and occurs at the level of the engine manufacturer and construction contractor. In addition, the SCAQMD requires that construction projects comply with SCAQMD Rule 403, described in Section 5.2.4, Regulatory Setting. Rule 403 regulates

fugitive dust emissions and requires that all construction projects adhere to stipulated construction best management practices and that large construction projects prepare dust control plans.

Future development at the Project site would be required to comply with Federal, State and local laws and regulations to reduce emissions and control fugitive dust during construction. However, given the amount of developable land, possibility of construction activity overlap and potential for such activities to be within proximity of sensitive receptors; VOCs, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ emissions could reach levels above SCAQMD emissions standards and/or have temporary impacts on sensitive receptors. Mitigation measure **MM AQ-1** and **MM AQ-2** would require each future implementing development project to reduce and/or minimize such air quality impacts; however, ***it cannot be guaranteed at this time that such measures would reduce impacts to less than significant. Therefore, impacts would be potentially significant and unavoidable.***

Impact AQ-1 *Individual and/or overlapping construction activity associated with future implementing development projects in the East Lake Specific Plan area may generate VOCs, NO_X, CO, SO_X, PM_{10}, and/or $PM_{2.5}$ emissions at levels above SCAQMD emissions standards and/or have temporary impacts on sensitive receptors.*

5.2.6.3 Operation Criteria Pollutant Emissions

Operational emissions, associated with the proposed Project land uses and subsequent development, would occur from the use of mobile vehicles by residents, employees and visitors; area sources such as hearths, consumer products, architectural coatings, and landscape equipment; and the use of electricity and natural gas.

Table 5.2-5 summarizes the peak day emissions associated with operation of the proposed Project and shows that all criteria pollutant emissions, except SO_X, would exceed SCAQMD thresholds in the 2022 milestone and 2040 buildout years. The table shows that emissions would result mostly from mobile vehicles associated with residential, visitor, and employee travel. The analysis presented in Table 5.2-5 represents a worst-case scenario as it does not discount the increased emissions that would result from ambient traffic growth and future development that could occur without the proposed Project under the existing approved specific plan; nonetheless, ***the proposed Project would result in significant unavoidable increased criteria pollutant emissions per SCAQMD thresholds***.

Table 5.2-5. Peak Day Operational Emissions

Source Category	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)	NO_X (lb/day)	SO_X (lb/day)	CO (lb/day)	VOC (lb/day)
Baseline 2016						
Area Emissions	95	95	27	2	732	441
Energy Emissions	3	3	38	0	28	4
Mobile Emissions	415	117	910	6	2,367	209
Skylark Airport Emissions	28	4	7	1	1,309	8
CEQA Baseline	541	219	982	8	4,436	663
Operating Year 2022						
Area Emissions	224	224	63	4	1,724	1,064
Energy Emissions	7	7	91	1	67	10
Mobile Emissions	933	256	1,412	11	3,031	273
Skylark Airport Emissions	28	4	7	1	1,309	8
Total 2022	1,192	490	1,574	16	6,131	1,354
Project Minus CEQA Baseline	650	271	591	8	1,695	692
Significance Threshold	150	55	55	150	550	55
Operating Year 2040						
Area Emissions	280	280	79	5	2,151	1,330
Energy Emissions	9	9	120	1	90	13
Mobile Emissions	1,284	347	1,410	12	2,096	188
Skylark Airport Emissions	28	4	7	1	1,309	8
Total 2040	1,601	639	1,616	18	5,646	1,540
Project Minus CEQA Baseline	1,059	420	634	10	1,210	877
Significance Threshold	150	55	55	150	550	55

Notes:
Emissions might not add precisely due to rounding.
Emissions reflect City CAP measures E-1.3 and E-4.2.
The following emissions were calculated using CalEEMod:
Area emissions reflect emissions associated with the use of hearths, consumer products, architectural coatings, and landscape equipment.
Energy emissions reflect emissions associated with energy use of electricity and natural gas.
Mobile emissions reflect emissions associated with mobile vehicle exhaust and entrained road dust.
Skylark Airport emissions were calculated outside of CalEEMod, using activity provided by Skylark and emission factors from the 2016 AQMP.
Source: Air Quality and Greenhouse Gas Analysis (iLanco, 2017)

Operational activities can also impact sensitive receptors located near the ELSP proposed planning areas. Sensitive receptors are identified in Section 5.2.3. Quantitative evaluation of localized operational impacts requires well-defined emissions as well as a well-defined geographic distribution of emission sources and nearby sensitive receptors. Given the programmatic nature of the proposed Project, this level of detail is not currently available. Therefore, indirect air quality impacts associated with the proposed Project resulting from future operations at the Project site are discussed qualitatively in order to avoid speculation.

