## 4.2 AIR QUALITY

This section discusses existing air quality, summarizes existing air quality regulations, and evaluates potential air quality impacts associated with the proposed Ganahl Lumber Project (proposed project). This section summarizes information provided in the *Air Quality & Greenhouse Gas Assessment* (ECORP 2019a) that was prepared for the project. The *Air Quality & Greenhouse Gas Assessment* is included in Appendix B of this Draft Environmental Impact Report (EIR).

### 4.2.1 Scoping Process

The City of San Juan Capistrano (City) received 11 comment letters during the public review period of the Initial Study/Notice of Preparation (IS/NOP). For copies of the IS/NOP comment letters, refer to Appendix A of this EIR.

Three comment letters included comments related to Air Quality. The letter from the South Coast Air Quality Management District (SCAQMD) received on June 4, 2019, recommends the use of SCAQMD's Air Quality Handbook, the latest version of CalEEMod, and SCAQMD's regional and localized significance thresholds in the air quality analysis; recommends the preparation of a health risk assessment (HRA) if the proposed project would generate or attract vehicular trips, especially heavy-duty diesel-fueled vehicles; and suggests potential mitigation measures that could be applied if potentially significant air quality impacts are identified. The letter from Tom and Jeannie Gronewald received on June 6, 2019, suggests that ground improvements for the proposed vehicle storage area should be incorporated in project design and implementation in order to control dust. The letter from the City of Dana Point received on June 28, 2019, raises concerns regarding potential air quality impacts on visitors to Creekside Park and the County Bike Trail in Dana Point.

### 4.2.2 Methodology

The *Air Quality & Greenhouse Gas Assessment* (ECORP Consulting, Inc., 2019) was prepared for the proposed project. Air quality impacts were assessed in accordance with methodologies recommended by CARB and the SCAQMD. The latest version of the California Emissions Estimator Model (CalEEMod) (v2016.3.2), which was released by the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air quality districts on October 17, 2017, was used to determine construction and operational air quality emissions of the proposed project. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were primarily calculated using CalEEMod model defaults for Orange County. However, the length of construction is based on estimates provided by the project Applicant; construction of the proposed project is anticipated to start in 2020 and is estimated to last 24 months. Operational air pollutant emissions were based on the project site plans and the estimated traffic trip generation rates from the *Traffic Impact Analysis for the Ganahl Lumber Development Project, San Juan Capistrano, Orange County, California* (TIA) (LSA, 2019) (Appendix J). Additionally, estimated emissions account for the use of 12 diesel-powered material handing vehicles (forklifts) on site, daily. Projected emissions associated with the proposed project were compared to the existing baseline, which includes a vehicle storage lot containing 752 spaces in central portion of the project site.

### 4.2.3 Existing Environmental Setting

San Juan Capistrano, which includes the project site, is within the 6,745-square-mile (sq mi) South Coast Air Basin (Basin), which is under SCAQMD jurisdiction. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The air quality in a region is influenced by many factors, including topography, meteorology, and existing air pollutant sources. Ambient air quality is typically characterized by climate conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The Basin is subject to a combination of topographical and climatic factors that reduce the potential for high levels of regional and local air pollutants. The following discussion describes the characteristics of the Basin and local air quality conditions in the vicinity of the project site.

#### 4.2.3.1 Regional Climate

The Basin is on a coastal plain, bounded by the Pacific Ocean on the southwest, with high mountains forming the remainder of the perimeter. The Basin is part of a semi-permanent high-pressure zone in the eastern Pacific, which results in a mild climate with cool sea breezes. Less frequently, the Basin has periods of extremely hot weather, winter storms, and Santa Ana winds. The annual average temperatures range from the low 60s to the high 80s, measured in degrees Fahrenheit (°F). Coastal areas have less variability in annual minimum and maximum temperatures as compared to inland areas.

Rainfall in the Basin varies by season and year. Most rainfall occurs between November and 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.

Although the climate of the Basin can be characterized as semi-arid climate, the air near the land surface is typically moist due to the presence of a marine layer, or a shallow layer of sea air. Along the coast, periods of heavy fog are frequent, and low clouds are a characteristic climatic feature. On the Southern California coast, the average annual humidity is 70 percent, while eastern portions of the Basin have an average humidity of 57 percent.

Across the south coastal region, wind patterns are characterized by westerly or southwesterly onshore winds during the day and by easterly or northeasterly breezes at night. Wind speed is higher during the dry summer months as compared to the winter months.

Air stagnation is one of the critical determinants of air quality conditions. Air stagnation can occur in both the morning and evening hours between periods of wind. During the winter and fall, surface high-pressure systems over the Basin can result in very strong, downslope Santa Ana winds. Santa Ana winds normally last for a few days before typical meteorological conditions are reestablished.

In the eastern portion of the Basin, mountain ranges block the eastward transport of pollutants, thereby inhibiting dispersion. The Basin's air quality generally ranges from fair to poor and is similar to air quality in most of coastal Southern California. Overall, the region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions.

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

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

#### 4.2.3.2 Criteria Air Pollutants

Certain air pollutants have been recognized as causing notable health problems and consequential damage to the environment either directly or in reaction with other pollutants due to their presence in elevated concentrations in the atmosphere. Criteria pollutants are regulated through the development of human health-based and/or environmentally based criteria for setting permissible levels. Criteria pollutants, their typical sources, and health effects are discussed below.

- **Carbon Monoxide (CO):** CO is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels (e.g., gasoline or wood). CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, motor vehicles operating at slow speeds are the primary source of CO in the Basin. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections. Health effects of CO exposure include chest pain with exercise and electrocardiograph changes indicative of decreased oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport and competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin. Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (oxygen deficiency) as seen at high altitudes.

- **Sulfur Dioxide ($SO_2$):** $SO_2$ is a colorless, extremely irritating gas or liquid. It enters the atmosphere primarily from the burning of high-sulfur-content fuel oils and coal and from chemical processes at chemical plants and refineries. When $SO_2$ oxidizes in the atmosphere, it forms sulfates ($SO_4$). Collectively, these pollutants are referred to as oxides of sulfur ($SO_X$). A few minutes of exposure to low levels of $SO_2$ can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, an increase in resistance to air flow as well as a reduction in breathing capacity leading to severe breathing difficulties are observed after

acute exposure to $SO_2$. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of $SO_2$.

- **Oxides of Nitrogen ($NO_X$):** $NO_X$ consist of nitric oxide (NO), nitrogen dioxide ($NO_2$) and nitrous oxide ($N_2O$) and are formed when nitrogen ($N_2$) combines with oxygen ($O_2$). Their lifespan in the atmosphere ranges from 1 to 7 days for NO and $NO_2$ and to 170 years for $N_2O$. $NO_X$ are typically created during combustion processes and are major contributors to smog formation and acid deposition. Of the seven types of $NO_X$ compounds, $NO_2$ is the most abundant in the atmosphere. $NO_2$ absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility. Because ambient concentrations of $NO_2$ are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of $NO_2$ than those indicated by regional monitors. An increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to $NO_2$ at levels found in homes with gas stoves that are higher than ambient levels found in Southern California. An increase in resistance to air flow and airway contraction is observed after short-term exposure to $NO_2$ in healthy individuals. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) because they are more susceptible to $NO_2$ effects than healthy individuals.

- **Ozone ($O_3$):** $O_3$ is a highly reactive and unstable gas that is formed when volatile organic compounds (VOCs) and $NO_X$, both of which are byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. $O_3$ concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant. Short-term exposure (lasting for a few hours) to $O_3$ at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Individuals exercising outdoors, children, and people with preexisting lung disease (e.g., asthma and chronic pulmonary lung disease) are the most susceptible to $O_3$ effects.

- **Particulate Matter Less Than 10 Microns in Size ($PM_{10}$):** $PM_{10}$ consists of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. The size of the particles (10 microns or smaller, about 0.0004 inch or less) allows them to easily enter the lungs where they may be deposited, resulting in adverse health effects. $PM_{10}$ also causes visibility reduction. A consistent correlation between elevated ambient coarse particulate matter levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks, and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. The elderly, people with pre-existing respiratory or cardiovascular disease, and children are more susceptible than adults to the effects of high levels of $PM_{10}$.

- **Particulate Matter Less Than 2.5 Microns in Size ($PM_{2.5}$):** $PM_{2.5}$ consists of tiny solid or liquid particles that are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include sulfates formed from $SO_2$ release from power plants and industrial facilities and nitrates formed from $NO_X$ release from power plants, automobiles, and other types of combustion sources. The

chemical composition of fine particles highly depends on location, time of year, and weather conditions. In addition to the health effects of $PM_{10}$, discussed above, daily fluctuations in $PM_{2.5}$ concentration levels have been related to hospital admissions for acute respiratory conditions in children, school and kindergarten absences, decreased lung growth and respiratory volumes in children, and increased medication use in children and adults with asthma. The elderly, people with pre-existing respiratory or cardiovascular disease, and children are more susceptible to the effects of high levels of $PM_{2.5}$.

