



5.9 Air Quality



5.9 AIR QUALITY

This section addresses the air emissions generated by the construction and operation of the Project, and the potential impacts to air quality, including a health risk assessment. The analysis also addresses the consistency of the Project with the air quality policies set forth within the South Coast Air Quality Management District's (SCAQMD) *2016 Air Quality Management Plan* (2016 AQMP). The analysis of Project-generated air emissions focuses on whether the Project would cause an exceedance of an ambient air quality standard or SCAQMD significance thresholds.

This section is based upon the following technical studies included as Appendix 11.8, *Air Quality, Health Risk, and Greenhouse Gas Analyses*:

- Urban Crossroads, *Azusa Business Center Air Quality Impact Analysis*, October 17, 2017 (Air Quality Analysis);
- Urban Crossroads, *Azusa Business Center Supplemental AQ & GHG Assessment*, February 2, 2018 (Supplemental AQ & GHG Assessment); and
- Urban Crossroads, *Azusa Business Center Diesel Mobile Source Health Risk Assessment*, October 17, 2017 (Health Risk Assessment).

5.9.1 EXISTING SETTING

SOUTH COAST AIR BASIN

Geography

The City is located in the South Coast Air Basin (Basin), a 6,600-square mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Geronio Pass area of Riverside County.

The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of air pollutants throughout the Basin.

Climate

The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The climate consists of a semiarid environment with mild winters, warm summers, moderate temperatures, and comfortable humidity. Precipitation is limited to a few winter storms. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.



The average annual temperature varies little throughout the Basin, averaging 75 degrees Fahrenheit (°F). However, with a less-pronounced oceanic influence, the eastern inland portions of the Basin show greater variability in annual minimum and maximum temperatures. All portions of the Basin have had recorded temperatures over 100°F in recent years.

Although the Basin has a semi-arid climate, the air near the surface is moist due to the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the Basin by offshore winds, the ocean effect is dominant. Periods with heavy fog are frequent, and low stratus clouds, occasionally referred to as “high fog,” are a characteristic climate feature. Annual average relative humidity is 70 percent at the coast and 57 percent in the eastern part of the Basin. Precipitation in the Basin is typically nine to 14 inches annually and is rarely in the form of snow or hail due to typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the Basin.

The height of the inversion is important in determining pollutant concentration. When the inversion is approximately 2,500 feet above sea level, the sea breezes carry the pollutants inland to escape over the mountain slopes or through the passes. At a height of 1,200 feet, the terrain prevents the pollutants from entering the upper atmosphere, resulting in a settlement in the foothill communities. Below 1,200 feet, the inversion puts a tight lid on pollutants, concentrating them in a shallow layer over the entire coastal basin. Usually, inversions are lower before sunrise than during the day. Mixing heights for inversions are lower in the summer and more persistent, being partly responsible for the high levels of ozone (O₃) observed during summer months in the Basin. Smog in southern California is generally the result of these temperature inversions combining with coastal day winds and local mountains to contain the pollutants for long periods of time, allowing them to form secondary pollutants by reacting with sunlight. The Basin has a limited ability to disperse these pollutants due to typically low wind speeds.

The Site area offers clear skies and sunshine, yet is still susceptible to air inversions. These inversions trap a layer of stagnant air near the ground, where it is then further loaded with pollutants. These inversions cause haziness, which is caused by moisture, suspended dust, and a variety of chemical aerosols emitted by trucks, automobiles, furnaces, and other sources.

Azusa experiences average high temperatures of up to 92°F during the month of August, and average low temperatures of 42°F during the month of December. The City experiences approximately 17.32 inches of precipitation per year, with the most precipitation occurring in the month of February.¹

LOCAL AMBIENT AIR QUALITY

The SCAQMD monitors air quality at 37 monitoring stations throughout the Basin. Each monitoring station is located within a Source Receptor Area (SRA). The communities within a SRA are expected to have similar climatology and ambient air pollutant concentrations. The Site is located in the East San Gabriel Valley SRA (SRA 9). The monitoring station representative of this area is the Azusa station, which is located approximately 0.93-mile northeast of the Site. The air pollutants measured at the Azusa station site include O₃, carbon monoxide (CO), particulates (PM₁₀ and PM_{2.5}), and nitrogen dioxide (NO₂). Sulfur dioxide (SO₂) is not measured at the Azusa site.

¹ The Weather Channel, *Azusa, CA Monthly Weather*, <https://weather.com/weather/monthly/1/USCA0059:1:US>, accessed February 27, 2018.



Sulfur dioxide levels in the Basin have been well below State and Federal standards for many years. The air quality data monitored at the Azusa station from 2014 to 2016 are presented in Table 5.9-1, Azusa Station Air Quality Monitoring Summary 2014-2016.

**Table 5.9-1
Azusa Station Air Quality Monitoring Summary 2014-2016**

Pollutant	Standard	Year		
		2014	2015	2016
Ozone (O₃)				
Maximum 1-Hour Concentration (ppm)		0.123	0.122	0.146
Maximum 8-Hour Concentration (ppm)		0.092	0.096	0.106
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	11	21	30
Number of Days Exceeding State 8-Hour Standard	> 0.07 ppm	20	28	40
Number of Days Exceeding Federal 8-Hour Standard	> 0.07 ppm	0	0	0
Number of Days Exceeding Health Advisory	≥ 0.15 ppm	0.123	0.122	0.146
Carbon Monoxide (CO)				
Maximum 1-Hour Concentration (ppm)		2.0	2.1	1.3
Maximum 8-Hour Concentration (ppm)		1.9	1.3	1.2
Number of Days Exceeding State 1-Hour Standard	> 20 ppm	0	0	0
Number of Days Exceeding Federal / State 8-Hour Standard	> 9.0 ppm	0	0	0
Number of Days Exceeding Federal 1-Hour Standard	> 35 ppm	0	0	0
Nitrogen Dioxide (NO₂)				
Maximum 1-Hour Concentration (ppm)		0.070	0.071	0.074
Annual Arithmetic Mean Concentration (ppm)		0.018	0.015	0.029
Number of Days Exceeding State 1-Hour Standard	> 0.18 ppm	0	0	0
Particulate Matter ≤ 10 Microns (PM₁₀)				
Maximum 24-Hour Concentration (µg/m ³)		96	101	74
Annual Arithmetic Mean (µg/m ³)		44.1	37.1	33.7
Number of Samples		60	59	60
Number of Samples Exceeding State Standard	> 50 µg/m ³	22	12	12
Number of Samples Exceeding Federal Standard	> 150 µg/m ³	0	0	0
Particulate Matter ≤ 2.5 Microns (PM_{2.5})				
Maximum 24-Hour Concentration (µg/m ³)		32.4	44.3	32.2
Annual Arithmetic Mean (µg/m ³)		11.63	9.40	10.15
Number of Samples Exceeding Federal 24-Hour Standard	> 35 µg/m ³	0	1	0
Notes: ppm = parts per million; PM ₁₀ = particulate matter 10 microns in diameter or less; NM = not measured; µg/m ³ = micrograms per cubic meter; PM _{2.5} = particulate matter 2.5 microns in diameter or less.				
Source: Urban Crossroads, Azusa Business Center Air Quality Impact Analysis, October 17, 2017; refer to Appendix 11.8.				



Criteria pollutants are pollutants regulated through the development of human health based and/or environmentally based criteria for setting permissible levels. Criteria pollutants, their typical sources, and effects are identified below:

Carbon Monoxide (CO). CO is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions.

CO replaces oxygen in the body's red blood cells. Individuals with a deficient blood supply to the heart, patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes are most susceptible to the adverse effects of CO exposure. People with heart disease are also more susceptible to developing chest pains when exposed to low levels of carbon monoxide.

Ozone (O₃). Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" ozone layer) extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays. "Bad" ozone is a photochemical pollutant, and needs volatile organic compounds (VOCs), nitrogen oxides (NO_x), and sunlight to form; therefore, VOCs and NO_x are ozone precursors. To reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors. Significant ozone formation generally requires an adequate amount of precursors in the atmosphere and a period of several hours in a stable atmosphere with strong sunlight. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While ozone in the upper atmosphere (stratosphere) protects the earth from harmful ultraviolet radiation, high concentrations of ground-level ozone (in the troposphere) can adversely affect the human respiratory system and other tissues. Ozone is a strong irritant that can constrict the airways, forcing the respiratory system to work hard to deliver oxygen. Individuals exercising outdoors, children, and people with pre-existing lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible to the health effects of ozone. Short-term exposure (lasting for a few hours) to ozone at elevated levels can result in aggravated respiratory diseases such as emphysema, bronchitis and asthma, shortness of breath, increased susceptibility to infections, inflammation of the lung tissue, increased fatigue, as well as chest pain, dry throat, headache, and nausea.

Nitrogen Dioxide (NO₂). NO_x are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone, and react in the atmosphere to form acid rain. NO₂ (often used interchangeably with NO_x) is a reddish-brown gas that can cause breathing difficulties at elevated levels. Peak readings of NO₂ occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations). NO₂ can irritate and damage the lungs, and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO₂ concentrations that are typically much higher than those normally found in the ambient air may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO₂ may aggravate eyes and mucus membranes and cause pulmonary dysfunction.



Coarse Particulate Matter (PM₁₀). PM₁₀ refers to suspended particulate matter, which is smaller than 10 microns or ten one-millionths of a meter. PM₁₀ arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM₁₀ scatters light and significantly reduces visibility. In addition, these particulates penetrate into lungs and can potentially damage the respiratory tract. On June 19, 2003, the California Air Resources Board (CARB) adopted amendments to the Statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (Senate Bill 25).