Residential land uses, such as those existing/proposed in proposed Planning Areas 1 and 4, would not typically impact nearby sensitive receptors because most emissions associated with residential land uses are mobile in nature and tend to disperse over road networks. Nevertheless, future projects that increase on-road traffic may also have the potential to contribute to CO "hot spots". A CO hot spot is an ambient CO concentration associated with traffic emissions that exceeds an ambient air quality standard in close proximity to a heavily-traveled or congested intersection or roadway. To evaluate whether the proposed Project would contribute to CO hot spots at Project-affected intersections and roadways, a qualitative evaluation was conducted. As discussed in the Transportation and Circulation Section 5.14, several roadways would experience an increase in traffic with buildout of the Project site.

In its 2003 AQMP, the SCAQMD conducted a CO hot-spot evaluation for four worst-case intersections within the SCAB as part of the attainment demonstration for the NAAQS. Although none of the four intersections are within the sphere of influence of the proposed Project, the analysis can nevertheless be used to infer the likelihood for CO hot spots to occur near Project-affected intersections and roadways.

The four intersections chosen by SCAQMD for the 2003 AQMP analysis included:

- Long Beach Boulevard and Imperial Highway, near the Lynwood ambient monitoring station, where the highest 8-hour CO concentrations within the SCAB were recorded;
- Wilshire Boulevard and Veteran Avenue, which was identified as the most congested intersection in Los Angeles County, with traffic volumes of more than 100,000 vehicles per day;
- Highland Avenue and Sunset Boulevard, which was identified as one of the most congested intersections in Los Angeles County; and
- Century Boulevard and La Cienega Boulevard, which was identified as one of the most congested intersections in Los Angeles County.

The SCAQMD's evaluation demonstrated that, for these worst intersections, no CO hot spot would result. The SCAQMD analysis represents a worst-case scenario; intersections with less traffic volume would experience lower impacts. As discussed in the Traffic Analysis, intersections within the Project study area would experience less volume and congestion than the four SCAQMD study intersections. ***Therefore, the proposed Project would not contribute to a CO hot spot***.

In general, the proposed Project seeks to promote new development and accommodate existing active sporting, recreational and supporting land uses. Non-residential land uses, such as active recreation land uses identified in the proposed Project, would be developed in planning areas that are generally located away from existing and proposed residential developments. Figure 3-4 Proposed Land Use Plan shows that active recreation areas would be located in proposed Planning Area 6 and the western portion of proposed Planning Area 2, which are separated from existing and planned residential developments by preservation and golf course areas. Active recreation uses would also be permitted in proposed Planning Area 3, which may require additional quantitative analyses per mitigation measure **MM AQ-2** and **MM AQ-5** to evaluate impacts associated with project-specific impacts to sensitive receptors to the south.

Mixed use land uses in proposed Planning Areas 2 and 8 may include sensitive receptors within proximity of light industrial or commercial sources. Future development in these areas may also require additional quantitative analyses per mitigation measure **MM AQ-2** and **MM AQ-5** to evaluate impacts associated with project-specific impacts to sensitive receptors. Proposed Planning Areas 1, 4, 5 and 7 would not be altered as they are either currently preserved as open space, being constructed under existing entitlements, or developed.

In particular, the Lake Elsinore Motorsports Park (Lucas Oil Off-Road Racing), currently operating in proposed Planning Area 2, would be permitted to relocate to proposed Planning Area 6, which would be separated from residential/sensitive receptors by preservation area, parks and the golf course. Skylark Airport would be permitted to continue operations in the current location or would be permitted to continue operations after relocating to the Airport Overlay zone identified on Figure 3-4 Proposed Land Use Plan.

