3.2 – AIR QUALITY

This section describes the existing air quality setting of the Globemaster Corridor Specific Plan (GCSP; Proposed Project) area, identifies air quality regulatory requirements, and evaluates potentially adverse air quality impacts associated with construction and operation of the Proposed Project. Modeling data and information related to the air quality analysis have been provided in Appendix B-1, Emission Calculations; additional information related to health effects is also provided in Appendix B-2, Health Effects from Criteria Air Pollutants Memorandum.

The Initial Study (IS) and Notice of Preparation (NOP) are contained in Appendix A-1, Initial Study; and Appendix A-2, Notice of Preparation, respectively. Comments regarding air quality, received in response to the NOP (see Appendix A-3, Notice of Preparation Comment Letters), specifically related to preparation of the analysis consistent with the South Coast Air Quality Management District’s (SCAQMD’s) guidance, were received during the scoping process, and have been considered in the preparation of the analyses presented in this section.

The IS found that the Proposed Project would have potentially significant impact as it relates to air quality (Appendix A-1). As such, all potential air quality impacts are addressed in this Draft Program Environmental Impact Report (PEIR)/Draft Program Environmental Impact Statement (PEIS).

3.2.1 Existing Conditions

3.2.1.1 Climate and Topography

The Proposed Project is located within the South Coast Air Basin (SCAB). The SCAB is a 6,745-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 SCAB’s air pollution problems are a consequence of the combination of emissions from the nation’s second-largest urban area, meteorological conditions that hinder dispersion of those emissions, and mountainous terrain surrounding the SCAB that traps pollutants as they are pushed inland with the sea breeze (SCAQMD 2017). Meteorological and topographical factors that affect air quality in the SCAB are described below.

Climate

The SCAB is characterized as having a Mediterranean climate (typified as semiarid with mild winters, warm summers, and moderate rainfall). The general region lies in the semi-permanent high-pressure zone of the eastern Pacific; as a result, the climate is mild and tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

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1 The discussion of meteorological and topographical conditions of the SCAB is based on information provided in the Final 2016 Air Quality Management Plan (SCAQMD 2017).
Moderate temperatures, comfortable humidity, and limited precipitation characterize the climate in the SCAB. The average annual temperature varies little throughout the SCAB, averaging 75 degrees Fahrenheit (°F). However, with a less-pronounced oceanic influence, the eastern inland portions of the SCAB show greater variability in annual minimum and maximum temperatures. All portions of the SCAB have recorded temperatures over 100°F in recent years. Although the SCAB has a semiarid climate, the air near the surface is moist because of the presence of a shallow marine layer. Except for infrequent periods when dry air is brought into the SCAB 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% at the coast and 57% in the eastern part of the SCAB. Precipitation in the SCAB is typically 9 to 14 inches annually and is rarely in the form of snow or hail because of typically warm weather. Most of the rainfall in Southern California occurs between late fall and early spring, with most rain typically in the months of January and February.

The City of Long Beach’s (City’s) climate is characterized by relatively low rainfall, with warm summers and mild winters. Average temperatures range from a high of 84°F in August to a low of 45°F in December (Western Regional Climate Center (WRCC) 2018). Annual precipitation averages about 12 inches, falling mostly from October through April (WRCC 2018).

**Sunlight**

The presence and intensity of sunlight are necessary prerequisites for the formation of photochemical smog. Under the influence of the ultraviolet radiation of sunlight, certain “primary” pollutants (mainly reactive hydrocarbons and oxides of nitrogen [NOx]) react to form “secondary” pollutants (primarily oxidants). Since this process is time dependent, secondary pollutants can be formed many miles downwind of the emission sources. Southern California also has abundant sunshine, which drives the photochemical reactions that form pollutants such as ozone (O₃) and a substantial portion of fine particulate matter (PM₂.₅, particles less than 2.5 microns in diameter). In the SCAB, high concentrations of O₃ are normally recorded during the late spring, summer, and early autumn months, when more intense sunlight drives enhanced photochemical reactions. Because of the prevailing daytime winds and time-delayed nature of photochemical smog, oxidant concentrations are highest in the inland areas of Southern California.

**Temperature Inversions**

Under ideal meteorological conditions and irrespective of topography, pollutants emitted into the air mix and disperse into the upper atmosphere. However, the Southern California region

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2 Local climate data for the City is based on the closest and most-representative station measured by the Western Regional Climate Center, which is the Long Beach WSCMO climatological station.