Fine Particulate Matter (PM_{2.5}). Due to recent increased concerns over health impacts related to fine particulate matter (particulate matter 2.5 microns in diameter or less), both State and Federal PM_{2.5} standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. In 1997, the U.S. Environmental Protection Agency (EPA) announced new PM_{2.5} standards. Industry groups challenged the new standard in court and the implementation of the standard was blocked. However, upon appeal by the EPA, the United States Supreme Court reversed this decision and upheld the EPA's new standards. On January 5, 2005, the EPA published a Final Rule in the Federal Register that designates the Basin as a nonattainment area for Federal PM_{2.5} standards. On June 20, 2002, CARB adopted amendments for Statewide annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the Statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging.

Sulfur Dioxide (SO₂). SO₂ is a colorless, irritating gas with a rotten egg smell; it is formed primarily by the combustion of sulfur-containing fossil fuels. Sulfur dioxide is often used interchangeably with SO_x and lead. Exposure of a few minutes to low levels of SO₂ can result in airway constriction in some asthmatics.

Volatile Organic Compounds (VOC). Volatile organic compounds are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form ozone to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include: carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O₃, which is a criteria pollutant. The SCAQMD uses the terms VOC and ROG (see below) interchangeably.

Reactive Organic Gases (ROG). Similar to VOC, ROG are also precursors in forming ozone and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and nitrogen oxides react in the presence of sunlight. ROG are a criteria pollutant since they are a precursor to O₃, which is a criteria pollutant. The SCAQMD uses the terms ROG and VOC interchangeably.



SENSITIVE RECEPTORS

Sensitive populations are more susceptible to the effects of air pollution than the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics and CO are of particular concern. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The following types of people are most likely to be adversely affected by air pollution, as identified by CARB: children under 14, elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. Locations that may contain a high concentration of these sensitive population groups are called sensitive receptors and include residential areas, hospitals, day-care facilities, elder-care facilities, elementary schools, and parks.

Surrounding land uses include a mixture of light industrial, recreational, and open space uses. There are no sensitive uses in the immediate Site vicinity. The Army National Guard and commercial/business park uses are located to the north; the Azusa Greens Golf Course is to the east; Lagunitas Brewing Company is to the south; and the Laborers Training School and open space uses are to the west.

The nearest residential uses to the Site are located approximately 381 feet to the northeast, north of Sierra Madre Avenue. The nearest school to the Site is Hodge Elementary School, located approximately 2,765 feet to the east of the Site, north of West Eleventh Street. It should be noted that the Laborers Training School that adjoins the Site to the west is a vocational school specializing in training construction workers, which includes operating machinery, and other hands-on learning activities that is not considered a sensitive receptor for air quality purposes.

5.9.2 REGULATORY SETTING

FEDERAL LEVEL

U.S. Environmental Protection Agency

The EPA is responsible for implementing the Federal Clean Air Act (FCAA), which was first enacted in 1955 and amended numerous times after. The FCAA established Federal air quality standards known as the National Ambient Air Quality Standards (NAAQS). These standards identify levels of air quality for “criteria” pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare; refer to Table 5.9-2, *National and California Ambient Air Quality Standards*.



Table 5.9-2
National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California ¹		Federal ²	
		Standard ³	Attainment Status	Standards ^{3,4}	Attainment Status
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	Nonattainment	N/A	N/A ⁵
	8 Hours	0.070 ppm (137 µg/m ³)	Nonattainment	0.070 ppm (137 µg/m ³)	Nonattainment
Particulate Matter (PM ₁₀)	24 Hours	50 µg/m ³	Nonattainment	150 µg/m ³	Attainment/Maintenance
	Annual Arithmetic Mean	20 µg/m ³	Nonattainment	N/A	N/A
Fine Particulate Matter (PM _{2.5})	24 Hours	No Separate State Standard		35 µg/m ³	Nonattainment
	Annual Arithmetic Mean	12 µg/m ³	Nonattainment	12.0 µg/m ³	Nonattainment
Carbon Monoxide (CO)	8 Hours	9.0 ppm (10 mg/m ³)	Attainment	9 ppm (10 mg/m ³)	Attainment/Maintenance
	1 Hour	20 ppm (23 mg/m ³)	Attainment	35 ppm (40 mg/m ³)	Attainment/Maintenance
Nitrogen Dioxide (NO ₂) ⁵	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	N/A	53 ppb (100 µg/m ³)	Attainment/Maintenance
	1 Hour	0.18 ppm (339 µg/m ³)	Attainment	100 ppb (188 µg/m ³)	Attainment/Maintenance
Lead (Pb) ^{7,8}	30 days Average	1.5 µg/m ³	Attainment	N/A	N/A
	Calendar Quarter	N/A	N/A	1.5 µg/m ³	Nonattainment
	Rolling 3-Month Average	N/A	N/A	0.15 µg/m ³	Nonattainment
Sulfur Dioxide (SO ₂) ⁶	24 Hours	0.04 ppm (105 µg/m ³)	Attainment	0.14 ppm (for certain areas)	Unclassified/Attainment
	3 Hours	N/A	N/A	N/A	N/A
	1 Hour	0.25 ppm (655 µg/m ³)	Attainment	75 ppb (196 µg/m ³)	N/A
	Annual Arithmetic Mean	N/A	N/A	0.30 ppm (for certain areas)	Unclassified/Attainment
Visibility-Reducing Particles ⁹	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23 km@<70 percent RH	Unclassified	No Federal Standards	
Sulfates	24 Hour	25 µg/m ³	Attainment		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Unclassified		
Vinyl Chloride ⁷	24 Hour	0.01 ppm (26 µg/m ³)	N/A		

Notes: µg/m³ = micrograms per cubic meter; ppm = parts per million; ppb = parts per billion; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time; N/A = Not Applicable

- California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equalled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
- Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
- To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
- On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of ppb. California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
- CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- In 1989, CARB converted both the general Statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the Statewide and Lake Tahoe Air Basin standards, respectively.

Source: California Air Resources Board, *Ambient Air Quality Standards Chart*, May 4, 2016, <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>, accessed March 5, 2018.



STATE LEVEL

California Air Resources Board

CARB administers the air quality policy in California. The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in [Table 5.9-2](#), are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide, and sulfates. The California Clean Air Act (CCAA), which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS. These AQMP's also serve as the basis for the preparation of the State Implementation Plan for the State of California.

Like the EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data show that a State standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a State standard, and are not used as a basis for designating areas as nonattainment.

South Coast Air Quality Management District

The SCAQMD is one of 35 air quality management districts that have prepared AQMP's to accomplish a five-percent annual reduction in emissions. On March 3, 2017, the SCAQMD Governing Board approved the *2016 Air Quality Management Plan (2016 AQMP)*, which is a regional blueprint for achieving air quality standards and healthful air. The 2016 AQMP represents a new approach, focusing on available, proven, and cost-effective alternatives to traditional strategies, while seeking to achieve multiple goals in partnership with other entities promoting reductions in greenhouse gases and toxic risk, as well as efficiencies in energy use, transportation, and goods movement. The 2016 AQMP incorporates the latest scientific and technical information and planning assumptions, including the latest applicable growth assumptions, Regional Transportation Plan/Sustainable Communities Strategy, and updated emission inventory methodologies for various source categories. The 2016 AQMP relies on a multi-level partnership of governmental agencies at the Federal, State, regional, and local level. These agencies (EPA, CARB, local governments, Southern California Association of Governments [SCAG] and the SCAQMD) are the primary agencies that implement the AQMP programs.

The 2016 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. The 2016 AQMP includes integrated strategies and measures to meet the NAAQS. To ensure air quality goals are met while maximizing benefits and minimizing adverse impacts to the regional economy, the following policy objectives have guided the development of the 2016 AQMP:

- Eliminate reliance on future technologies (FCAA Section 182[e][5]) measures to the maximum extent feasible;



- Calculate and take credit for co-benefits from other planning efforts;
- Develop a strategy with fair-share emission reductions at the Federal, State, and local levels;
- Invest in strategies and technologies meeting multiple objectives regarding air quality, climate change, air toxics exposure, energy, and transportation;
- Identify and secure significant funding for incentives to implement early deployment and commercialization of zero and near-zero technologies;
- Enhance the socioeconomic analysis and pursue the most efficient and cost-effective path to achieve multi-pollutant and multi-deadline targets; and
- Prioritize enforceable regulatory measures as well as non-regulatory, innovative, and “win-win” approaches for emission reductions.

In addition to the 2016 AQMP and its rules and regulations, the SCAQMD published the *CEQA Air Quality Handbook*. The SCAQMD *CEQA Air Quality Handbook* provides guidance to assist local government agencies and consultants in developing the environmental documents required by CEQA. With the help of the *CEQA Air Quality Handbook*, local land use planners and other consultants are able to analyze and document how proposed and existing projects affect air quality and should be able to fulfill the requirements of the CEQA review process. The SCAQMD is in the process of developing an *Air Quality Analysis Guidance Handbook* to replace the current *CEQA Air Quality Handbook* approved by the SCAQMD Governing Board in 1993.

LOCAL LEVEL

City of Azusa General Plan

City policies pertaining to air quality are contained in the General Plan Natural Environment Element (adopted April 2004). These goals and policies are intended to reduce air pollutant emissions in the City, and improve the overall air quality for the community. The applicable air quality-related policies include, but are not limited to, the following:

GOALS AND POLICIES

Goal 1 – Improve air quality in Azusa and reduce exposure to air pollutants.

Policy 1.1: Integrate air quality concerns into land use planning decisions.

Policy 1.2: Integrate air quality concerns into site design review.

Policy 1.3: Reduce pollutant emissions from quarry operations, off-road vehicles use areas, industrial uses, and vehicular traffic.