Impacts to sensitive receptors are typically evaluated in terms of exposure to TACs. Exposure to TACs such as diesel exhaust may occur during construction activities, which would be temporary. Operation of the proposed Project would be primarily residential and recreational, would not involve heavy industrial processes associated with TACs or land uses associated with heavy diesel transportation. It should be noted, however, that exposure to TACs is relevant on a localized basis and although quantitative exposure to TACs requires a well-defined geographical distribution of emission sources and nearby sensitive receptors, in general, localized TAC impacts tend to decrease with distance from the source to the sensitive receptor.

An evaluation of targeted air quality reduction and minimization measures would be speculative at the programmatic level analyzed for the proposed Project land use changes. Specific measures and potential impacts following implementation of such measures would be required as information about future implementing development projects becomes available. Mitigation measure **MM AQ-2** and **MM AQ-5** would require each future implementing development project to reduce and/or minimize such air quality impacts; however, ***it cannot be guaranteed at this time that such measures would reduce impacts to less than significant. Therefore, impacts would be potentially significant and unavoidable.***

Impact AQ-2 *Operations in the East Lake Specific Plan area at Year 2022 Phase I completion and Year 2040 Buildout completion would result in a significant increase in VOCs, NO_X, CO, PM_{10}, and/or $PM_{2.5}$ emissions at levels above SCAQMD emissions standards. Pending ultimate siting of future development and nature of activities, increased criteria pollutants could have negative impacts on sensitive receptors if not properly mitigated.*

Threshold AQ-E *Creates objectionable odors affecting a substantial number of people.*

Objectionable Odors

Future development at the Project site would generate air pollutants due to the combustion of diesel fuel and asphalting activities during construction. Some individuals may sense that diesel combustion and evaporative emissions are objectionable, although there is no approved method of quantifying the odor impacts of these emissions to the public. In addition, SCAQMD Rules 1108 and 1108.1 limit the amount of VOCs in cutback asphalt and emulsified asphalt products sold within the air district, further reducing the potential for odor impacts. Emissions associated with construction activities would be dispersed over the construction site, be short-term and transient; ***therefore, potential impacts would be less than significant and no mitigation is required***.

Operation of the proposed Project would be primarily residential and recreational, would not involve agriculture, heavy industrial processes or other uses identified in SCAQMD's 1993 CEQA Handbook as having the potential for substantial odors; ***therefore, potential impacts would be less than significant and no mitigation is required***.

5.2.7 General Plan Consistency Impacts

The following table analyzes consistency with General Plan Policies related to air quality.

Table 5.2-6. Air Quality General Plan Consistency Analysis

Goal/Policy #	Goal/Policy Text	Consistency Analysis
Goal PS 1	Continue to coordinate with the Air Quality Management District and the City's Building Department to reduce the amount of fugitive dust that is emitted into the atmosphere from unpaved areas, parking lots, and construction sites.	**CONSISTENT.** Air quality impacts resulting from construction of the Project and ongoing operations are evaluated in the Project's EIR and air quality analysis report. The EIR and air quality analysis identify mitigation measures that reduce fugitive dust to the extent feasible.
PS 1.1	Continue to implement requirements identified in the National Pollutant Discharge Elimination System (NPDES).	**CONSISTENT.** All future development in the Project site would be fully compliant with the requirements of the NPDES.
Goal PS 2	Work with regional and state governments to develop effective mitigation measures to improve air quality.	**CONSISTENT.** The City has worked with regional and state agencies in the development of its Climate Action Plan. Development projects in the Project site shall comply with the CAP strategies and measures.

5.2.8 Cumulative Impacts

Threshold AQ-C *Results 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).*

Cumulative Emissions

Cumulative impacts are evaluated based on an individual project's contribution to air quality issues in consideration with the collective impacts of other projects in the region. SCAQMD has developed a policy to address the cumulative impacts of CEQA projects. The policy holds the cumulative threshold to be the same as the project-level threshold and indicates that project impacts are cumulatively considerable if they exceed the project-specific air quality significance thresholds.

SCAQMD reasons that impacts to most air quality impacts are local in nature, no more than 1 mile, whereas impacts from exposures to TACs decline by approximately 90 percent at 300 to 500 feet from the emissions source. In accordance with SCAQMD's policy, this analysis considers cumulatively relevant projects to be within a geographic scope of 1 mile from the proposed Project for criteria air pollutants and 500 feet for TACs. The following three projects would be located within 1 mile and two would be located within 500 feet of the Project site.