- **Lead (Pb):** Lead is a heavy metal that is highly persistent in the environment. In the past, the primary source of lead in the air was emissions from vehicles burning leaded gasoline. As a result of the removal of lead from gasoline, there have been no violations at any of the SCAQMD's regular air monitoring stations since 1982. Currently, emissions of lead are largely limited to stationary sources such as lead smelters. Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence. Lead can be stored in the bone from early-age environmental exposure, and elevated lead levels in blood can occur due to a breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland), and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of lead because of their mothers being previously exposed to lead. In adults, increased lead levels are associated with increased blood pressure. Lead poisoning can cause anemia, lethargy, seizures, and death; however, it appears that lead has no direct effect on the respiratory system.

- **Volatile Organic Compounds (VOCs) and Reactive Organic Gases (ROG):** VOCs are hydrocarbon compounds (i.e., any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity (i.e., they do not react at the same speed or do not form $O_3$ to the same extent when exposed to photochemical processes). VOCs often have an odor (e.g., gasoline, alcohol, and the solvents used in paints). Exceptions to the VOC designation include: CO, carbon dioxide ($CO_2$), carbonic acid, metallic carbides or carbonates, and ammonium carbonate. Similar to VOCs, ROGs are also precursors in forming $O_3$ and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROGs and $NO_X$ react in the presence of sunlight. The SCAQMD uses the terms VOC and ROG interchangeably. VOCs and ROGs are considered criteria pollutants since they are a precursor to $O_3$, which is a criteria pollutant. Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, the VOCs and ROGs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

#### 4.2.3.3 Regional Air Quality

As discussed in further detail in Section 4.2.4, Regulatory Setting, the federal government and the State of California have both established health-based ambient air quality standards (AAQS) for the criteria air pollutants. Areas that meet the AAQS are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas.

The California Air Resources Board (CARB) monitors levels of various criteria pollutants at 60 monitoring stations throughout the State. Data collected at these stations are used by CARB and United States Environmental Protection Agency (EPA) to classify air basins as attainment, nonattainment, maintenance, or unclassified, based on air quality data for the most recent 3 calendar years compared with the AAQS. Nonattainment areas are imposed with additional restrictions as required by the EPA. The air quality data are also used to monitor progress in attaining air quality standards.

In 2017, the federal and State AAQS (national ambient air quality standards [NAAQS] and California ambient air quality standards [CAAQS], respectively) were exceeded on 1 or more days for $O_3$, $PM_{10}$, and $PM_{2.5}$ at most monitoring locations. No areas of the Basin exceeded federal or State standards for $NO_x$, $SO_2$, CO, or sulfates. See Table 4.2.A for the status of criteria pollutants in the Basin. For the NAAQS, the Basin is in nonattainment for $O_3$ and $PM_{2.5}$. For the CAAQS, the Basin is in nonattainment for $O_3$, $PM_{2.5}$, and $PM_{10}$.

**Table 4.2.A: Attainment Status of Criteria Pollutants in the South Coast Air Basin**

| Criteria Pollutant | State Designations | Federal Designations |
|---|---|---|
| $O_3$ | Nonattainment | Nonattainment |
| $PM_{10}$ | Nonattainment | Attainment |
| $PM_{2.5}$ | Nonattainment | Nonattainment |
| CO | Attainment | Unclassified/Attainment |
| $NO_X$ | Attainment | Unclassified/Attainment |
| $SO_2$ | Attainment | Unclassified/Attainment |

Source: *Air Quality & Greenhouse Gas Assessment* (ECORP 2019a).

CO = carbon monoxide
$NO_X$ = oxides of nitrogen
$O_3$ = ozone
$PM_{10}$ = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
$SO_2$ = sulfur dioxide

#### 4.2.3.4 Local Air Quality

Relative to the project site, the nearest long-term air quality monitoring site for $O_3$, $PM_{10}$, and $PM_{2.5}$ is the Mission Viejo Monitoring Station, which is located approximately 10 miles (mi) north of the project site at 26081 Via Perra in the City of Mission Viejo.

The most recent 3 years of data available (i.e., 2015, 2016, and 2017) at the monitoring station is shown in Table 2-2 of the *Air Quality & Greenhouse Gas Assessment* (ECORP 2019a). Table 2-2 of the *Air Quality & Greenhouse Gas Assessment* also identifies the number of days AAQS were exceeded at the monitoring station, which is considered to be representative of the local air quality at the

project site. Within the 3-year period monitored, $O_3$ concentrations exceeded the State 1-hour standard on 10 days, the State 8-hour standard on 48 days, and the federal 8-hour standard on 46 days. $PM_{10}$ exceeded the State 24-hour standard on 6.5 days. There were no exceedances of the federal 1-hour standard for $O_3$, the federal 24-hour standard for $PM_{10}$, or the federal 24-hour standard for $PM_{2.5}$ during the 3-year period. Insufficient data was available during some years.

#### 4.2.3.5 Sensitive Receptors

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions, compared to commercial and industrial areas because people generally spend longer periods of time at their residences, with greater associated exposure to ambient air quality conditions. Recreational uses are also considered sensitive compared to commercial and industrial uses due to greater exposure to ambient air quality conditions associated with exercise. Structures that house these persons, or places where they gather to exercise, are defined as "sensitive receptors."

Assessing potential air quality impacts depends on a number of variables, such as wind speed and direction, and the physical distance between the emission sources and the sensitive receptors. Sensitive receptors near the project site include existing residential mobile homes located approximately 60 feet north of the development area on the site. The Creekside Park and bicycle trail on the western side of San Juan Creek are located over 300 feet west of the project site across the San Juan Creek channel. The prevailing wind directions are mostly from the south-southwest, which would most likely follow the northerly direction up through the San Juan Creek channel. The nearest sensitive receptors are the residential mobile homes located approximately 60 feet north and downwind from the project site.

#### 4.2.3.6 Existing Project Site Emissions

The project site is not developed and is used as a vehicle storage lot. For the purposes of the *Air Quality & Greenhouse Gas Assessment*, projected emissions associated with proposed operations are compared to the existing baseline, which includes a 752-space vehicle storage lot located in the central and southern portion of the project site.

### 4.2.4 Regulatory Setting

#### 4.2.4.1 Federal Regulations

**Clean Air Act.** The EPA is responsible for implementing the federal Clean Air Act (CAA). The federal CAA was first enacted in 1955, and has been amended numerous times in subsequent years (i.e., 1963, 1965, 1967, 1970, 1977, and 1990). The CAA authorizes the federal government to set federal air quality standards for pollutant emissions. The CAA also specifies future dates for achieving compliance with the NAAQS. Pursuant to the federal CAA, the EPA is responsible for setting and enforcing the NAAQS for six major pollutants ($O_3$, CO, $NO_X$, $SO_2$, $PM_{10}$, $PM_{2.5}$, and lead), which are termed "criteria" pollutants. Criteria pollutants are defined as those pollutants for which the federal

and State governments have established AAQS, or criteria, for outdoor concentrations in order to protect public health.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The NAAQS were amended in July 1997 to include an additional standard for $O_3$ and to adopt an NAAQS for $PM_{2.5}$. All air basins have been formally designated as attainment or non-attainment for each NAAQS. The NAAQS attainment status for the Basin was previously summarized in Table 4.2.A, above.

#### 4.2.4.2 State Regulations

**California Clean Air Act.** Assembly Bill (AB) 2595, the California Clean Air Act (CCAA), was signed into law in 1988 and requires all areas of the State to achieve and maintain the CAAQS. The CCAA mandates achievement of the maximum degree of emission reductions possible from vehicular and other mobile sources in order to attain the CAAQS by the earliest practical date. The CARB, which became part of the California Environmental Protection Agency (CalEPA) in 1991, is responsible for ensuring implementation of the CCAA and federal CAA and for regulating emissions from consumer products and motor vehicles within California. The CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for sulfates, visibility, hydrogen sulfide, and vinyl chloride. However, at this time, hydrogen sulfide and vinyl chloride are not measured at any monitoring stations in the Basin because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS. All air basins have been formally designated as attainment or non-attainment for each CAAQS.

Non-attainment areas are required to prepare Air Quality Management Plans (AQMPs) that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g., motor vehicle use generated by residential and commercial development);
- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emission vehicles by fleet operators; and
- Sufficient control strategies to achieve a 5 percent or more annual reduction in emissions or 15 percent or more in a period of 3 years for ROGs, $NO_X$, CO, and $PM_{10}$. However, air basins may use an alternative emission reduction strategy that achieves a reduction of less than 5 percent per year under certain circumstances.