Policy 1.4: Participate in regional air quality planning strategies.



Policy 1.5: Consider encouraging the use of “green roof” construction technologies.

5.9.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

REGIONAL AIR QUALITY

In its *CEQA Air Quality Handbook* (November 1993), the SCAQMD has established significance thresholds to assess the impact of project related air pollutant emissions. Table 5.9-3, SCAQMD Regional Pollutant Emission Thresholds of Significance, presents these significance thresholds. There are separate thresholds for short-term construction and long-term operational emissions. A project with daily emission rates below these thresholds is considered to have a less than significant effect on regional air quality from both a direct and cumulative impact standpoint.

Table 5.9-3
SCAQMD Regional Pollutant Emission Thresholds of Significance

Phase	Pollutant (pounds/day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Construction	75	100	550	150	150	55
Operation	55	55	550	150	150	55
Notes: CO = carbon monoxide; VOC = volatile organic compounds; NO _x = nitrogen oxides; PM ₁₀ = particulate matter smaller than 10 microns; PM _{2.5} = particulate matter smaller than 2.5 microns						
Source: Urban Crossroads, Azusa Business Center Air Quality Impact Analysis, October 17, 2017; refer to Appendix 11.8.						

LOCAL AIR QUALITY

Localized Significance Thresholds

Localized Significance Thresholds (LSTs) were developed in response to the SCAQMD Governing Boards’ Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (revised July 2008) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with proposed projects. The SCAQMD provides the LST lookup tables for one, two, and five-acre projects emitting CO, NO_x, PM₁₀, and PM_{2.5}. The SCAQMD recommends that any project over five acres should perform air quality dispersion modeling to assess impacts to nearby sensitive receptors.

Localized CO

In addition, the project would result in a local air quality impact if the project results in increased traffic volumes and/or decreases in Level of Service (LOS) that would result in an exceedance of the CO ambient air quality standards of 20 parts per million (ppm) for 1-hour CO concentration levels, and 9 ppm for 8-hour CO concentration levels. If the CO concentrations at potentially impacted intersections with the project are lower than the standards, then there is no significant impact. If future CO concentrations with the project are above the standard, then the project would have a significant local air quality impact.



Health Risk Assessment

The SCAQMD states that if a proposed project is expected to generate and/or attract diesel trucks, which emit diesel particulate matter (DPM), preparation of a health risk assessment (HRA) is necessary. The HRA is recommended to be prepared in accordance with the SCAQMD's *Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*. Cancer risk is expressed in terms of expected incremental incidence per million population. The SCAQMD has established an incidence rate of ten persons per million as the maximum acceptable incremental cancer risk due to DPM exposure. This threshold serves to determine whether or not a given project has a potentially significant development-specific and cumulative impact.

The SCAQMD also established non-carcinogenic risk parameters for use in HRA. Non-carcinogenic risks are quantified by calculating a "hazard index," expressed as the ratio between the ambient pollutant concentration and its toxicity or Reference Exposure Level. A hazard index less than 1.0 means that adverse health effects are not expected and impacts would be less than significant from both a direct and cumulative impacts perspective.

Cumulative Emissions

The SCAQMD's 2016 AQMP was prepared to accommodate growth, meet State and Federal air quality standards, and minimize the fiscal impact that pollution control measures have on the local economy. According to the *CEQA Air Quality Handbook*, project-related emissions that fall below the established construction and operational thresholds are considered less than significant.

SCAQMD rule development through the 1970s and 1980s resulted in dramatic improvement in Basin air quality. Nearly all control programs developed through the early 1990s relied on (i) the development and application of cleaner technology; (ii) add-on emission controls, and (iii) uniform CEQA review throughout the Basin. Industrial emission sources have been significantly reduced by this approach and vehicular emissions have been reduced by technologies implemented at the state level by CARB.

As discussed above, the SCAQMD is the lead agency charged with regulating air quality emission reductions for the entire Basin. SCAQMD created AQMPs which represent a regional blueprint for achieving healthful air on behalf of the 16 million residents of the South Coast Basin. The historical improvement in air quality since the 1970s is the direct result of southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs and by utilizing uniform CEQA review throughout the Basin.

Ozone, NO_x, VOC, and CO have been decreasing in the Basin since 1975 and are projected to continue to decrease through 2020. These decreases result primarily from motor vehicle controls and reductions in evaporative emissions. Although vehicle miles traveled in the Basin continue to increase, NO_x and VOC levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NO_x emissions from electric utilities have also decreased due to use of cleaner fuels and renewable energy. The overall trends of PM₁₀ and PM_{2.5} in the air (not emissions) show an overall improvement since 1975. Direct emissions of PM₁₀ have remained somewhat constant in the Basin and direct emissions of PM_{2.5} have decreased slightly since 1975. Area wide sources (fugitive dust from roads, dust from



construction and demolition, and other sources) contribute the greatest amount of direct particulate matter emissions.

Part of the control process of the SCAQMD's duty to greatly improve the air quality in the Basin is the uniform CEQA review procedures required by SCAQMD's *CEQA Handbook*. The single threshold of significance used to assess direct and cumulative project impacts has in fact "worked" as evidenced by the track record of the air quality in the Basin dramatically improving over the course of the past decades. As stated by the SCAQMD, the SCAQMD thresholds of significance are based on factual and scientific data and are therefore appropriate thresholds of significance to use for this Project.

CEQA SIGNIFICANCE CRITERIA

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by Appendix G of the *CEQA Guidelines*, as amended, and used by the City in its environmental review process. The Initial Study Checklist includes questions relating to air quality. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant adverse environmental impact if it would:

- a) Conflict with or obstruct implementation of the applicable air quality plan (refer to Impact Statement AQ-4);
- b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation (refer to Impact Statements AQ-1 and AQ-2);
- c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) (refer to Impact Statements AQ-1 and AQ-2 and Section 5.9.5, *Cumulative Impacts*);
- d) Expose sensitive receptors to substantial pollutant concentrations (refer to Impact Statement AQ-3); and/or
- e) Create objectionable odors affecting a substantial number of people (refer to Section 8.0, *Effects Found Not To Be Significant*).

Based on these significance thresholds and criteria, the Project's effects have been categorized as either "no impact," a "less than significant impact," or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

The standards used to evaluate the significance of impacts are often qualitative rather than quantitative because appropriate quantitative standards are either not available for many types of impacts or are not applicable for some types of projects.



5.9.4 IMPACTS AND MITIGATION MEASURES

SHORT-TERM (CONSTRUCTION) AIR EMISSIONS

AQ-1 Would short-term construction activities associated with the Project result in air pollutant emission impacts or expose sensitive receptors to substantial pollutant concentrations?

Impact Analysis:

WAREHOUSE ONLY OPTION

Short-term air quality impacts are predicted to occur during grading and construction operations associated with implementation of the Warehouse Only Option. Temporary air emissions would result from the following activities:

- Particulate (fugitive dust) emissions from grading and building construction; and
- Exhaust emissions from the construction equipment and the motor vehicles of the construction crew.

Construction activities would include demolition, site preparation, grading, building construction, architectural coating, and paving. Demolition of the former Colorama Wholesale Nursery would generate approximately 13,465 square feet of demolition debris, which would be hauled and processed off-site. Construction of the Warehouse Only Option is anticipated to take 21 months and would include the use of the following construction equipment: concrete/industrial saws, crushing/processing equipment, excavators, rubber tired dozers, crawler tractors, graders, scrapers, cranes, forklifts, generator sets, welders, pavers, paving equipment, rollers, and air compressors. Emissions for each construction phase have been quantified based upon the phase durations and equipment types. The analysis of daily construction emissions has been prepared utilizing the California Emissions Estimator Model (CalEEMod, version 2016.3.2). Refer to Air Quality Analysis Appendix 3.1, *CalEEMod Unmitigated Construction Emissions Model Outputs*, for the CalEEMod outputs and results. Table 5.9-4, *Maximum Daily Peak Construction Emissions*, presents the anticipated daily short-term construction emissions.

Fugitive Dust Emissions

Fugitive dust (PM₁₀ and PM_{2.5}) from grading and construction is expected to be short-term and would cease following Project completion. Most of this material is composed of inert silicates, which are less harmful to health than the complex organic particulates released from combustion sources. These particles are either directly emitted or are formed in the atmosphere from the combustion of gases such as NO_x and SO_x combining with ammonia. The greatest amount of fugitive dust generated is expected to occur during site grading and excavation. Dust generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular concern is the amount of PM₁₀ generated as a part of fugitive dust emissions.



**Table 5.9-4
Maximum Daily Peak Construction Emissions**

Year	Daily Pollutant Emissions (pounds/day) ¹					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Unmitigated Emissions						
Year 1	7.13	98.44	44.09	0.10	23.77	13.32
Year 2	7.21	88.38	44.64	0.13	13.62	6.65
Year 3	127.89	60.27	41.53	0.13	7.81	3.42
Maximum Daily Emissions	127.89	98.44	44.64	0.13	23.77	13.32
SCAQMD Significance Threshold ²	75	100	550	150	150	55
Threshold Exceeded Before Mitigation?	YES	NO	NO	NO	NO	NO
Mitigated Emissions						
Year 1	7.13	98.44	44.09	0.10	13.11	7.12
Year 2	7.21	88.38	44.64	0.13	8.02	4.37
Year 3	66.54	60.27	41.53	0.13	7.81	3.42
Maximum Daily Emissions	66.54	98.44	44.64	0.13	13.11	7.12
SCAQMD Significance Threshold ²	75	100	550	150	150	55
Threshold Exceeded After Mitigation?	NO	NO	NO	NO	NO	NO
Notes: VOC = volatile organic compounds; NO _x = nitrogen oxides; CO = carbon monoxide; SO _x = sulfur oxides; PM ₁₀ = particulate matter smaller than 10 microns; PM _{2.5} = particulate matter smaller than 2.5 microns						
1. Emissions were calculated using CalEEMod.						
2. Regional daily construction thresholds are based on the SCAQMD significance thresholds.						
Source: Urban Crossroads, Azusa Business Center Air Quality Impact Analysis, October 17, 2017; refer to Appendix 11.8.						