Table 5.2-7. Cumulative Projects List

Related Project	Location	Description
Diamond Stadium Indoor Sports Park	Northwest corner of Pete Lehr Drive and Diamond Drive. North of Planning Area 1 and west of Planning Area 7 (less than 500 feet distance from Planning Area 1)	Development of a 600,000 square-foot, split level, indoor sporting arena on 19-23 acres. Construction is expected to begin in early 2017 and to be completed by spring of 2018. Operation is expected in Spring 2018.
Artisan Alley	Northeast corner of Diamond Drive and Malaga Road (less than 500 feet distance from Planning Area 1)	Development of a 95,000 square-foot commercial, shopping and entertainment. Would include craft breweries and restaurants and a 130-room hotel. Construction is expected to begin in 2017 and complete in 2018. Operation is expected in 2018.
South Shore Phase I and II, Spyglass Ranch	North of Camino Del Norte and Main Street (1 mile north of Planning Area 8)	Development of 1,600 single-family dwelling units. Construction and operational information was not available.
Source: List of related projects was obtained from the Traffic Analysis (Linscott, Law & Greenspan Engineers, 2017).		

The ambient air quality of the SCAB provides an indication of the cumulative air quality impacts in the region. The proposed Project is in the SCAB, which is currently in nonattainment with Federal and/or State standards for ozone, PM_{10}, and $PM_{2.5}$. Air quality in the SCAB has improved in the last several decades. The improvement in air quality can be attributed to emission reduction from industrial sources, introduction of low emission fuels used in on-road motor vehicles (e.g., low sulfur fuels, reformulated gasoline, LCFS, etc.), and implementation of the AQMPs, which develop emission reduction strategies that are subsequently promulgated as enforceable regulations.

Health impacts have also declined in the SCAB because of federal, state and local regulations. SCAQMD's 2015 MATES IV study reported a SCAB-wide decrease of 57% from the previous MATES III study, despite continuing population growth. According to MATES IV, the background cancer risk in the Project vicinity is between 270 and 350 per million.

Contributions of Cumulatively Relevant Projects

Cumulatively relevant projects, identified in Table 5.2-7, could contribute to an existing or projected air quality exceedance because the SCAB is currently in nonattainment for ozone, PM_{10}, and $PM_{2.5}$.

Contributions of the Proposed Project

The proposed Project would contribute to impacts from cumulatively related projects and to the existing pollution burden in SCAB. Per SCAQMD's policy, impacts from the proposed Project would be cumulatively considerable if they exceed the project-specific air quality significance thresholds in Table 5.2-1. As discussed above, construction impacts were not quantified for the proposed Project because evaluation of construction impacts requires specific information pertaining to each proposed construction element as well as the potential overlap of construction elements. Due to the programmatic nature of the proposed Project, data beyond the proposed land use type and associated acreage or dwelling units is not yet available. In order to avoid speculation, air quality impacts from proposed construction were evaluated qualitatively. Notwithstanding, further analysis may be necessary to evaluate construction impacts associated with future project-specific actions per mitigation measures **MM AQ-1** and **MM AQ-2**; however, ***it cannot be guaranteed at this time that such measures would reduce impacts to less than significant. Therefore, impacts would be potentially significant and unavoidable.***

Operational emissions associated with the proposed Project are presented in Table 5.2-5. The table shows that criteria pollutant emissions would exceed significance thresholds. ***Operational emissions would therefore result in a cumulatively considerable contribution to impacts from related projects and to the existing pollution burden in the SCAB***. Nonetheless, mitigation measures **MM AQ-2** through **MM AQ-5** would be required to reduce emissions and minimize impacts.