**California State Implementation Plan.** The CAA mandates that each state submit and implement State Implementation Plans (SIPs). States containing areas violating the national ambient air quality standards are required to revise their SIPs to include additional control measures aimed at reducing air pollution. The SIP is required to include strategies and control measures to attain the NAAQS by deadlines established by the CAA. The EPA reviews all SIPs to determine conformance with the CAA.

State law mandates CARB to serve as the lead agency for all purposes related to SIPs, which are prepared by local air quality districts and other agencies and submitted to CARB for review and approval. Subsequently, CARB forwards SIP revisions to the USEPA for approval and publication in the Federal Register. The 2016 Air Quality Management Plan (AQMP) is the SIP for the Basin and is a regional blueprint for implementing air quality standards within areas under the South Coast Air Quality Management District (SCAQMD) jurisdiction, which is discussed further below.

#### 4.2.4.3 Regional Regulations

**South Coast Air Quality Management District.** The SCAQMD is the air pollution control agency for Orange County, as well as the urban portions of Los Angeles, Riverside, and San Bernardino Counties. The agency's primary responsibility is ensuring that the federal and state ambient air quality standards are attained and maintained in the Basin. The SCAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, and conducting public education campaigns, as well as many other activities. All projects within the Basin are subject to SCAQMD rules and regulations in effect at the time of construction.

As stated previously, the AQMP is the SIP for the Basin. The AQMP is a regional blueprint for implementing air quality standards within the Basin and some portions of the Salton Sea Air Basin that are under SCAQMD's jurisdiction. The AQMP asserts that the most effective way to reduce air pollution impacts is to reduce emissions from mobile sources. Additionally, the AQMP relies on partnerships between governmental agencies at the federal, state, regional, and local level. These agencies, which are comprised of USEPA, CARB, local governments, Southern California Association of Governments (SCAG) and the SCAQMD, are the primary agencies that implement the AQMP programs. The AQMP incorporates the latest scientific and technical information and planning assumptions, including SCAG's latest Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts, as well as includes integrated strategies and measures to meet the NAAQS.

The SCAQMD has established regional and localized significance thresholds for regulated pollutants, which are discussed below.

- **Regional Significance Thresholds:** The SCAQMD regional significance thresholds for regulated pollutants are shown in Table 4.2.B. Pursuant to SCAQMD guidelines, these thresholds of significance are used to assess the impacts of project-related construction and operational emissions on regional and local ambient air quality. According to SCAQMD guidelines, any projects with daily emissions that exceed the regional thresholds of significance should be considered as having an individually and cumulatively significant air quality impact.

- **Localized Significance Thresholds (LSTs):** The SCAQMD has established LSTs to evaluate whether there is potential for a project to contribute to, or cause, localized exceedances of the NAAQS or CAAQS. LSTs are based on the ambient concentrations of that pollutant within the project area and the distance to the nearest sensitive receptor. Sensitive receptors near the project site include existing residential homes located approximately 60 feet north of the development area on site. LST analysis for construction is applicable for all projects that disturb five acres or less on a single day. The City, as well as the project site, is located within SCAQMD SRA 21.

## Table 4.2.B: SCAQMD Regional Significance Thresholds

| Criteria Pollutant | Emissions Threshold (lbs/day) | |
|---|---|---|
| | Construction | Operation |
| ROG | 75 | 55 |
| $NO_X$ | 100 | 55 |
| $PM_{10}$ | 150 | 150 |
| $PM_{2.5}$ | 55 | 55 |
| $SO_2$ | 150 | 150 |
| CO | 550 | 550 |

Source: *Air Quality and Greenhouse Gas Assessment* (ECORP 2019a).
CO = carbon monoxide
lbs/day = pounds per day
$NO_X$ = oxides of nitrogen
$PM_{10}$ = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
ROG = reactive organic gas
$SO_2$ = sulfur dioxide

Table 4.2.C shows the LSTs for a 1-, 2-, and 3-acre project site in SRA 21 with sensitive receptors located within 25 meters of the project site.[1]

## Table 4.2.C: SCAQMD Local Significance Thresholds

| Project Size | Emissions Threshold (lbs/day) Construction / Operations | | | |
|---|---|---|---|---|
| | $NO_X$ | CO | $PM_{10}$ | $PM_{2.5}$ |
| 1 acre | 91 / 91 | 696 / 696 | 4 / 1 | 3 / 1 |
| 2 acre | 131 / 131 | 993 / 993 | 6 / 2 | 4 / 1 |
| 3 acre | 197 / 197 | 1,804 / 1,804 | 12 / 3 | 8 / 2 |

Source: *Air Quality and Greenhouse Gas Assessment* (ECORP 2019a).
CO = carbon monoxide
lbs/day = pounds per day
$NO_X$ = oxides of nitrogen
$PM_{10}$ = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size

[1] Since development projects typically result in negligible construction and long-term operation SO emissions, SCAQMD does not provide an LST for this pollutant.

#### 4.2.4.4 Local Regulations

**City of San Juan Capistrano General Plan.** The City of San Juan Capistrano General Plan was approved by the City Council in December 1999, with the exception of the Housing Element, which was updated and adopted by the City Council in January 2014. In May 2002, the City Council approved a General Plan Amendment, which included a variety of changes to several of the General Plan Elements.

The City's General Plan is the principal land use document guiding development within the City. The City's General Plan is a comprehensive plan that establishes goals, objectives, and policies intended to guide growth and development in the City. The General Plan also serves as a blueprint for development throughout the community and is the vehicle through which the community needs, desires, and aspirations are balanced. The San Juan Capistrano General Plan is the fundamental tool for influencing the quality of life in the City.

***Conservation and Open Space Element.*** While air quality is not a State-mandated element of a general plan, the AQMP requires air quality to be addressed in general plans. Air quality is included within the Conservation and Open Space Element of the City's General Plan (1999) to fulfill AQMP requirements. The Conservation and Open Space Element contains the following goals and policies aimed at improving air quality within the City through proper planning for land use, transportation, and energy use.

**Goal 6.0:** Improve air quality.

**Policy 6.1:** Cooperate with the South Coast Air Quality Management District and Southern California Association of Governments in their efforts to implement the regional Air Quality Management Plan.

**Policy 6.2:** Cooperate and participate in regional air quality management planning, programs and enforcement measures.

**Policy 6.3:** Implement City-wide traffic flow improvements.

**Policy 6.4:** Achieve a greater balance between jobs and housing in San Juan Capistrano.

**Policy 6.5:** Integrate air quality planning with land use and transportation planning.

**Policy 6.6:** Promote energy conservation and recycling by the public and private sectors.

### 4.2.5 Thresholds of Significance

The thresholds for air quality impacts used in this analysis are consistent with Appendix G of the *State CEQA Guidelines* and the City's *Local Guidelines for Implementing CEQA* (2019). The proposed project may be deemed to have a significant impact with respect to air quality if it would:

**Threshold 4.2.1: Conflict with or obstruct implementation of the applicable air quality plan?**

**Threshold 4.2.2: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?**

**Threshold 4.2.3: Expose sensitive receptors to substantial pollutant concentrations?**

**Threshold 4.2.4: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?**

The Initial Study, included as Appendix A, substantiates that impacts associated with Threshold 4.2.4 would be less than significant because operation of the proposed project is not anticipated to result in objectionable odors. This threshold will therefore not be addressed in the following analysis.

### 4.2.6 Project Impacts

**Threshold 4.3.1: Would the project conflict with or obstruct implementation of the applicable air quality plan?**

***Less than Significant Impact.*** Chapter 12, Sections 12.2 and 12.3 of the SCAQMD *CEQA Air Quality Handbook* (1993) outlines two criteria for determining consistency with the 2016 AQMP. A project would be consistent with the AQMP if the project (1) would not increase the frequency or severity of an existing air quality violation or cause or contribute to new a new violation or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP, and (2) would not exceed the growth assumptions in the AQMP based on the year of project build out, would be consistent with land use planning strategies set forth by SCAQMD, and would implement all feasible air quality mitigation measures.

**Criterion 1.** The SCAQMD's first criterion for determining project consistency with the AQMP includes methodologies that require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment. As described further under Threshold 4.2.2 below, the short-term construction and long-term pollutant emissions from the proposed project would not exceed the regional criteria emissions thresholds established by the SCAQMD. Pollutant emissions generated during project construction and operation would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard. Therefore, the proposed project would be consistent with the AQMP under the first criterion.