CalEEMod was used to calculate PM₁₀ and PM_{2.5} fugitive dust emissions as part of the site earthwork activities; refer to Table 5.9-4. Maximum particulate matter emissions would occur during the initial stages of construction, when grading activities would occur. As detailed in Table 5.9-4, construction related PM₁₀ emissions would range between 7.81 and 23.77 pounds/day and PM_{2.5} emissions would range between 3.42 and 13.32 pounds/day, which are less than the regional significance thresholds for each. Further, best available control measures under SCA AQ-1 would also further reduce fugitive dust emissions. SCA AQ-1 requires that construction activities comply with SCAQMD Rule 403, such that excessive fugitive dust emissions be controlled by regular watering or other dust prevention measures. Thus, fugitive dust emissions would be below the thresholds of 150 and 55 pounds/day for PM₁₀ and PM_{2.5}, respectively, and impacts related to fugitive dust emissions would be less than significant.

Construction Exhaust Emissions

Exhaust emissions would be generated by the operation of vehicles and equipment on the construction site, such as tractors, dozers, backhoes, cranes, and trucks. The majority of construction equipment and vehicles would be diesel powered, which tends to be more efficient than gasoline-powered equipment. Diesel-powered equipment produces lower carbon monoxide and hydrocarbon emissions than gasoline equipment, but produces greater amounts of NO_x, SO_x, and particulates per hour of activity. The transportation of machinery, equipment and materials to and from the Site, as well as construction worker trips, would also generate vehicle emissions during construction. As presented in Table 5.9-4, construction equipment and worker vehicle exhaust



emissions (i.e., NO_x, CO, and SO_x) would not exceed the emissions thresholds and impacts would be less than significant. Further, best available control measures associated with reducing construction exhaust emissions are also required by SCA AQ-2. Implementation of SCA AQ-2 would ensure all heavy-duty trucks do not idle for greater than five minutes at any location, thereby further reducing construction exhaust emissions as well as construction traffic.

VOC Emissions

The application of asphalt and surface coatings creates VOC emissions, which are O₃ precursors. As shown in [Table 5.9-4](#), short-term construction activities associated with the Warehouse Only Option would emit a maximum of 127.89 pounds/day of VOC emissions, which exceeds the 75 pounds/day criteria pollutant thresholds for VOCs. Mitigation Measure AQ-1 is recommended to reduce VOC emissions by either utilizing “super-compliant” low VOC paints that have been reformulated to exceed the regulatory VOC limits put forth by SCAQMD’s Rule 1113 or by utilizing tilt-up concrete buildings that do not require the use of architectural coatings. Implementation of Mitigation Measure AQ-1 would ensure the maximum mitigated VOC emission is reduced to 66.54 pounds/day; refer to [Table 5.9-4](#). As such, construction emissions would be below the thresholds of 75 pounds/day for VOC, and impacts would be reduced to a less than significant level.

Asbestos

Pursuant to guidance issued by the Governor’s Office of Planning and Research, State Clearinghouse, lead agencies are encouraged to analyze potential impacts related to naturally occurring asbestos. Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by State, Federal, and international agencies and was identified as a toxic air contaminant by the CARB in 1986.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed.

Serpentinite and/or ultramafic rock are known to be present in 44 of California’s 58 counties. These rocks are particularly abundant in the counties of the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. According to the Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report* (dated August 2000), the Site is not located in an area where naturally occurring asbestos is likely to be present. Therefore, no impacts are anticipated to result.



Total Daily Construction Emissions

CalEEMod was utilized to model construction emissions for VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. As indicated in [Table 5.9-4](#), unmitigated construction emissions would only exceed thresholds for VOC emissions. SCA AQ-1 and SCA AQ-2 would further reduce fugitive dust and construction exhaust emissions, while Mitigation Measure AQ-1 would reduce VOC emissions impacts to less than significant levels. As such, construction emissions would be less than significant with mitigation incorporated.

WAREHOUSING AND MANUFACTURING OPTION

Since the Warehousing and Manufacturing Option would result in similar construction impacts as the Warehouse Only Option, a less than significant impacts would result with the incorporation of SCA AQ-1 and SCA AQ-2 and Mitigation Measure AQ-1.

Standard Conditions of Approval:

SCA AQ-1 The following measures shall be incorporated into Project plans and specifications as implementation of South Coast Air Quality Management District (SCAQMD) Rule 403:

- All active portions of the construction site shall be watered every three hours during daily construction activities and when dust is observed migrating from the Site to prevent excessive amounts of dust;
- Pave or apply water every three hours during daily construction activities or apply non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas. More frequent watering shall occur if dust is observed migrating from the Site during site disturbance;
- Any on-site stockpiles of debris, dirt, or other dusty material shall be enclosed, covered, or watered twice daily, or non-toxic soil binders shall be applied;
- All grading and excavation operations shall be suspended when wind speeds exceed 25 miles per hour;
- Disturbed areas shall be replaced with ground cover or paved immediately after construction is completed in the affected area;
- Track-out devices such as gravel bed track-out aprons (3 inches deep, 25 feet long, 12 feet wide per lane and edged by rock berm or row of stakes) shall be installed to reduce mud/dirt trackout from unpaved truck exit routes. Alternatively, a wheel washer shall be used at truck exit routes;
- On-site vehicle speed shall be limited to 15 miles per hour; and
- All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust prior to departing the Site.



SCA AQ-2 Per the California Air Resources Board (CARB), in Title 13, Chapter 10, Section 2485, Division 3 of the of the California Code of Regulations, heavy-duty trucks accessing the Site shall not idle for greater than five minutes at any location in order to reduce construction exhaust emissions and construction traffic. Grading plans shall reference that a sign shall be posted on-site stating that construction workers need to shut off engines at or before five minutes of idling.

Mitigation Measures:

AQ-1 The Project shall utilize “Super-Compliant” low volatile organic compounds (VOC) paints which have been reformulated to exceed the regulatory VOC limits put forth by South Coast Air Quality Management District (SCAQMD) Rule 1113. Super-Compliant low VOC paints shall be no more than 50 grams per liter of VOC. Alternatively, the Applicant may utilize tilt-up concrete buildings that do not require the use of architectural coatings.

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

LONG-TERM (OPERATIONAL) AIR EMISSIONS

AQ-2 **Would implementation of the Project result in increased impacts pertaining to operational air emissions?**

Impact Analysis:

WAREHOUSE ONLY OPTION

Operational emissions generated by both stationary and mobile sources would result from normal daily activities on the Site after construction is complete (i.e., increased concentrations of O₃, PM₁₀, and CO). Stationary area source emissions would be generated by the consumption of natural gas for space and water heating devices, the operation of landscape maintenance and on-site equipment, and the use of consumer products. Stationary energy emissions would result from energy consumption associated with the Warehouse Only Option. Mobile emissions would be generated by the motor vehicles traveling to and from the Site. Emissions associated with each of these sources were calculated and are discussed below.

Area Source Emissions

Area source emissions include those generated by architectural coatings, consumer products, and landscape maintenance equipment as described below.

- *Architectural Coatings:* As part of Project maintenance, architectural coatings on the Project buildings would emit emissions from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings.
- *Consumer Products:* Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants.



- *Landscape Maintenance Equipment:* Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Site.

The emissions associated with all area source emissions were calculated based on assumptions provided in the CalEEMod model.

Energy Source Emissions

Pollutant emissions associated with energy demand (i.e., electricity generation and natural gas consumption) are classified by the SCAQMD as regional stationary source emissions. However, because electrical generating facilities for the Site vicinity are distributed throughout the Basin and western United States, their emissions contribute to the total regional pollutant burden. Thus, criteria pollutant emissions from off-site generation of electricity is generally excluded from the evaluation of significance and only natural gas use is considered. The primary use of propane by the proposed land uses would be for combustion to produce space heating, water heating, other miscellaneous heating, or air conditioning, consumer products, and landscaping. The emissions associated with natural gas use were calculated using the CalEEMod model.

Mobile Source Emissions

Vehicles

Warehouse Only Option-related operational air quality impacts are derived predominantly from mobile sources. In this regard, more than 96 percent (by weight) of all operational source emissions for the Warehouse Only Option would be generated by mobile sources. Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Mobile source air quality impacts are dependent on both overall daily vehicle trip generation and the effect of the Warehouse Only Option on peak hour traffic volumes and traffic operations in the Site vicinity. The operational air quality impacts are derived primarily from vehicle trips generated by the Warehouse Only Option. The analysis below relies on the net Project trips (as opposed to the passenger car equivalents) to accurately account for the effect of individual truck emissions associated with the Warehouse Only Option.

Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, NO_x, SO_x, PM₁₀, and PM_{2.5} are all pollutants of regional concern (NO_x and ROG react with sunlight to form O₃ [photochemical smog], and wind currents readily transport SO_x, PM₁₀, and PM_{2.5}). However, CO tends to be a localized pollutant, dispersing rapidly at the source. Warehouse Only Option-generated vehicle emissions have been estimated using CalEEMod. This model predicts ROG, NO_x, PM₁₀, and PM_{2.5} emissions from motor vehicle traffic associated with the proposed land uses.