5.2.9 Impacts and Mitigation Measures

Impact AQ-1 *Individual and/or overlapping construction activity associated with future implementing development projects in the East Lake Specific Plan area may generate VOCs, NO_X, CO, SO_X, PM_{10}, and/or $PM_{2.5}$ emissions at levels above SCAQMD emissions standards and/or have temporary impacts on sensitive receptors.*

MM AQ-1 Prior to approval of each new implementing development project within the East Lake Specific Plan, the applicant/developer shall demonstrate avoidance, to the extent possible, of significant impacts on air quality from construction activities through implementation of regulatory requirements and best management practices. Where project-specific analysis determines that air quality standards may be exceeded, mitigation measures that shall reduce the emissions to within air quality standards or to the greatest extent practicable shall be implemented. Project-specific analysis may be provided in the form of an air quality technical report, study, or memorandum. The mitigation measures shall include but not be limited to:

Dust Control

1. Apply soil stabilizers according to manufacturers' specifications to inactive areas (previously graded areas inactive for ten days or more).
2. Prepare a high wind dust control plan and implement plan elements and terminate soil disturbance when winds (as instantaneous gust(s)) exceed 25 mph.
3. Stabilize previously disturbed areas if subsequent construction is delayed.
4. Water actively graded surfaces 3 times per day.
5. Cover all stock piles with tarps if left undisturbed for more than 72 hours.
6. Replace ground cover in disturbed areas as soon as feasible.
7. Provide water spray during loading and unloading of earthen materials.
8. Install wheel washers, shaker plates and gravel where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site each trip.
9. All streets shall be swept at least once a day using SCAQMD Rule 1186 1186.1 certified street sweepers or roadway washing trucks if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water).
10. All trucks hauling dirt, sand, soil, or other loose materials are to be covered.
11. Appoint a construction relations officer to act as a community liaison concerning onsite construction activity including resolution of issues related to PM_{10} generation.

Exhaust Emissions

12. Require 90-day low-NO_X tune-ups for off-road equipment.
13. Limit allowable idling to 5 minutes for trucks and heavy equipment.

14. Utilize equipment whose engines are equipped with diesel oxidation catalysts if available.
15. Utilize diesel particulate filter on heavy equipment where feasible.
16. Utilize Tier 4 off-road construction equipment. If Tier 4 off-road construction equipment is not available, require alternative fueled off-road equipment.
17. Configure construction parking to minimize traffic interference.
18. Use electricity from power poles rather than temporary diesel or gasoline power generators where connections are available.
19. Provide temporary traffic controls when activities encroach on active roadways, such as a flag person, during all phases of construction to maintain smooth traffic flow.
20. Schedule construction activities that affect traffic flow on the arterial system to off-peak hours to the extent practicable.
21. Reroute construction trucks away from congested streets or sensitive receptor areas.
22. Provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site.
23. Require the use of 2010 model year diesel haul trucks that conform to 2010 EPA truck standards or newer diesel haul trucks (e.g., material delivery trucks and soil import/export), and if 2010 model year or newer diesel haul trucks cannot be obtained, the City shall require use of trucks that meet EPA 2007 model year NOx emissions requirements. Example verification includes making this provision a part of the construction contractor's bid package, construction contract, or hauling permit.

MM AQ-2 Prior to approval of each new implementing development project within the East Lake Specific Plan that proposes new sensitive receptors and/or would be within 500 feet of sensitive receptors shall conduct an evaluation of human health risks and/or Localized Significance Threshold (LST) analysis to identify and reduce any potential health risks from construction and/or operation impacts to sensitive receptors. Sensitive receptors include residential, schools, day care facilities, congregate care facilities, hospitals, or other places of long-term residency. The thresholds to determine exposure to substantial pollution concentrations are: A Maximum Individual Cancer Risk (MICR) of greater than ten (10) in one million. For non-cancer risks, the threshold is a hazard index value greater than one (1). LST thresholds shall be those recommended by SCAQMD. LST analysis may be provided in the form of an air quality technical report, study, or memorandum. If the analysis demonstrates LST thresholds will not be exceeded, no additional mitigation shall be required. If the analysis demonstrates exceedance during temporary construction activities or long-term operations, additional mitigation measures shall be required through conditions of approval to reduce impacts to below thresholds. Additional measures may include but not be limited to the use of one or more of the following: reduced construction schedules, low-emitting construction

equipment, particulate filters, temporary or permanent use of setbacks, screening, buffers and building ventilation filters.