**Criterion 2.** The SCAQMD's second criterion for determining project consistency focuses on whether or not the proposed project exceeds the assumptions utilized in preparing the forecasts presented its air quality planning documents. Project consistency with population, housing, and employment assumptions that were used in the development of SCAQMD air quality plans ensures a project is consistent with regional air quality planning efforts. Generally, three sources of data form the basis for the projections of air pollutant emissions in San Juan Capistrano: the

City's General Plan, SCAG's Growth Management chapter of the *Regional Comprehensive Plan and Guide* (RCPG), and SCAG's 2016 RTP/SCS. The RTP/SCS also provides socioeconomic forecast projections of regional population growth. The City's General Plan designates the project site as Industrial Park, which allows for light industrial and manufacturing uses, including wholesale businesses, light manufacturing and assembly, research and development, warehousing and storage, and distribution and sales. Thus, the proposed project is consistent with the existing land use designation. Additionally, the project does not involve any uses that would increase population beyond what is considered in the General Plan, and therefore, the project is consistent with the types, intensity, and patterns of land use envisioned for the project site in the General Plan and RCPG. Further, the population, housing, and employment projections, which are adopted by SCAG's Regional Council, are based on the local plans and policies applicable to the City and are used by SCAG in all phases of implementation and review. Since the SCAQMD has incorporated these same projections into their air quality planning efforts, the proposed project would be consistent with these projections.

In order to further reduce emissions, the project would comply with SCAQMD emission reduction measures including SCAQMD Rules 402, 403, and 1113. SCAQMD Rule 402 prohibits the discharge, from any source, air contaminants or other material that cause injury, detriment, nuisance, or annoyance to the public, or that endanger the comfort, repose, health, or safety of the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. SCAQMD Rule 403 requires fugitive dust sources to implement Best Available Control Measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. Rule 403 is intended to reduce $PM_{10}$ emissions from transportation, handling, construction, or storage activities that have the potential to generate fugitive dust. SCAQMD 1113 requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce reactive organic gas (ROG) emissions from the use of architectural coatings. The project is required to comply with these emission reduction measures during construction as outlined in Regulatory Compliance Measures AQ-1 through AQ-3 (refer to Section 4.2.8, Regulatory Compliance Measures and Mitigation Measures, below). For the reasons stated above, the proposed project is consistent with the second criterion.

**Summary.** The proposed project would not conflict with or obstruct implementation of the 2016 AQMP because (1) the project's construction and operational emissions would not exceed the SCAQMD regional significance thresholds, and (2) the proposed project is consistent with the current General Plan land use designation on the project site and would not exceed the growth assumptions in the AQMP, is consistent with land use planning strategies set forth by SCAQMD, and includes implementation of all feasible air quality measures to reduce emissions. Therefore, impacts related to the conflict with or obstruction of implementation of the applicable air quality plan would be less than significant, and no mitigation is required.

**Threshold 4.2.2: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?**

***Less than Significant Impact.***

**Construction.** Construction related emissions are temporary and short-term. Project-related construction activities that would produce emissions include the operation of construction vehicles (i.e., excavators, trenchers, and dump trucks), the creation of fugitive dust during clearing and grading, and the use of asphalt or other oil-based substances during paving activities, which can release VOCs. Construction emissions would vary daily depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust control efforts; therefore, this analysis provides the worst-case construction emissions based on the construction schedule and construction equipment anticipated for project construction.

As specified in Regulatory Compliance Measures AQ-1 through AQ-3 (refer to Section 4.2.8, Regulatory Compliance Measures and Mitigation Measures), construction of the proposed project would comply with SCAQMD standard conditions, including Rule 402 (Nuisance) to control nuisance emissions, Rule 403 (Fugitive Dust) to control fugitive dust, and Rule 1113 (Architectural Coatings) to control VOC emissions from paint. Compliance with SCAQMD standard conditions are regulatory requirements and were considered in the analysis of construction emissions. The maximum daily emissions of VOCs, $NO_X$, $SO_2$, CO, $PM_{10}$, and $PM_{2.5}$ that would result from construction of the proposed project are summarized in Table 4.2.D and compared to the SCAQMD regional significance thresholds. As shown in Table 4.2.D, construction emissions associated with the proposed project would not exceed the significance thresholds established by the SCAQMD for any of the criteria pollutants.

## Table 4.2.D: Regional Construction Emissions

| Year | Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| | **ROG** | **$NO_X$** | **CO** | **$SO_2$** | **$PM_{10}$** | **$PM_{2.5}$** |
| 2020 | 9.90 | 85.17 | 49.67 | 0.18 | 9.18 | 5.60 |
| 2021 | 9.28 | 77.11 | 48.17 | 0.18 | 4.72 | 2.57 |
| 2022 | 8.82 | 70.94 | 47.27 | 0.17 | 4.43 | 2.31 |
| **Maximum Daily Emissions** | **9.90** | **85.17** | **49.67** | **0.18** | **9.18** | **5.60** |
| SCAQMD Regional Thresholds | 75 | 100 | 550 | 150 | 150 | 55 |
| **Threshold Exceeded?** | **NO** | **NO** | **NO** | **NO** | **NO** | **NO** |

Source: *Air Quality and Greenhouse Gas Assessment* (ECORP 2019a).
CO = carbon monoxide
lbs/day = pounds per day
$NO_X$ = oxides of nitrogen
$PM_{10}$ = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SCAQMD = South Coast Air Quality Management District
$SO_2$ = sulfur dioxide
ROG = reactive organic gas

As previously discussed, the portion of the Basin in which the project site is located is in nonattainment of the NAAQS for $O_3$ and $PM_{2.5}$. The Basin is in nonattainment of the CAAQS for $O_3$, $PM_{2.5}$, and $PM_{10}$. As shown in Table 4.2.D, emissions from construction of the proposed project would not exceed the significance thresholds for $O_3$, $PM_{2.5}$, or $PM_{10}$. Therefore, construction of the proposed project would not exceed the significance thresholds of criteria pollutants for which the project region is nonattainment under the CAAQS or NAAQS.

According to SCAQMD guidance, projects that exceed the significance thresholds are considered by SCAQMD to result in cumulatively considerable air quality impacts. Conversely, projects that do not exceed the significance thresholds are generally not considered to result in cumulatively considerable air quality impacts. Therefore, because construction emissions would not exceed any of the air quality significance thresholds for any criteria pollutants, the proposed Project would not have a cumulatively considerable air quality impact. Therefore, compliance with regulatory requirements (as specified in Regulatory Compliance Measures AQ-1 through AQ-3) would further reduce impacts, and construction impacts related to the cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under applicable NAAQS or CAAQS would be less than significant. No mitigation is required.

**Operation.** Project-related operations would result in the long-term emission of ROG, $NO_X$, $SO_2$, CO, $PM_{10}$, and $PM_{2.5}$ primarily associated with motor vehicle use. Vehicle trips to and from the project site would generate mobile source emissions. Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust and tire wear particulates. Mobile source emissions are dependent on both overall daily vehicle trip generation and the effect of the project on peak-hour traffic volumes and traffic operations in the vicinity of the project site. The project-related operational air quality emissions are primarily due to vehicle trips.

As stated previously, operational air pollutant emissions were based on the project site plans and the estimated traffic trip generation rates from the TIA (LSA, 2019). According to the TIA, the project is anticipated to generate 5,221 average daily trips. Additionally, estimated emissions account for the use of 12 diesel-powered material handing vehicles (forklifts) on site, daily. Projected emissions associated with the proposed project were compared to the existing baseline, which includes a vehicle storage lot containing 752 spaces in central portion of the project site.

Table 4.2.E summarizes the project's maximum daily emissions during operation. As shown in Table 4.2.E, while the project would result in the increased emissions of criteria pollutants, emissions during operation of the proposed project would not exceed the thresholds of significance for any pollutants.

As previously discussed, the portion of the Basin in which the project site is located is in nonattainment of the NAAQS for $O_3$ and $PM_{2.5}$. The Basin is in nonattainment of the CAAQS for $O_3$, $PM_{2.5}$, and $PM_{10}$. As shown in Table 4.2.E, emissions during operation of the proposed project would not exceed the significance thresholds for $O_3$, $PM_{2.5}$, or $PM_{10}$. Therefore, operation of the proposed project would not exceed the significance thresholds of criteria pollutants for which the project region is nonattainment under the CAAQS or NAAQS.