Fugitive Dust Related to Vehicular Travel

According to CARB, fugitive dust are solid particles that come primarily from the soil, but can also contain sea salt, pollen, spores, tire particles, etc. Fugitive dust does not come out from a vent or a stack, and is not usually a by-product of burning. For the purposes of this analysis, dirt roads are not anticipated to exist on the Site and therefore would not be the primary source of fugitive dust. However, vehicles traveling on paved roads would be a source of fugitive emissions due to the



generation of road dust inclusive of tire wear particulates. The emissions estimates for travel on paved roads were calculated using the CalEEMod model.

On-site Equipment Emissions

It is common for an industrial warehouse project to require cargo handling equipment to move empty containers and empty chassis to and from the various pieces of cargo handling equipment that receive and distribute containers. The most common type of cargo handling equipment is the yard truck which is designed for moving cargo containers. Yard trucks are also known as yard goats, utility tractors, hustlers, yard hostlers, and yard tractors. As part of the Warehouse Only Option’s design, all on-site outdoor cargo handling equipment (including yard trucks, hostlers, yard goats, pallet jacks, forklifts, and other on-site equipment) and all on-site indoor forklifts would be electric-powered. Since there is no exhaust associated with the electrical operation of the yard tractors and forklifts, no on-site equipment was modeled with CalEEMod.

Operational Emissions Summary

Table 5.9-5, *Long-Term Operational Air Emissions – Warehouse Only Option*, presents the Project’s anticipated operational source emissions for the Warehouse Only Option. As indicated, the unmitigated operational emissions from the Warehouse Only Option would exceed regional thresholds of significance established by the SCAQMD for NO_x emissions.

**Table 5.9-5
Long-Term Operational Air Emissions – Warehouse Only Option**

Scenario	Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Summer Scenario						
Area Source	10.59	0.00046	0.05	0.00	0.00018	0.00018
Energy Source	0.01	0.11	0.09	0.00067	0.00853	0.00853
Mobile (Trucks)	2.59	71.14	19.79	0.23	7.63	2.50
Mobile (Passenger Cars)	0.99	1.50	21.58	0.07	8.03	2.16
Total Maximum Daily Emissions	14.18	72.75	41.51	0.30	15.67	4.67
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	YES	NO	NO	NO	NO
Winter Scenario						
Area Source	10.59	0.00046	0.05	0.00	0.00018	0.00018
Energy Source	0.01	0.11	0.09	0.00067	0.00853	0.00853
Mobile (Trucks)	2.62	73.11	20.29	0.23	7.64	2.50
Mobile (Passenger Cars)	0.91	1.63	19.20	0.07	8.03	2.17
Total Maximum Daily Emissions	14.13	74.85	39.63	0.30	15.68	4.68
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	YES	NO	NO	NO	NO
Notes: VOC = volatile organic compounds; NO _x = nitrogen oxides; CO = carbon monoxide; SO _x = sulfur oxides; PM ₁₀ = particulate matter smaller than 10 microns; PM _{2.5} = particulate matter smaller than 2.5 microns						
Source: Urban Crossroads, Azusa Business Center Air Quality Impact Analysis, October 17, 2017; refer to Appendix 11.8.						



Mitigation Measures AQ-2 through AQ-7 are recommended below to reduce operational emissions. Such measures would require building and site plan designs to include energy efficiencies that meet applicable California Title 24 Energy Efficiency Standards and require the Warehouse Only Option be designed in compliance with mandatory indoor water usage reductions per the California Green Building Code, include a landscaping palette featuring drought tolerant plants, utilize water-efficient irrigation techniques, and install high-efficiency toilets, faucets, and water-conserving shower heads. Additionally, the truck access gates and loading docks would be required to be posted with signs that state all truck drivers are required to turn off engines when not in use; diesel delivery truck are not allowed to idle for more than five minutes; and phone numbers of the building facilities manager and CARB to report violations. Any buildings utilizing refrigerated storage are required to provide an electrical hookup for refrigeration units on delivery trucks, and the Warehouse Only Option would be required to provide at least two electric vehicle charging stations. The Project Applicant is required to also notify tenants of CARB funding opportunities for clean engines and equipment. Implementation of Mitigation Measures AQ-2 through AQ-7 would reduce operational air emissions; however, no additional feasible mitigation measures or project design features exist that would reduce NO_x emissions to less than significant levels. As such, Project-generated operational NO_x emissions are considered significant and unavoidable under the Warehouse Only Option.

WAREHOUSING AND MANUFACTURING OPTION

The Warehousing and Manufacturing Option would result in slightly different operations, compared to the Warehouse Only Option, as warehousing uses would be reduced and additional manufacturing uses would be constructed. Table 5.9-6, Long-Term Operational Air Emissions – Warehousing and Manufacturing Option, presents the Project’s anticipated operational source emissions for the Warehousing and Manufacturing Option. To a greater extent than the Warehouse Only Option, operational NO_x emissions generated by the Warehousing and Manufacturing Option would exceed regional thresholds of significance established by the SCAQMD.

**Table 5.9-6
Long-Term Operational Air Emissions – Warehousing and Manufacturing Option**

Scenario	Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Summer Scenario						
Area Source	10.36	0.00044	0.05	0.00	0.00017	0.00017
Energy Source	0.05	0.48	0.41	0.0029	0.04	0.04
Mobile (Trucks)	3.51	94.77	26.20	0.31	10.42	3.47
Mobile (Passenger Cars)	1.14	1.72	24.84	0.08	9.24	2.49
Total Maximum Daily Emissions	15.05	96.97	51.49	0.40	19.69	6.00
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	YES	NO	NO	NO	NO
Winter Scenario						
Area Source	10.36	0.00044	0.05	0.00	0.00017	0.00017
Energy Source	0.05	0.48	0.41	0.0029	0.04	0.04
Mobile (Trucks)	3.55	97.42	26.86	0.31	10.42	3.48
Mobile (Passenger Cars)	1.05	1.88	22.10	0.08	9.24	2.49
Total Maximum Daily Emissions	15.01	99.78	49.41	0.39	19.69	6.00
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	YES	NO	NO	NO	NO
Notes: VOC = volatile organic compounds; NO _x = nitrogen oxides; CO = carbon monoxide; SO _x = sulfur oxides; PM ₁₀ = particulate matter smaller than 10 microns; PM _{2.5} = particulate matter smaller than 2.5 microns						
Source: Urban Crossroads, Azusa Business Center Supplemental AQ & GHG Assessment, February 2, 2018; refer to Appendix 11.8.						



Implementation of Mitigation Measures AQ-2 through AQ-7 would reduce operational air emissions; however, no additional feasible mitigation measures or project design features exist that would reduce NO_x emissions to less than significant levels. As such, Project-generated operational NO_x emissions are considered significant and unavoidable under the Warehousing and Manufacturing Option as well.

Standard Conditions of Approval: No standard conditions of approval are applicable.

Mitigation Measures:

AQ-2 In order to reduce Project-related air pollutant and greenhouse gas emissions, and promote sustainability through conservation of energy and other natural resources, building and site plan designs shall ensure the Project energy efficiencies meet applicable (2016) California Title 24 Energy Efficiency Standards.

AQ-3 To reduce water consumption and the associated energy-usage, the Project shall be designed to comply with the mandatory reductions in indoor water usage contained in the incumbent California Green Building Code and any mandated reduction in outdoor water usage contained in the City of Azusa's water efficient landscape requirements. Additionally, the Project shall implement the following:

- Landscaping palette emphasizing drought tolerant plants;
- Use of water-efficient irrigation techniques;
- Maximize the planting of trees in landscaping and parking lots;
- Use light colored paving and roofing materials;
- Utilize only Energy Star heating, cooling, and lighting devices, and appliances;
- Install light colored "cool" roofs and cool pavements; and
- EPA Certified WaterSense labeled or equivalent faucets, high-efficiency toilets, and water-conserving shower heads.

AQ-4 The truck access gates and loading docks within the truck court on the Site shall be posted with signs that state:

- Truck drivers shall turn off engines when not in use;
- Diesel delivery trucks servicing the Project shall not idle for more than five minutes; and
- Telephone numbers of the building facilities manager and the California Air Resources Board (CARB) to report violations.

AQ-5 Any proposed buildings utilizing refrigerated storage shall provide an electrical hookup for refrigeration units on delivery trucks. Trucks incapable of utilizing the electrical hookup for powering refrigeration shall be prohibited from accessing the Site.

AQ-6 The Applicant shall make its tenants aware of the funding opportunities, such as the Carl Moyer Memorial Air Quality Standards Attainment Program, and other similar funding opportunities, by providing applicable literature on such funding opportunities as available from the California Air Resources Board (CARB).



AQ-7 The proposed site plan design shall provide a minimum of two on-site electric vehicle charging stations.

Level of Significance: Significant and Unavoidable Impact.

LOCALIZED EMISSIONS

AQ-3 Would development associated with implementation of the Project result in localized emissions impacts or expose sensitive receptors to substantial pollutant concentrations?

Impact Analysis: LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized air quality impacts. The SCAQMD provides the LST screening lookup tables for projects that disturb/grade one, two, or five acres per day emitting CO, NO_x, PM_{2.5}, or PM₁₀. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources traveling over the roadways. The SCAQMD recommends that any project over five acres should perform air quality dispersion modeling to assess impacts to nearby sensitive receptors from area source emissions. For LST analysis purposes, SCAQMD is divided into 38 SRAs, each of which contain specific localized air quality emission thresholds for CO, NO_x, PM_{2.5}, and PM₁₀ to determine local air quality impacts. The Site is located within SRA 9, East San Gabriel Valley.

Sensitive Receptors

To assess the potential for long-term operational and short-term emission impacts, four receptor locations were identified as representative locations for analysis. 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. Structures that house these persons or places where they gather to exercise are defined as "sensitive receptors;" they are also known to be locations where an individual can remain for 24 hours.