Impact AQ-2 *Operations in the East Lake Specific Plan area at Year 2022 Phase I completion and Year 2040 Buildout completion would result in a significant increase in VOCs, NO_X, CO, PM_{10}, and/or $PM_{2.5}$ emissions at levels above SCAQMD emissions standards. Pending ultimate siting of future development and nature of activities, increased criteria pollutants could have negative impacts on sensitive receptors if not properly mitigated.*

MM AQ-3 Prior to issuance of a building permit for new implementing development projects within the East Lake Specific Plan, the applicant shall demonstrate that the following measures to conserve energy have been incorporated into building design:

1. Submit plans demonstrating that any new residential buildings ~~shall exceed those California Title 24 energy efficiency requirements in effect at the time of building permit issuance.~~ achieve 15% energy efficiency above 2016 Title 24, Part 6 for projects after 2018 and 25% energy efficiency above 2016 Title 24 for projects after 2020.

~~1.~~2. Submit plans demonstrating that any new commercial buildings shall include the following green building design features:
   a. ~~Utilize~~ Low-E and ENERGY STAR windows~~ where feasible~~;
   b. H~~Install h~~igh-efficiency lighting systems and incorporate advanced lighting controls, such as auto shut-offs, timers, and motion sensors;
   c. H~~Install h~~igh R-value wall and ceiling insulation; and,
   d. U~~Incorporate u~~se of ~~low pressure sodium and/or~~ fluorescent lighting and/or LED lighting~~, where practicable~~.

~~2.~~3. Require acquisition of new ENERGY STAR qualified appliances and equipment.

~~3.~~4. Implement passive solar design strategies in new construction. Examples of passive solar strategies include orienting building to enhance sun access, designing narrow structures, and incorporating skylights and atria.

MM AQ-4 Prior to issuance of a building permit for new commercial, multi-family residential and mixed-use implementing development projects within the East Lake Specific Plan, the applicant shall demonstrate on the landscaping plan that the following water and energy conservation measures have been incorporated:

1. ~~Participate~~Participation in green waste collection and recycling programs for landscape maintenance with designated green waste collection and storage areas and~~/or identification of potential~~ use of vendors that provide green waste collection and recycling services during operation of future development projects;

2. ~~Require u~~Use of landscaping with low water requirements in accordance with the City of Lake Elsinore's Water Efficient Landscape Requirements Ordinance (Lake Elsinore Municipal Code Chapter 19.08);
3. Planting of trees or vegetation to shade buildings and thus reduce heating/cooling demand.

MM AQ-5 Prior to issuance of a building permit for permit for new commercial, multi-family residential and mixed-use implementing development projects within the East Lake Specific Plan, the applicant shall provide an exhibit demonstrating that the following measures have been incorporated to reduce reliance on single occupancy vehicles subject to City Engineer review and approval. These provisions shall be made a 'Condition of Approval' on implementing development applications:

1. Provide one or more secure dedicated shuttle drop-off point(s) and/or bus stop(s) at new Action Sports, Tourism, Commercial and Recreation facilities with connections to Malaga Drive, Lucerne Street or Cereal Street. Such areas should provide seating, signage, shelters and trash receptacles where spatially feasible.
2. Provide safe, appropriately lighted, and attractively landscaped physical linkages between land uses that encourage bicycling and walking as alternatives to driving through the provision of bike lanes and/or walking paths;
3. Off-street bicycle parking shall be distributed throughout the commercial areas of the East Lake Specific Plan and placed conveniently near building entrances without obstructing pedestrian movement.

5.2.10 Level of Significance after Mitigation

The Project, in conjunction with other related developments projected within the vicinity of the site, would generate increased air emissions. Increased air emissions would result from increased mobile and stationary sources, thereby further hampering the ability to achieve conformance with the SCAQMD air quality significance thresholds. As stated in the analysis above, even with implementation of mitigation measures, indirect impacts associated with future buildout of the proposed Project site would be significant and unavoidable for VOCs, NOX, CO, PM_{10}, and/or $PM_{2.5}$ emissions during the operational phase, and largely attributed to an increase in vehicular traffic. The Project site is also sufficiently large in acreage with enough development potential such that air pollution emissions from overlapping construction activities could potentially exceed SCAQMD significance thresholds. In addition, other Lake Elsinore development would cumulatively contribute to the total area-wide emissions burden. Cumulatively, development of the Project site, in conjunction with other development in the Project vicinity, would continue to exceed SCAQMD thresholds. ***Implementation of the Project would result in significant and unavoidable individual project-related and cumulative impacts to air quality potentially during short-term construction and positively during long-term operational phases.***