## Table 4.2.E: Regional Operations Emissions

| Emissions Source | Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| | ROG | $NO_X$ | CO | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ |
| **Project Buildout** | | | | | | |
| **Summer Emissions** | | | | | | |
| Project Buildout Total Emissions | 10.38 | 31.62 | 63.81 | 0.19 | 15.60 | 4.94 |
| **Winter Emissions** | | | | | | |
| Project Buildout Total Emissions | 10.30 | 31.94 | 62.95 | 0.18 | 15.60 | 4.94 |
| **Existing Baseline Conditions** | | | | | | |
| **Summer Emissions** | | | | | | |
| Existing Baseline Total Emissions | 0.74 | 2.64 | 9.24 | 0.03 | 2.97 | 0.81 |
| **Winter Emissions** | | | | | | |
| Existing Baseline Total Emissions | 0.73 | 2.73 | 8.76 | 0.03 | 2.97 | 0.81 |
| **Net Maximum Daily Emissions (Project Minus Existing)** | | | | | | |
| **Summer Emissions** | | | | | | |
| Net Maximum Daily Emissions | +9.64 | +28.98 | +54.57 | +0.16 | +12.63 | +4.13 |
| **Winter Emissions** | | | | | | |
| Net Maximum Daily Emissions | +9.57 | +29.21 | +54.19 | +0.15 | +12.63 | +4.13 |
| SCAQMD Regional Thresholds | 55 | 55 | 550 | 150 | 150 | 55 |
| **Threshold Exceeded?** | **NO** | **NO** | **NO** | **NO** | **NO** | **NO** |

Source: *Air Quality and Greenhouse Gas Assessment* (ECORP 2019a).
CO = carbon monoxide
lbs/day = pounds per day
$NO_X$ = oxides of nitrogen
$PM_{10}$ = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SCAQMD = South Coast Air Quality Management District
$SO_2$ = sulfur dioxide
ROG = reactive organic gas

As discussed previously, according to SCAQMD guidance, projects that exceed the significance thresholds are considered by the SCAQMD to result in cumulatively considerable air quality impacts. Conversely, projects that do not exceed the significance thresholds are generally not considered to result in cumulatively considerable air quality impacts. Therefore, based on the fact that the emissions during operation of proposed project would not exceed any of the air quality significance thresholds for any criteria pollutants, the proposed project would not have a cumulatively considerable impact. Therefore, operational impacts related to the cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable NAAQS or CAAQS would be less than significant, and no mitigation is required.

### Threshold 4.2.3: Would the project expose sensitive receptors to substantial pollutant concentrations?

***Less than Significant Impact.***

**Construction.** In order to identify impacts to sensitive receptors, the SCAQMD recommends addressing LSTs for construction. As previously described, the SCAQMD has issued guidance on applying CalEEMod modeling to LSTs for projects greater than five acres. Further, CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily soil disturbance activity possible for each piece of equipment. For these reasons, Table 4.2.F shows the maximum daily disturbed acreage for comparison to LSTs.

## Table 4.2.F: Equipment-Specific Grading Rates

| Construction Phase | Equipment Type | Acres Disturbed per 8-Hour Day | Equipment Quantity | Operating Hours per Day | Acres Graded per Day |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 0.5 | 3 | 8 | 1.5 |
| | Tractors/Loaders/Backhoes | 0.5 | 4 | 8 | 2.0 |
| | | | | **Total** | **3.5** |
| Grading | Excavators | 0.0 | 2 | 8 | 0.0 |
| | Rubber Tired Dozers | 0.5 | 1 | 8 | 0.5 |
| | Graders | 0.5 | 1 | 8 | 0.5 |
| | Scraper | 1.0 | 2 | 8 | 2.0 |
| | Tractors/Loaders/Backhoes | 0.5 | 2 | 8 | 1.0 |
| | | | | **Total** | **4.0** |

Source: *Air Quality and Greenhouse Gas Assessment* (ECORP 2019a).

As shown in Table 4.2.F, project construction could potentially disturb up to 3.5 acres daily during the site preparation phase and up to 4.0 acres daily during the grading phase. Thus, the LST threshold value for a 3.5-acre construction site were utilized to analyze site preparation and the LST threshold value for a 4-acre construction site were utilized to analyze grading activities.

Construction activities would result in localized exhaust emissions that have the potential to affect nearby sensitive receptors. In order to identify impacts to sensitive receptors, the SCAQMD recommends analyzing LSTs for construction. As discussed previously, sensitive receptors near the project site include existing residential homes located approximately 60 feet (18 meters) north of the development area on the site. Creekside Park and the bicycle trail on the western side of San Juan Creek, which may also be considered sensitive receptors, are located over 300 feet west of the project site. Therefore, construction emissions would be dispersed at a much lower concentration by the time they reach the Creekside Park and bike trial as compared to the adjacent residential mobile homes. LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. According to SCAQMD guidance, projects with boundaries located closer than 25 meters to the nearest receptor are directed to use the LSTs for receptors located at 25 meters. As such, LSTs for receptors located at 25 meters were utilized in this analysis.

Table 4.2.G identifies the localized impacts at the nearest sensitive receptor location to the project site compared to the SCAQMD LSTs for $NO_X$, CO, $PM_{10}$, and $PM_{2.5}$. Table 4.2.G shows that pollutant emissions on the peak day of construction would not result in significant concentrations of pollutants at the nearby residential sensitive receptors.

## Table 4.2.G: Localized Construction Emissions

| Construction Activity | Emissions (lbs/day) | | | |
|---|---|---|---|---|
| | **$NO_X$** | **CO** | **$PM_{10}$** | **$PM_{2.5}$** |
| Project Site Preparation | 42.41 | 21.51 | 8.19 | 5.31 |
| SCAQMD Localized Significance Threshold (3.5 acres of disturbance) | 164.00 | 1,398.50 | 9.00 | 6.00 |
| **Threshold Exceeded?** | **NO** | **NO** | **NO** | **NO** |
| Project Site Grading | 50.19 | 31.95 | 5.05 | 3.19 |
| SCAQMD Localized Significance Threshold (4 acres of disturbance) | 175.00 | 1,533.67 | 10.00 | 6.67 |
| **Threshold Exceeded?** | **NO** | **NO** | **NO** | **NO** |

Source: *Air Quality and Greenhouse Gas Assessment* (ECORP 2019a).
CO = carbon monoxide
lbs/day = pounds per day
$NO_X$ = oxides of nitrogen
$PM_{10}$ = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SCAQMD = South Coast Air Quality Management District

As shown in Table 4.2.G, construction emissions associated with the proposed project would not exceed the LSTs established by SCAQMD. Further, as specified in Regulatory Compliance Measure AQ-2 construction of the proposed project would comply with SCAQMD standard conditions, including Rule 403 (Fugitive Dust) to control fugitive dust. Compliance with SCAQMD standard conditions are regulatory requirements and were considered in the analysis of construction emissions. Because the project would not exceed the LSTs with compliance with regulatory requirements (and would be further reduced with implementation of Regulatory Compliance Measures AQ-1 and AQ-2), impacts related to exposure of sensitive receptors to substantial pollutant concentrations would be less than significant. No mitigation is required.

**Operation.**

**Localized Emissions.** A project would generate localized exhaust emissions that have the potential to affect nearby sensitive receivers if the project includes stationary sources, or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., warehouse or transfer facilities). As such, operational LSTs are not applicable to the proposed project. Although the proposed project does not include such uses, impacts associated with the operational localized emissions have been analyzed for disclosure purposes. Operational LSTs apply to CO, $NO_2$, $PM_{10}$, and $PM_{2.5}$.

As discussed previously, sensitive receptors near the project site include existing residential homes located approximately 60 feet (18 meters) north of the development area on the site, and LSTs for receptors located at 25 meters were utilized in this analysis. Creekside Park and the bicycle trail on the western side of San Juan Creek, which may also be considered sensitive receptors, are located over 300 feet west of the project site. Therefore, operational emissions would be dispersed at a much lower concentration by the time they reach the Creekside Park and bike trial as compared to the adjacent residential mobile homes.

Table 4.2.H shows the maximum daily emissions for the project's operational activities compared with the SCAQMD LSTs for $NO_X$, CO, $PM_{10}$, and $PM_{2.5}$. In order to provide a conservative assessment, the emissions shown in Table 4.2.H include all on-site project-related stationary sources, as well as 10 percent of the project-related mobile sources.

## Table 4.2.H: Localized Operations Emissions

| Source | Emissions (lbs/day) | | | |
|---|---|---|---|---|
| | **$NO_X$** | **CO** | **$PM_{10}$** | **$PM_{2.5}$** |
| On-site Emissions (Summer) | 15.83 | 18.99 | 2.45 | 1.31 |
| On-site Emissions (Winter) | 15.86 | 18.90 | 2.45 | 1.31 |
| SCAQMD Localized Significance Threshold | 197 | 1,804 | 3 | 2 |
| **Threshold Exceeded?** | **NO** | **NO** | **NO** | **NO** |

Source: *Air Quality and Greenhouse Gas Assessment* (ECORP 2019a).
CO = carbon monoxide
lbs/day = pounds per day
$NO_X$ = oxides of nitrogen
$PM_{10}$ = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SCAQMD = South Coast Air Quality Management District

As shown in Table 4.2.H, project operational source emissions would not exceed LSTs established by the SCAQMD. Therefore, because the project would not exceed the LSTs established by the SCAQMD, localized emissions from operation of the proposed project would not expose any sensitive receptors to substantial pollutant concentrations, impacts would be less than significant, and no mitigation is required.