The closest sensitive receptor is represented by existing residential homes approximately 381 feet (116 meters) from the Site on Sierra Madre Avenue. Other sensitive receptors in the study area at greater distances than those identified would experience lower air impacts than those identified below due to the additional particle dispersion from distance and the shielding of intervening structures.

WAREHOUSE ONLY OPTION

Construction Impacts

The SCAQMD guidance on applying CalEEMod to LSTs specifies the amount of acres a particular piece of equipment would likely disturb per day. SCAQMD provides LST thresholds for one-, two-, and five-acre site disturbance areas; SCAQMD does not provide LST thresholds for projects over five acres. Table 5.9-7, *Maximum Daily Disturbed Acreage*, identifies the maximum daily disturbed acreage for the purposes of LST modeling. As shown, the Warehouse Only Option could actively



disturb approximately 3.5 acres per day during the site preparation and 4.0 acre per day during the grading phases of construction.

**Table 5.9-7
Maximum Daily Disturbed Acreage**

Construction Phase	Equipment Type	Equipment Quantity	Acres graded per 8-hour day	Operating Hours per Day	Acres graded per day
Site Preparation	Rubber Tired Dozers	3	0.5	8	1.5
	Crawler Tractors	4	0.5	8	2.0
	Graders	0	0.5	8	0
	Scrapers	0	1	8	0
Total Acres Graded – Site Preparation Phase					3.5
Grading	Rubber Tired Dozers	1	0.5	8	0.5
	Crawler Tractors	2	0.5	8	1.0
	Graders	1	0.5	8	0.5
	Scrapers	2	1	8	2
Total Acres Graded – Grading Phase					4.0

Source: Urban Crossroads, Azusa Business Center Air Quality Impact Analysis, October 17, 2017; refer to Appendix 11.8.

Since the total acreage disturbed is less than five acres per day for both the site preparation and grading phases, the SCAQMD’s screening look-up tables are utilized in determining impacts. It should be noted that since the look-up tables identifies thresholds at only one acre, two acres, and five acres, linear regression has been utilized, consistent with SCAQMD guidance, in order to interpolate the threshold values for the other disturbed acreage not identified. As previously noted, a 381-foot sensitive receptor distance is utilized to determine the LSTs for emissions of CO, NO_x, PM₁₀, and PM_{2.5}. Table 5.9-8, *Construction Localized Significance Emissions Summary*, identifies the localized impacts at the nearest receptor location in the Site vicinity. Without mitigation, localized on-site construction emissions would not exceed the applicable SCAQMD LSTs for emissions of any criteria pollutant. It should be noted that although unmitigated construction emissions would be under LST thresholds, implementation of SCA AQ-1 and SCA AQ-2 and Mitigation Measure AQ-1 would further reduce construction emissions under the Warehouse Only Option.

**Table 5.9-8
Construction Localized Significance Emissions Summary**

Phase	Emissions (pounds per day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Site Preparation Phase				
Maximum Daily Emissions	77.14	25.08	23.56	13.27
SCAQMD Localized Threshold	256	3,633	59	17
Threshold Exceeded?	NO	NO	NO	NO
Grading Phase				
Maximum Daily Emissions	80.37	39.60	13.26	6.80
SCAQMD Localized Threshold	271	3,858	63	18
Threshold Exceeded?	NO	NO	NO	NO
Notes: NO _x = nitrous oxide; CO = carbon monoxide; PM ₁₀ = particulate matter smaller than 10 microns; PM _{2.5} = particulate matter smaller than 2.5 microns				
Source: Urban Crossroads, Azusa Business Center Air Quality Impact Analysis, October 17, 2017; refer to Appendix 11.8.				



Operational Impacts

Applicable localized thresholds from the SCAQMD’s mass-rate LST lookup tables for a five-acre project site are as follows and represent a conservative estimate of operational LST impacts:

- NO_x: 299 pounds per day;
- PM₁₀: 18 pounds per day;
- PM_{2.5}: 6 pounds per day; and/or
- CO: 4,307 pounds per day.

If emissions exceed the applicable LSTs for the Site, then additional dispersion modeling needs to be conducted to determine if there is an actual exceedance of the ambient air quality standards.

Table 5.9-9, *Operational Localized Significance Emissions Summary – Warehouse Only Option*, shows the calculated emissions for the operational activities for the Warehouse Only Option compared with the applicable LSTs. The LST analysis includes on-site sources only; however, the CalEEMod model outputs do not separate on-site and off-site emissions from mobile sources. In an effort to establish a maximum potential impact scenario for analytic purposes, the emissions shown in Table 5.9-9 represent all on-site Warehouse Only Option-related stationary (area) sources and five percent of Warehouse Only Option-related mobile sources. Considering that the weighted trip length used in the CalEEMod modeling is approximately 16.6 miles for passenger cars and 38.0 miles for trucks, 5 percent of this total would represent an on-site travel distance of approximately 0.83-mile (4,383 feet) for each passenger car and approximately 1.9 miles (10,032 feet) for each truck. The 5 percent assumption is conservative and would overstate the actual impact. As such, CalEEMod modeling based on these assumptions demonstrates that even within broad encompassing parameters, operational source emissions for the Warehouse Only Option would not exceed applicable LSTs and operational LST impacts would be less than significant. It should be noted that although unmitigated operational emissions would be under LST thresholds, implementation of Mitigation Measures AQ-2 through AQ-7 would further reduce operational emissions under the Warehouse Only Option.

**Table 5.9-9
Operational Localized Significance Emissions Summary – Warehouse Only Option**

On-Site Operation Emissions	Emissions (pounds per day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Maximum Daily Emissions	3.74	2.02	0.78	0.23
SCAQMD Localized Threshold	299	4,307	18	6
Threshold Exceeded?	NO	NO	NO	NO
Notes: NO _x = nitrous oxide; CO = carbon monoxide; PM ₁₀ = particulate matter smaller than 10 microns; PM _{2.5} = particulate matter smaller than 2.5 microns				
Source: Urban Crossroads, <i>Azusa Business Center Air Quality Impact Analysis</i> , October 17, 2017; refer to Appendix 11.8.				

Carbon Monoxide Hotspots

An adverse CO concentration, known as a “hot spot,” would occur if an exceedance of the State one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. At the time of the



CEQA Air Quality Handbook (1993), the Basin was designated nonattainment under the CAAQS and NAAQS for CO.

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams per 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. Also, CO concentrations in the Site vicinity have steadily declined, as indicated by historical emissions data.

To establish a more accurate record of baseline CO concentrations affecting the Basin, a CO hotspot analysis (2003 Los Angeles Hotspot Study) was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This hotspot analysis did not predict any violation of CO standards.

Based on the SCAQMD's 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. For example, 9.3 ppm 8-hr CO concentration measured at the Long Beach Boulevard and Imperial Highway intersection in the City of Lynwood (highest CO generating intersection in the 2003 Los Angeles Hotspot Study), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 8.6 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared. In contrast, the ambient 8-hr CO concentration within the Site vicinity is estimated to range between 1.4 and 1.6 ppm. Therefore, even if Project-generated traffic volumes were double or even triple of the traffic volumes generated at the Long Beach Boulevard and Imperial Highway intersection, coupled with on-going improvements in ambient air quality, the Warehouse Only Option would not be capable of creating a CO hotspot 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—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact.

At buildout of the Warehouse Only Option, the highest daily traffic volumes generated at the roadways within the vicinity of the Site are expected to generate less than the highest daily traffic volumes generated at the busiest intersection in the 2003 AQMP. As such, the Warehouse Only Option would not likely exceed the most stringent 1-hour CO standard and would not produce the volume of traffic required to generate a CO hotspot either in the context of the 2003 Los Angeles Hotspot Study, or based on representative BAAQMD CO threshold considerations. Therefore, impacts related to CO hotspots for the Warehouse Only Option would be less than significant.



Health Risk Assessment

A mobile source HRA was prepared for the Warehouse Only Option in accordance with the SCAQMD’s *Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*. As identified above, cancer risk is expressed in terms of expected incremental incidence per million population. The SCAQMD has established a significance threshold of ten persons per million as the maximum acceptable incremental cancer risk due to diesel particulate matter (DPM) exposure. Additionally, the SCAQMD also established non-carcinogenic risk parameters for use in HRAs by calculating a “hazard index.” A hazard index less than 1.0 means that adverse health effects are not expected and impacts would be less than significant. Table 5.9-10, *Health Risk Assessment Summary – Warehouse Only Option*, summarizes the HRA results for both residential and worker exposure scenarios under the Warehouse Only Option.

Table 5.9-10
Health Risk Assessment Summary – Warehouse Only Option

Time Period	Location	Maximum Lifetime Cancer Risk (risk per million)	Significance Threshold (risk per million)	Exceeds Significance Threshold?
30 Year Exposure	Maximum Exposed Sensitive Receptor (Residences east of Todd Avenue and north of Sierra Madre Avenue)	1.96	10	NO
25 Year Exposure	Maximum Exposed Worker Receptor (Lagunitas Brewing Company)	0.64	10	NO
Time Period	Location	Maximum Hazard Index	Significance Threshold	Exceeds Significance Threshold?
30 Year Exposure	Maximum Exposed Sensitive Receptor	0.0005	1.0	NO
25 Year Exposure	Maximum Exposed Worker Receptor	0.002	1.0	NO

Source: Urban Crossroads, *Azusa Business Center Diesel Mobile Source Health Risk Assessment*, October 17, 2017; refer to [Appendix 11.8](#).

Residential Exposure Scenario

The residential land use with the greatest potential exposure to Warehouse Only Option-generated DPM source emission is located east of Todd Avenue and north of Sierra Madre Avenue at an existing residence. As detailed in Table 5.9-10, at the maximally exposed individual receptor, the maximum incremental cancer risk attributable to Warehouse Only Option-generated DPM source emissions is calculated to be approximately 1.96 in one million, which is less than the threshold of ten in one million. At this same location, non-cancer risks were calculated to be approximately 0.0005, which would not exceed the applicable threshold of 1.0. As such, Warehouse Only Option-generated DPM source emissions would cause a less than significant impact on human health and cancer risk to adjacent residences.



Worker Exposure Scenario

The worker receptor land use with the greatest potential exposure to Warehouse Only Option-generated DPM source emissions is located immediately adjacent to the south of the Site at the Lagunitas Brewing Company building. As shown in [Table 5.9-10](#), for the maximally exposed individual worker, the maximum incremental cancer risk impact at this location is 0.64 in one million which is less than the threshold of 10 in one million. Maximum non-cancer risks at this same location was calculated to be approximately 0.002, which would not exceed the applicable threshold of 1.0. As such, Warehouse Only Option-generated DPM source emissions would cause a less than significant impact on human health and cancer risk to adjacent workers.

WAREHOUSING AND MANUFACTURING OPTION

Construction Impacts

Since the Warehousing and Manufacturing Option would result in similar construction impacts as the Warehouse Only Option, similar less than significant impacts with mitigation incorporated related to localized significance construction emissions would result.

Operational Impacts

The Warehousing and Manufacturing Option would result in slightly different operations, compared to the Warehouse Only Option, as warehousing uses would be reduced and additional manufacturing uses would be constructed. [Table 5.9-11, Operational Localized Significance Emissions Summary – Warehousing and Manufacturing Option](#), shows the calculated emissions for the Project’s operational activities for the Warehousing and Manufacturing Option compared with the applicable LSTs. As shown, Project operational source emissions under the Warehousing and Manufacturing Option would not exceed applicable LSTs and operational LST impacts would be less than significant. Additionally, implementation of Mitigation Measures AQ-2 through AQ-7 would further reduce operational emissions to under the Warehousing and Manufacturing Option.

**Table 5.9-11
Operational Localized Significance Emissions Summary –
Warehousing and Manufacturing Option**

On-Site Operation Emissions	Emissions (pounds per day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Maximum Daily Emissions	5.31	3.01	1.02	0.33
SCAQMD Localized Threshold	299	4,307	18	6
Threshold Exceeded?	NO	NO	NO	NO
Notes: NO _x = nitrous oxide; CO = carbon monoxide; PM ₁₀ = particulate matter smaller than 10 microns; PM _{2.5} = particulate matter smaller than 2.5 microns				
Source: Urban Crossroads, Azusa Business Center Supplemental AQ & GHG Assessment, February 2, 2018; refer to Appendix 11.8 .				



Carbon Monoxide Hotspots

Although the Warehousing and Manufacturing Option would result in slightly different operations compared to the Warehouse Only Option, the highest daily traffic volumes generated at the roadways within the vicinity of the Project under the Warehousing and Manufacturing Option are similarly expected to generate less than the highest daily traffic volumes generated at the busiest intersection in the 2003 AQMP. As such, the Warehousing and Manufacturing Option would not produce the volume of traffic required to generate a CO hotspot either in the context of the 2003 Los Angeles Hotspot Study, or based on representative BAAQMD CO threshold considerations. Therefore, impacts related to CO hotspots would be less than significant under the Warehousing and Manufacturing Option.

Health Risk Assessment

HRAs are prepared to evaluate impacts to sensitive receptors as a result of DPM emitted by heavy-duty diesel trucks. Proposed manufacturing uses under the Warehousing and Manufacturing Option predominantly consist of facilities that convert raw materials or parts into finished products. In addition to goods production, these facilities may also include office space, warehouse space, research space, and other associated functions. As such, manufacturing uses do not generate substantial diesel truck trips compared to warehousing uses, and instead, typically generate more passenger vehicle trips associated with workers and visitors. Given that fewer truck trips would be generated under this development scenario, an HRA was not prepared to evaluate the Warehousing and Manufacturing Option. Further, because Warehouse Only Option-generated DPM source emissions did not result in significant impacts on human health and cancer risk to adjacent residences and workers, it can also be concluded that the Warehousing and Manufacturing Option, with fewer truck trips, would also result in less than significant impacts in this regard.

Standard Conditions of Approval: Refer to SCA AQ-1 and SCA AQ-2.

Mitigation Measures: Refer to Mitigation Measures AQ-1 through AQ-7.

Level of Significance: Less Than Significant Impact with Mitigation Incorporated.

CONSISTENCY WITH REGIONAL PLANS

AQ-4 Would implementation of the Project conflict with or obstruct implementation of the applicable air quality plan?

Impact Analysis:

WAREHOUSE ONLY OPTION

On March 3, 2017, the SCAQMD Governing Board adopted the 2016 AQMP, which incorporates the latest scientific and technical information and planning assumptions, including the latest applicable growth assumptions, RTP/SCS, and updated emission inventory methodologies for various source categories. According to the SCAQMD's *CEQA Air Quality Handbook*, two main criteria must be addressed.



Criterion 1

With respect to the first criterion, SCAQMD methodologies 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.

Would the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?

Since the consistency criteria identified under the first criterion pertain to pollutant concentrations, rather than to total regional emissions, an analysis of a project's pollutant emissions relative to localized pollutant concentrations associated with the CAAQS and NAAQS is used as the basis for evaluating Project consistency. As discussed in Impact Statement AQ-3, localized concentrations of CO, NO_x, PM₁₀, and PM_{2.5} would be less than significant during Project construction and operations. Therefore, the Warehouse Only Option would not result in an increase in the frequency or severity of existing air quality violations. Because volatile organic compounds (VOCs) are not a criteria pollutant, there is no ambient standard or localized threshold for VOCs. Due to the role VOC plays in O₃ formation, it is classified as a precursor pollutant and only a regional emissions threshold has been established. As such, the Warehouse Only Option would not cause or contribute to localized air quality violations or delay the attainment of air quality standard or interim emissions reductions specified in the AQMP.

Criterion 2

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the Basin focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining project consistency focuses on whether or not the project exceeds the assumptions utilized in preparing the forecasts presented in the 2016 AQMP. Determining whether or not a project exceeds the assumptions reflected in the 2016 AQMP involves the evaluation of the following criterion.

Would the project exceed the assumptions in the AQMP based on the years of project build-out phase?

In the case of the 2016 AQMP, three sources of data form the basis for the projections of air pollutant emissions: the *City of Azusa General Plan* (General Plan), SCAG's *Growth Management Chapter* of the *Regional Comprehensive Plan* (RCP), and SCAG's RTP/SCS. The RTP/SCS also provides socioeconomic forecast projections of regional population growth.

The Site is designated Light Industrial by the General Plan, as is zoned DWL (District West End Light Industrial) in the City's Zoning Code. The Warehouse Only Option proposes an industrial/warehousing development, which is consistent with the land use designation and zoning for the Site. Thus, the Warehouse Only Option is consistent with the types, intensity, and patterns of land use envisioned for the Site vicinity in the RCP. The population, housing, and employment forecasts, which are adopted by SCAG's Regional Council, are based on the local plans and policies applicable to the City; these are used by SCAG in all phases of



implementation and review. Additionally, as the SCAQMD has incorporated these same projections into the 2016 AQMP, it can be concluded that the Warehouse Only Option would be consistent with the projections.

Further, the Warehouse Only Option would be required to comply with applicable emission reduction measures identified in the analysis above. These measures have been included as SCA AQ-1 and SCA AQ-2 and Mitigation Measures AQ-1 through AQ-7.

The Warehouse Only Option would not result in or cause NAAQS or CAAQS violations. It is important to note that ambient air quality standards are directly related to LSTs. Construction and operational activities associated with the Warehouse Only Option do not exceed the applicable LST thresholds and therefore, would not contribute to NAAQS or CAAQS violations. However, the determination of consistency with the 2016 AQMP is primarily concerned with the long-term influence of a project on air quality in the Basin. The Warehouse Only Option would result in significant and unavoidable impacts related to operational NO_x emissions, and therefore could result in a long-term impact on the region's ability to meet State and Federal air quality standards. As such, a significant and unavoidable impact would occur in regards to air quality plan consistency under the Warehouse Only Option.

WAREHOUSING AND MANUFACTURING OPTION

Although the Warehousing and Manufacturing Option would result in slightly different operations compared to the Warehouse Only Option, this land use mix would similarly be permitted under the General Plan and Zoning Code, and thus is consistent with the 2016 AQMP. The Warehousing and Manufacturing Option would also similarly result in significant and unavoidable impacts related to operational NO_x emissions, and therefore could result in long-term impact on the region's ability to meet State and Federal air quality standards. Thus, a significant and unavoidable impact would occur in regards to air quality plan consistency under the Warehousing and Manufacturing Option.

Standard Conditions of Approval: Refer to SCA AQ-1 and SCA AQ-2.

Mitigation Measures: Refer to Mitigation Measures AQ-1 through AQ-7.

Level of Significance: Significant and Unavoidable Impact.

5.9.5 CUMULATIVE IMPACTS

Table 4-1, *Cumulative Projects List*, identifies the related projects and other possible development in the area determined as having the potential to interact with the Project to the extent that a significant cumulative effect may occur. The following discussions are included per topic area to determine whether a significant cumulative effect would occur.

SHORT-TERM (CONSTRUCTION) AIR EMISSIONS

- Would short-term construction activities associated with the Project and other related cumulative projects, result in cumulatively considerable increased air pollutant emission impacts or expose sensitive receptors to increased pollutant concentrations?