**CO Hot Spot.** CO hot spots are caused by vehicular emissions, primarily when idling at congested intersections. Based on the analysis presented below, a CO "hot-spot" analysis is not needed to determine whether a change in the level of service (LOS) of an intersection in the vicinity of the project site would have the potential to result in exceedance of either the CAAQS or NAAQS.

Vehicle emissions standards have become increasingly stringent in the last 20 years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the Basin is now designated as attainment. In addition, CO concentrations in the project vicinity have steadily declined.

The analysis prepared for CO attainment in the Basin by SCAQMD can be used to assist in evaluating the potential for CO exceedances in the Basin. To establish a more accurate record of baseline CO concentrations affecting the Basin, a CO "hot-spot" analysis was conducted by SCAQMD in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. The busiest intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. This analysis did not predict any violation of CO standards. Based on the SCAQMD 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO

Plan), peak CO concentrations in the Basin were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. Even if the traffic volumes of the proposed project were double or triple that of the traffic volumes generated at the four busy intersections in Los Angeles, coupled with the ongoing improvements in ambient air quality, the project would not be capable of resulting in a CO "hot spot" at any study area intersections. Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (vph)—or 24,000 vph where vertical and/or horizontal air does not mix—in order to generate a significant CO impact.

According to the TIA, the project is anticipated to generate 5,221 average daily trips. Since the proposed project would not increase traffic volumes at any intersection to more than 100,000 vehicles per day (the volumes at the busiest intersection evaluated in SCAQMD's hot spot analysis), there is no likelihood of the project traffic exceeding CO values. Because the proposed project would not produce the volume of traffic required to generate a CO "hot spot," CO emissions from operation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations. Impacts related to CO hot spots would be less than significant, and no mitigation is required.

### 4.2.7 Level of Significance Prior to Mitigation

Prior to mitigation, the proposed project would result in less than significant impacts. However, the following regulatory compliance measures are existing SCAQMD regulations that are applicable to the proposed project and are considered in the analysis of potential impacts related to air quality. The City of San Juan Capistrano considers these requirements to be mandatory; therefore, they are not mitigation measures.

### 4.2.8 Regulatory Compliance Measures and Mitigation Measures

#### 4.2.8.1 Regulatory Compliance Measures (RCMs)

The proposed project would comply with the following regulatory standards.

**RCM AQ-1** **South Coast Air Quality Management District (SCAQMD) Rule 402, Nuisance.** Prohibits the discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or 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. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

**RCM AQ-2** **South Coast Air Quality Management District (SCAQMD) Rule 403, Fugitive Dust.** The project Applicant shall ensure the construction contractor implements fugitive dust control measures in compliance with SCAQMD Rule 403. The project Applicant

shall include the following fugitive dust control measures for SCAQMD Rule 403 compliance in the project plans and specifications:

- All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 miles per hour (mph) per SCAQMD guidelines in order to limit fugitive dust emissions.
- The construction contractor shall ensure that all disturbed unpaved roads and disturbed areas within the project site are watered, with complete coverage of disturbed areas, at least three (3) times daily during dry weather and preferably mid-morning, afternoon, and after work is done for the day.
- The contractor shall ensure that traffic speeds on unpaved roads and project site areas are reduced to 15 mph or less.

**RCM AQ-3** **SCAQMD Rule 1113.** The project Applicant shall ensure the construction contractor implements measures to control volatile organic compound (VOC) emissions from architectural coatings in compliance with SCAQMD Rule 1113. The project Applicant shall include the following control measures for SCAQMD Rule 1113 compliance in the project plans and specifications:

- Only "Low-Volatile Organic Compounds" paints (no more than 50 grams/liter of VOC) shall be used.

#### 4.2.8.2 Mitigation Measures (MMs)

No mitigation is required for the proposed project.

### 4.2.9 Level of Significance after Mitigation

Implementation of Regulatory Compliance Measures AQ-1 through AQ-3 would further reduce project-related air quality impacts to a less than significant level. No significant unavoidable impacts related to air quality would occur with implementation of these standard measures. All anticipated impacts related to air quality would be considered less than significant and no mitigation is required.

### 4.2.10 Cumulative Impacts

As defined in Section 15130 of the *State CEQA Guidelines*, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for air quality. The cumulative impact area for air quality related to the proposed project is the Basin.

Air pollution is inherently a cumulative impact measured across an air basin. The discussion under Threshold 4.2.2, above, includes an analysis of the proposed project's contribution to cumulative air impacts. To summarize the conclusion with respect to that analysis, the incremental effect of projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively considerable per SCAQMD guidelines. The proposed project's construction- and operation-related regional daily emissions are less than the SCAQMD significance thresholds for all criteria pollutants. In addition, adherence to SCAQMD rules and regulations on a project-by-project

basis would substantially reduce potential impacts associated with the related projects and basin-wide air pollutant emissions. Therefore, the proposed project would not have a cumulatively considerable increase in emissions, and the proposed project's cumulative air quality impacts would be less than significant. No mitigation is required.

### 4.2.11 Project Alternatives

#### 4.2.11.1 Alternative 1

Alternative 1 would allow for the future construction of a 161,385-square-foot (sf) Ganahl Lumber hardware store and lumber yard and a 399-space vehicle storage facility, but no drive-through restaurant uses would be developed. Alternative 1 represents a reduction in 6,000 sf of drive-through restaurant use as compared to the proposed project. Under Alternative 1, Area A would provide 150 parking spaces, compared to 62 parking spaces provided in Area A as part of the proposed project.

Most components of the proposed project, such as outdoor lighting, circulation and access, signage, utilities and drainage, sustainability features, landscaping, and construction phasing, and grading, would not significantly change with the implementation of Alternative 1. Components specific to Area A, such as the location of walkways, retaining walls fences, and gates, would also not change under Alternative 1. The modification and installation of existing and new utilities and infrastructure associated with the proposed project would still occur under Alternative 1. Although Alternative 1 would not involve the development of structures on Area A as the proposed project would, the entirety of Area A would still be cleared, excavated, graded, and paved to accommodate surface parking.

For the reasons stated above, it can be assumed that construction-related criteria air pollutant emissions generated under Alternative 1 would be similar, but slightly less, than emissions expected under the proposed project. As discussed in Section 4.2.6, Project Impacts, the proposed project would generate construction emissions below both SCAQMD's regional significance thresholds and SCAQMD's LSTs. Therefore, the reduced development intensity of Alternative 1 would also result in construction emissions below these thresholds.

Implementation of Alternative 1 would result in the long-term emission of ROG, $NO_X$, $SO_2$, CO, $PM_{10}$, and $PM_{2.5}$. Table 4.2.I compares the maximum daily regional operations emissions of Alternative 1 and the proposed project.

As shown in Table 4.2.I, Alternative 1 would result in fewer operational criteria air pollutants than the proposed project. Therefore, because Alternative 1 results in fewer operational emissions as compared to the proposed project, Alternative 1 would not exceed the significance thresholds of criteria pollutants for which the project region is nonattainment under the CAAQS or NAAQS.

Alternative 1 has also been evaluated for localized pollutant emissions. In order to provide a conservative assessment, the emissions shown in Table 4.2.J include all on-site project-related stationary sources, as well as 10 percent of the project-related mobile sources. Table 4.2.J shows the maximum daily emissions for operational activities under Alternative 1 as compared to the proposed project.

## Table 4.2.I: Alternative 1 Regional Operations Emissions

| Emissions Source | Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| | ROG | $NO_X$ | CO | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ |
| **Alternative 1 (No Restaurant Use)** | | | | | | |
| **Summer Emissions** | | | | | | |
| Alternative 1 Total Emissions | 8.17 | 23.55 | 38.72 | 0.09 | 7.59 | 2.73 |
| **Winter Emissions** | | | | | | |
| Alternative 1 Total Emissions | 8.13 | 23.67 | 38.74 | 0.09 | 7.59 | 2.73 |
| **Project Buildout** | | | | | | |
| **Summer Emissions** | | | | | | |
| Project Buildout Total Emissions | 10.38 | 31.62 | 63.81 | 0.19 | 15.60 | 4.94 |
| **Winter Emissions** | | | | | | |
| Project Buildout Total Emissions | 10.30 | 31.94 | 62.95 | 0.18 | 15.60 | 4.94 |
| **Alternative 1 Compared to Project Buildout** | | | | | | |
| **Summer Emissions** | | | | | | |
| Difference | -2.21 | -8.07 | -25.09 | -0.10 | -8.01 | -2.21 |
| **Winter Emissions** | | | | | | |
| Difference | -2.17 | -8.27 | -24.21 | -0.09 | -8.01 | -2.21 |

Source: *Air Quality and Greenhouse Gas Assessment* (ECORP 2019a).
CO = carbon monoxide
lbs/day = pounds per day
$NO_X$ = oxides of nitrogen
$PM_{10}$ = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
ROG = reactive organic gas
$SO_2$ = sulfur dioxide