Impact Analysis:

WAREHOUSE ONLY OPTION

The SCAQMD neither recommends quantified analyses of cumulative construction emissions, nor does it provide separate methodologies or thresholds of significance to be used to assess cumulative construction impacts. The SCAQMD significance thresholds for construction are intended to meet the objectives of the 2016 AQMP to ensure the NAAQS and CAAQS are not exceeded. As the Applicant has no control over the timing or sequencing of the related projects, any quantitative analysis to ascertain the daily construction emissions that assumes multiple, concurrent construction would be speculative. In addition, construction-related criteria pollutant emissions are temporary in nature and cease following completion of construction.

Compliance with SCAQMD rules and regulations (SCA AQ-1 and SCA AQ-2) and Mitigation Measure AQ-1 would reduce construction-related impacts to less than significant levels. Per SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403 compliance, the implementation of all feasible mitigation measures, and compliance with adopted 2016 AQMP emissions control measures) would also be imposed on construction projects throughout the Basin, which would include each of the related projects listed in Section 4.0, *Basis of Cumulative Analysis*. Therefore, as cumulative projects would be required to reduce their emissions per SCAQMD rules and mandates, cumulative construction emissions would not contribute to an exceedance of the NAAQS and CAAQS and therefore would comply with the goals of the 2016 AQMP. Thus, it can be reasonably inferred that the Warehouse Only Option-related construction activities, in combination with those from other projects in the area, would not deteriorate the local air quality and would not result in cumulative considerable construction-related impacts.

WAREHOUSING AND MANUFACTURING OPTION

Since the Warehousing and Manufacturing Option would result in similar construction impacts as the Warehouse Only Option, a less than significant cumulatively considerable impact would result.

Standard Conditions of Approval: Refer to SCA AQ-1 and SCA AQ-2.

Mitigation Measures: Refer to Mitigation Measure AQ-1.

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

LONG-TERM (OPERATIONAL) AIR EMISSIONS

- Would the Project and other related cumulative projects result in increased impacts pertaining to operational air emissions?

Impact Analysis:

WAREHOUSE ONLY OPTION

The SCAQMD has set forth both a methodological framework as well as significance thresholds for the assessment of a project's cumulative operational air quality impacts. The SCAQMD's approach for assessing cumulative impacts is based on the SCAQMD's 2016 AQMP forecasts of attainment



of NAAQS in accordance with the requirements of the FCAA and CCAA. This forecast also takes into account SCAG's 2016 AQMP forecasted future regional growth. As such, the analysis of cumulative impacts focuses on determining whether the proposed project is consistent with the growth assumptions upon which the SCAQMD's 2016 AQMP is based. If the project is consistent with the growth assumptions, then future development would not impede the attainment of NAAQS and a significant cumulative air quality impact would not occur.

As discussed above, Warehouse Only Option operational NO_x emissions would exceed SCAQMD regional thresholds even after implementation of Mitigation Measures AQ-2 through AQ-7. Per SCAQMD significance guidance, impacts at the project-level are also considered cumulatively significant and would persist over the life of the Project. NO_x emissions are O₃ precursors and would therefore contribute considerably to existing O₃ non-attainment conditions within the Basin. Therefore, cumulative operational impacts associated with the implementation of the Warehouse Only Option would be significant and unavoidable.

WAREHOUSING AND MANUFACTURING OPTION

The Warehousing and Manufacturing Option would result in slightly different operations, compared to the Warehouse Only Option, as warehousing uses would be reduced and additional manufacturing uses would be constructed. However, this development option would similarly result in NO_x operational emissions in exceedance of the regional thresholds of significance established by the SCAQMD. Per SCAQMD significance guidance, impacts at the project-level are also considered cumulatively significant and would persist over the life of the Project. Therefore, cumulative operational impacts associated with the implementation of the Warehousing and Manufacturing Option would be significant and unavoidable.

Standard Conditions of Approval: No standard conditions of approval are applicable.

Mitigation Measures: Refer to Mitigation Measures AQ-2 through AQ-7.

Level of Significance: Significant and Unavoidable Impact.

LOCALIZED EMISSIONS

- Would development associated with implementation of the Project and other cumulative projects result in cumulatively considerable localized emissions impacts or expose sensitive receptors to substantial pollutant concentrations?

Impact Analysis:

WAREHOUSE ONLY OPTION

As stated above, the LST methodology assists lead agencies in analyzing localized air quality impacts. The SCAQMD provides the LST screening lookup tables for one-, two-, and five-acre projects emitting CO, NO_x, PM_{2.5}, or PM₁₀. Because the disturbed acreages for each cumulative project site can vary, the LST thresholds utilized also vary on a project-by-project basis. Localized emissions also only affect the areas immediately adjacent to the Site. Thus, construction and operational localized emissions associated with the Warehouse Only Option would not cumulatively contribute



pollutant concentrations to the same sensitive receptors as other cumulative projects. Further, as identified above, construction and operational source emissions for the Warehouse Only Option would not exceed applicable LSTs. Although unmitigated construction and operational emissions would already be under LST thresholds, implementation of SCA AQ-1 and SCA AQ-2 and Mitigation Measures AQ-2 through AQ-7 would further reduce emissions. Thus, the Warehouse Only Option's construction and operational localized emissions impacts would not be cumulatively considerable toward exposing sensitive receptors to substantial pollutant concentrations.

WAREHOUSING AND MANUFACTURING OPTION

Although the Warehousing and Manufacturing Option would result in slightly different operations compared to the Warehouse Only Option, the proposed land use mix would similarly result in a less than significant impact related to localized emissions. Further, localized emissions only affect the areas immediately adjacent to a project site and LST thresholds vary on a project-by-project basis. Thus, the Warehousing and Manufacturing Option would not significantly cumulatively contribute towards exposing sensitive receptors to substantial pollutant concentrations and implementation of SCA AQ-1 and SCA AQ-2 and Mitigation Measures AQ-2 through AQ-7 would not result in cumulatively considerable impacts.

Standard Conditions of Approval: Refer to SCA AQ-1 and SCA AQ-2.

Mitigation Measures: Refer to Mitigation Measures AQ-2 through AQ-7.

Level of Significance: Less Than Significant With Mitigation Incorporated.

CONSISTENCY WITH REGIONAL PLANS

- Would implementation of the Project and other related cumulative projects conflict with or obstruct implementation of the applicable air quality plan?

Impact Analysis:

WAREHOUSE ONLY OPTION

The City is subject to the 2016 AQMP. Additionally, the City is located within the Los Angeles County subregion of the SCAG's RTP/SCS, which governs population growth. The General Plan is consistent with the RTP/SCS, and since the RTP/SCS is consistent with the 2016 AQMP, growth under the General Plan is consistent with the 2016 AQMP. However, because operational NO_x emissions associated with the Warehouse Only Option would exceed SCAQMD thresholds, this development option could conflict or obstruct the 2016 AQMP. As such, the Warehouse Only Option would have a cumulatively considerable contribution to impacts in this regard, and implementation of SCA AQ-1 and SCA AQ-2 and Mitigation Measures AQ-1 through AQ-7 would still result in a significant and unavoidable impact.

WAREHOUSING AND MANUFACTURING OPTION

The Warehousing and Manufacturing Option would result in slightly different operations, compared to the Warehouse Only Option, as warehousing uses would be reduced and additional



manufacturing uses would be constructed. However, NO_x emissions associated with the Warehousing and Manufacturing Option would similarly exceed SCAQMD thresholds and would result in a conflict with the 2016 AQMP. As such, the Warehousing and Manufacturing Option would have a cumulatively considerable contribution to impacts in this regard, and would result in a significant and unavoidable impact despite compliance with SCA AQ-1 and SCA AQ-2 and Mitigation Measures AQ-1 through AQ-7.

Standard Conditions of Approval: Refer to SCA AQ-1 and SCA AQ-2.

Mitigation Measures: Refer to Mitigation Measures AQ-1 through AQ-7.

Level of Significance: Significant and Unavoidable Impact.

5.9.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Implementation of both the Warehouse Only Option and Warehousing and Manufacturing Option would result in significant and unavoidable impacts for the following areas:

- *Regional Operational NO_x Emissions* – Under both the Warehouse Only and Warehousing and Manufacturing Options, operational NO_x emissions would exceed SCAQMD thresholds. Mitigation Measures AQ-2 through AQ-7 would reduce the potential air quality impacts to the degree technically feasible, but NO_x emissions would remain above SCAQMD significance thresholds. Therefore, operation of the Project would have a significant and unavoidable impact on regional air quality under both development options.
- *Cumulative Operational NO_x Emissions* – As stated above, operational activities would create a significant and unavoidable impact due to exceedances of SCAQMD thresholds for NO_x. Implementation of Mitigation Measures AQ-2 through AQ-7 would reduce impacts; however, a significant and unavoidable impact would remain under both the Warehouse Only and Warehousing and Manufacturing Options.
- *Air Quality Plan Consistency* – As stated above, operational activities would create a significant and unavoidable impact due to exceedances of SCAQMD thresholds for NO_x under both the Warehouse Only and Warehousing and Manufacturing Options. Implementation of SCA AQ-1 and SCA AQ-2 as well as Mitigation Measures AQ-1 through AQ-7 would reduce emissions to the maximum extent feasible. However, operational emissions would still be expected to be above SCAQMD thresholds, and therefore, the Project would not be consistent with the 2016 AQMP. Therefore, a significant and unavoidable project-level and cumulative impact would remain under both development options.

If the City approves the Project, the City shall be required to make findings in accordance with CEQA Guidelines Section 15091 and adopt a Statement of Overriding Considerations in accordance with CEQA Guidelines Section 15093.