## Table 4.2.J: Alternative 1 Localized Operations Emissions

| Source | Emissions (lbs/day) | | | |
|---|---|---|---|---|
| | $NO_X$ | CO | $PM_{10}$ | $PM_{2.5}$ |
| **Alternative 1 (No Restaurant Use)** | | | | |
| Alternative 1 On-site Emissions (Summer) | 15.06 | 16.51 | 1.65 | 1.10 |
| Alternative 1 On-site Emissions (Winter) | 15.08 | 16.51 | 1.65 | 1.10 |
| **Project Buildout** | | | | |
| Project On-site Emissions (Summer) | 15.83 | 18.99 | 2.45 | 1.31 |
| Project On-site Emissions (Winter) | 15.86 | 18.90 | 2.45 | 1.31 |
| **Alternative 1 Compared to Project Buildout** | | | | |
| Difference (Summer) | -0.77 | -2.48 | -0.80 | -0.21 |
| Difference (Winter) | -0.78 | -2.39 | -0.80 | -0.21 |

Source: *Air Quality and Greenhouse Gas Assessment* (ECORP 2019a).
CO = carbon monoxide
lbs/day = pounds per day
$NO_X$ = oxides of nitrogen
$PM_{10}$ = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size

As seen in Table 4.2.J, Alternative 1 would result in fewer on-site generated localized pollutants when compared to the proposed project. Therefore, because Alternative 1 would result in fewer localized operations emissions as compared to the proposed project, Alternative 1 would not exceed the LSTs established by the SCAQMD, and localized emissions from operation of Alternative 1 would not expose sensitive receptors to substantial pollutant concentrations.

Similar to the proposed project, Alternative 1 would be required to comply with the SCAQMD's AQMP. As previously described, in order to determine consistency with SCAQMD's air quality planning two main criteria must be addressed. The first criterion involves consistency with the State's ambient air quality standards and the NAAQS, which is determined based on whether a project exceeds regional and localized thresholds of significance. The second criterion relates to a project's consistency with regional growth projections, which are used to develop future air quality forecasts for the AQMP. Alternative 1 would be below the SCAQMD regional and localized thresholds for construction and operations and is consistent with the land use designation and development density presented in the City's General Plan. Similar to the proposed project, Alternative 1 is consistent with these two criteria, and therefore, would not conflict with the SCAQMD AQMP.

Alternative 1 would not result in the development of any substantial sources of air toxics. Alternative 1 would not involve any stationary sources associated with operations and would not attract substantial amounts of heavy-duty trucks that spend long periods queuing and idling at the project site. As previously stated, Alternative 1 has been evaluated against SCAQMD's operational phase LST protocol, and on-site project emissions would result in slightly less concentrations of pollutants at nearby sensitive receptors as compared to the proposed project.

Overall, Alternative 1 would have less than significant impacts with respect to air quality, and impacts would be further reduced with the incorporation of Regulatory Compliance Measures AQ-1 through AQ-3, which would also be required for Alternative 1. Overall, impacts to air quality under Alternative 1 are reduced, but similar to impacts associated with the proposed project. Because impacts related to air quality for Alternative 1 would be less than those associated with the proposed project, cumulative impacts would also be less than cumulatively significant.

#### 4.2.11.2 Alternative 2

Alternative 2 would allow for the future construction of a 161,385 sf Ganahl Lumber hardware store and lumber yard, a 399-space vehicle storage facility, and 2,000 sf of drive-through restaurant uses, which represents a reduction of 4,000 sf of drive-through restaurant uses as compared to the proposed project. Specifically, Alternative 2 would provide 80 parking spaces, compared to 62 parking spaces provided in Area A as part of the proposed project.

Most components of the proposed project, such as outdoor lighting, circulation and access, signage, utilities and drainage, sustainability features, landscaping, and construction phasing and grading, would not significantly change with the implementation of Alternative 2. Components specific to Area A, such as the location of walkways, retaining walls, fences, and gates, would also not change under Alternative 2. The modification and installation of existing and new utilities and infrastructure associated with the proposed project would still occur under Alternative 2. Under Alternative 2, similar to the proposed project, the entirety of Area A would be cleared, excavated, graded, and paved to accommodate surface parking and a building pad.

For the reasons stated above, it can be assumed that construction-related criteria air pollutant emissions generated under Alternative 2 would be similar, but slightly less, than emissions expected under the proposed project. As discussed in Section 4.2.6, Project Impacts, the proposed project

would generate construction emissions below both SCAQMD's regional significance thresholds and SCAQMD's LSTs. Therefore, the reduced development intensity of Alternative 2 would also result in construction emissions below these thresholds.

Implementation of Alternative 2 would result in the long-term emission of ROG, $NO_X$, $SO_2$, CO, $PM_{10}$, and $PM_{2.5}$. Table 4.2.K compares the maximum daily regional operations emissions of Alternative 2 and the proposed project.

## Table 4.2.K: Alternative 2 Regional Operations Emissions

| Emissions Source | Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| | ROG | $NO_X$ | CO | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ |
| **Alternative 2 (2,000 sf of Restaurant Use)** | | | | | | |
| **Summer Emissions** | | | | | | |
| Alternative 2 Total Emissions | 8.88 | 26.07 | 46.28 | 0.12 | 9.94 | 3.38 |
| **Winter Emissions** | | | | | | |
| Alternative 2 Total Emissions | 8.83 | 26.24 | 46.07 | 0.12 | 9.94 | 3.38 |
| **Project Buildout** | | | | | | |
| **Summer Emissions** | | | | | | |
| Project Buildout Total Emissions | 10.38 | 31.62 | 63.81 | 0.19 | 15.60 | 4.94 |
| **Winter Emissions** | | | | | | |
| Project Buildout Total Emissions | 10.30 | 31.94 | 62.95 | 0.18 | 15.60 | 4.94 |
| **Alternative 2 Compared to Project Buildout** | | | | | | |
| **Summer Emissions** | | | | | | |
| Difference | -1.50 | -5.55 | -17.53 | -0.07 | -5.66 | -1.56 |
| **Winter Emissions** | | | | | | |
| Difference | -1.43 | -5.70 | -16.88 | -0.06 | -5.66 | -1.56 |

Source: *Air Quality and Greenhouse Gas Assessment* (ECORP 2019a).

CO = carbon monoxide
lbs/day = pounds per day
$NO_X$ = oxides of nitrogen
$PM_{10}$ = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
$SO_2$ = sulfur dioxide
ROG = reactive organic gas
sf = square feet

As shown in Table 4.2.K, Alternative 2 would result in fewer operational criteria air pollutants than the proposed project. Therefore, because Alternative 2 results in fewer operational emissions as compared to the proposed project, Alternative 2 would not exceed the significance thresholds of criteria pollutants for which the project region is nonattainment under the CAAQS or NAAQS.

Alternative 2 has also been evaluated for localized pollutant emissions. In order to provide a conservative assessment, the emissions shown in Table 4.2.L include all on-site project-related stationary sources, as well as 10 percent of the project-related mobile sources. Table 4.2.L shows the maximum daily emissions for operational activities under Alternative 2 as compared to the proposed project.

## Table 4.2.L: Alternative 2 Localized Operations Emissions

| Source | Emissions (lbs/day) | | | |
|---|---|---|---|---|
| | $NO_X$ | CO | $PM_{10}$ | $PM_{2.5}$ |
| **Alternative 2 (2,000 sf of Restaurant Use)** | | | | |
| Alternative 2 On-site Emissions (Summer) | 15.30 | 17.21 | 1.89 | 1.16 |
| Alternative 2 On-site Emissions (Winter) | 15.32 | 17.18 | 1.89 | 1.16 |
| **Project Buildout** | | | | |
| Project On-site Emissions (Summer) | 15.83 | 18.99 | 2.45 | 1.31 |
| Project On-site Emissions (Winter) | 15.86 | 18.90 | 2.45 | 1.31 |
| **Alternative 2 Compared to Project Buildout** | | | | |
| Difference (Summer) | -0.53 | -1.78 | -0.56 | -0.15 |
| Difference (Winter) | -0.54 | -1.72 | -0.56 | -0.15 |

Source: *Air Quality and Greenhouse Gas Assessment* (ECORP 2019a).
CO = carbon monoxide
lbs/day = pounds per day
$NO_X$ = oxides of nitrogen
$PM_{10}$ = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
sf = square feet

As seen in Table 4.2.L, Alternative 2 would result in fewer on-site generated localized pollutants when compared to the proposed project. Therefore, because Alternative 2 would result in fewer localized operations emissions as compared to the proposed project, Alternative 2 would not exceed the LSTs established by the SCAQMD, and localized emissions from operation of Alternative 2 would not expose sensitive receptors to substantial pollutant concentrations.

Similar to the proposed project, Alternative 2 would be required to comply with the SCAQMD's AQMP. As previously described, in order to determine consistency with SCAQMD's air quality planning two main criteria must be addressed. The first criterion involves consistency with the State's ambient air quality standards and the NAAQS, which is determined based on whether a project exceeds regional and localized thresholds of significance. The second criterion relates to a project's consistency with regional growth projections, which are used to develop future air quality forecasts for the AQMP. Alternative 2 would be below the SCAQMD regional and localized thresholds for construction and operations and is consistent with the land use designation and development density presented in the City's General Plan. Similar to the proposed project, Alternative 2 is consistent with these two criteria, and therefore, would not conflict with the SCAQMD AQMP.

Alternative 2 would not result in the development of any substantial sources of air toxics. Alternative 2 would not involve any stationary sources associated with operations and would not attract substantial amounts of heavy-duty trucks that spend long periods queuing and idling at the project site. As previously stated, Alternative 2 has been evaluated against SCAQMD's operational phase LST protocol, and on-site project emissions would result in slightly less concentrations of pollutants at nearby sensitive receptors as compared to the proposed project.

Overall, Alternative 2 would have less than significant impacts with respect to air quality, and impacts would be further reduced with the incorporation of Regulatory Compliance Measures AQ-1 through AQ-3, which would also be required for Alternative 1. Overall, impacts to air quality under Alternative 2 are reduced, but similar to impacts associated with the proposed project. Because

impacts related to air quality for Alternative 2 would be less than those associated with the proposed project, cumulative impacts would also be less than cumulatively significant.

#### 4.2.11.3 Alternative 3

Alternative 3 would allow for the future construction of a 161,385 sf Ganahl Lumber hardware store and lumber yard, a 399-space vehicle storage facility, and 4,000 sf of drive-through restaurant uses, which represents a reduction of 2,000 sf of drive-through restaurant use as compared to the proposed project. Specifically, Area A would provide 101 parking spaces, compared to 62 parking spaces provided as part of the project. Under Alternative 3, these additional parking spaces would be used by the drive-through restaurant use.

Most components of the proposed project, such as outdoor lighting, circulation and access, signage, utilities and drainage, sustainability features, landscaping, construction phasing, and grading, would not significantly change under the implementation of Alternative 3. Components specific to Area A, such as the location of walkways, retaining walls, fences, and gates, would also not change under Alternative 3. The modification and installation of existing and new utilities and infrastructure associated with the proposed project would still occur under Alternative 3. Under Alternative 3, similar to the proposed project, the entirety of Area A would be cleared, excavated, graded, and paved to accommodate surface parking and a building pad.

For the reasons stated above, it can be assumed that construction-related criteria air pollutant emissions generated under Alternative 3 would be similar, but slightly less, than emissions expected under the proposed project. As discussed in Section 4.2.6, Project Impacts, the proposed project would generate construction emissions below both SCAQMD's regional significance thresholds and SCAQMD's LSTs. Therefore, the reduced development intensity of Alternative 3 would also result in construction emissions below these thresholds.

Implementation of Alternative 3 would result in the long-term emission of ROG, $NO_X$, $SO_2$, CO, $PM_{10}$, and $PM_{2.5}$. Table 4.2.M compares the maximum daily regional operations emissions of Alternative 3 and the proposed project.

As shown in Table 4.2.M, Alternative 3 would result in fewer operational criteria air pollutants than the proposed project. Therefore, because Alternative 3 results in fewer operational emissions as compared to the proposed project, Alternative 3 would not exceed the significance thresholds of criteria pollutants for which the project region is nonattainment under the CAAQS or NAAQS.

Alternative 3 has also been evaluated for localized pollutant emissions. In order to provide a conservative assessment, the emissions shown in Table 4.2.N include all on-site project-related stationary sources, as well as 10 percent of the project-related mobile sources. Table 4.2.N shows the maximum daily emissions for operational activities under Alternative 3 as compared to the proposed project.

## Table 4.2.M: Alternative 3 Regional Operations Emissions

| Emissions Source | Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| | ROG | $NO_X$ | CO | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ |
| **Alternative 3 (4,000 sf of Restaurant Use)** | | | | | | |
| **Summer Emissions** | | | | | | |
| Alternative 3 Total Emissions | 9.57 | 28.51 | 53.46 | 0.15 | 12.14 | 3.98 |
| **Winter Emissions** | | | | | | |
| Alternative 3 Total Emissions | 9.51 | 28.74 | 53.06 | 0.14 | 12.14 | 3.98 |
| **Project Buildout** | | | | | | |
| **Summer Emissions** | | | | | | |
| Project Buildout Total Emissions | 10.38 | 31.62 | 63.81 | 0.19 | 15.60 | 4.94 |
| **Winter Emissions** | | | | | | |
| Project Buildout Total Emissions | 10.30 | 31.94 | 62.95 | 0.18 | 15.60 | 4.94 |
| **Alternative 3 Compared to Project Buildout** | | | | | | |
| **Summer Emissions** | | | | | | |
| Difference | -0.81 | -3.11 | -10.35 | -0.04 | -3.46 | -0.96 |
| **Winter Emissions** | | | | | | |
| Difference | -0.79 | -3.20 | -9.89 | -0.04 | -3.46 | -0.96 |

Source: *Air Quality and Greenhouse Gas Assessment* (ECORP 2019a).
CO = carbon monoxide
lbs/day = pounds per day
$NO_X$ = oxides of nitrogen
$PM_{10}$ = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
$SO_2$ = sulfur dioxide
ROG = reactive organic gas
sf = square feet

## Table 4.2.N: Alternative 3 Localized Operations Emissions

| Source | Emissions (lbs/day) | | | |
|---|---|---|---|---|
| | $NO_X$ | CO | $PM_{10}$ | $PM_{2.5}$ |
| **Alternative 3 (4,000 sf of Restaurant Use)** | | | | |
| Alternative 3 On-site Emissions (Summer) | 15.53 | 17.96 | 2.11 | 1.22 |
| Alternative 3 On-site Emissions (Winter) | 15.56 | 17.92 | 2.11 | 1.22 |
| **Project Buildout** | | | | |
| Project On-site Emissions (Summer) | 15.83 | 18.99 | 2.45 | 1.31 |
| Project On-site Emissions (Winter) | 15.86 | 18.90 | 2.45 | 1.31 |
| **Alternative 3 Compared to Project Buildout** | | | | |
| Difference (Summer) | -0.30 | -1.03 | -0.34 | -0.09 |
| Difference (Winter) | -0.30 | -0.98 | -0.34 | -0.09 |

Source: *Air Quality and Greenhouse Gas Assessment* (ECORP 2019a).
CO = carbon monoxide
lbs/day = pounds per day
$NO_X$ = oxides of nitrogen
$PM_{10}$ = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
sf = square feet

As seen in Table 4.2.N, Alternative 3 would result in fewer on-site generated localized pollutants when compared to the proposed project. Therefore, because Alternative 3 would result in fewer localized operations emissions as compared to the proposed project, Alternative 3 would not exceed the LSTs established by the SCAQMD, and localized emissions from operation of Alternative 3 would not expose sensitive receptors to substantial pollutant concentrations.

Similar to the proposed project, Alternative 3 would be required to comply with the SCAQMD's AQMP. As previously described, in order to determine consistency with SCAQMD's air quality planning two main criteria must be addressed. The first criterion involves consistency with the State's ambient air quality standards and the NAAQS, which is determined based on whether a project exceeds regional and localized thresholds of significance. The second criterion relates to a project's consistency with regional growth projections, which are used to develop future air quality forecasts for the AQMP. Alternative 3 would be below the SCAQMD regional and localized thresholds for construction and operations and is consistent with the land use designation and development density presented in the City's General Plan. Similar to the proposed project, Alternative 3 is consistent with these two criteria, and therefore, would not conflict with the SCAQMD AQMP.

Alternative 3 would not result in the development of any substantial sources of air toxics. Alternative 3 would not involve any stationary sources associated with operations and would not attract substantial amounts of heavy-duty trucks that spend long periods queuing and idling at the project site. As previously stated, Alternative 3 has been evaluated against SCAQMD's operational phase LST protocol, and on-site project emissions would result in slightly less concentrations of pollutants at nearby sensitive receptors as compared to the proposed project.

Overall, Alternative 3 would have less than significant impacts with respect to air quality, and impacts would be further reduced with the incorporation of Regulatory Compliance Measures AQ-1 through AQ-3. Overall, impacts to air quality under Alternative 3 are reduced, but similar to impacts associated with the proposed project. Because impacts related to air quality for Alternative 3 would be less than those associated with the proposed project, cumulative impacts would also be less than cumulatively significant.

**This page intentionally left blank**