3 NOx is a general term pertaining to compounds of nitric oxide (NO), nitrogen dioxide (NO₂) and other oxides of nitrogen.
frequently experiences temperature inversions in which pollutants are trapped and accumulate close to the ground. The inversion, a layer of warm, dry air overlaying cool, moist marine air, is a normal condition in coastal Southern California. The cool, damp, and hazy sea air capped by coastal clouds is heavier than the warm, clear air, which acts as a lid through which the cooler marine layer cannot rise. The height of the inversion is important in determining pollutant concentration. When the inversion is approximately 2,500 feet above mean sea level (amsl), the sea breezes carry the pollutants inland to escape over the mountain slopes or through the passes. At a height of 1,200 feet amsl, the terrain prevents the pollutants from entering the upper atmosphere, resulting in the pollutants settling in the foothill communities. Below 1,200 feet amsl, 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 daylight hours.

Mixing heights for inversions are lower in the summer and inversions are more persistent, being partly responsible for the high levels of \( \text{O}_3 \) observed during summer months in the SCAB. 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, allowing them to form secondary pollutants by reacting in the presence of sunlight. The SCAB has a limited ability to disperse these pollutants due to typically low wind speeds and the surrounding mountain ranges.

As with other cities within the SCAB, the City is susceptible to air inversions, which trap a layer of stagnant air near the ground where pollutants are further concentrated. These inversions produce haziness, which is caused by moisture, suspended dust, and a variety of chemical aerosols emitted by trucks, automobiles, furnaces, and other sources. Elevated concentrations of particles less than 10 microns in diameter (PM\(_{10}\)) and of PM\(_{2.5}\) can occur in the SCAB throughout the year, but they occur most frequently in fall and winter. Although there are some changes in emissions by day of the week and by season, the observed variations in pollutant concentrations are primarily the result of seasonal differences in weather conditions.

### 3.2.1.2 Pollutants and Effects

#### Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The national and California standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include \( \text{O}_3 \), nitrogen dioxide (NO\(_2\)), carbon monoxide (CO), sulfur dioxide (SO\(_2\)), PM\(_{10}\), PM\(_{2.5}\), and lead. In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants. These pollutants, as well as toxic
air contaminants (TACs), are discussed in the following paragraphs. A more detailed discussion of health effects of criteria air pollutants is provided in Appendix B-2, Health Effects from Criteria Air Pollutants Memorandum.

**Ozone.** $O_3$ is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun’s energy and $O_3$ precursors. These precursors are mainly $NO_x$ and volatile organic compounds (VOCs). The maximum effects of precursor emissions on $O_3$ concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in $O_3$ formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. $O_3$ exists in the upper atmosphere $O_3$ layer (stratospheric $O_3$) and at the Earth’s surface in the troposphere (ground-level $O_3$). The $O_3$ that the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level $O_3$ is a harmful air pollutant that causes numerous adverse health effects and is thus considered “bad” $O_3$. Stratospheric, or “good,” $O_3$ occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth’s atmosphere. Without the protection of the beneficial stratospheric $O_3$ layer, plant and animal life would be seriously harmed.

$O_3$ in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to $O_3$ at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013).

Inhalation of $O_3$ causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms. Exposure to $O_3$ can reduce the volume of air that the lungs breathe in, thereby causing shortness of breath. $O_3$ in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. The occurrence and severity of health effects from $O_3$ exposure vary widely among individuals, even when the dose and the duration of exposure are the same. Research shows adults and children who spend more time outdoors participating in vigorous physical activities are at greater risk from the harmful health effects of $O_3$ exposure. While there are relatively few studies on the effects of $O_3$ on children, the available studies show that children are no more or less likely to suffer harmful effects than adults. However, there are a number of reasons why children may be more susceptible to $O_3$

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4 The descriptions of the criteria air pollutants and associated health effects are based on the U.S. Environmental Protection Agency’s (EPA’s) Criteria Air Pollutants (EPA 2018) and the California Air Resources Board’s (CARB’s) Glossary of Air Pollutant Terms (CARB 2019a).

5 The troposphere is the layer of the Earth’s atmosphere nearest to the surface of the Earth. The troposphere extends outward about 5 miles at the poles and about 10 miles at the equator.
and other pollutants. Children and teens spend nearly twice as much time outdoors and engaged in vigorous activities as adults. Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults. Also, children are less likely than adults to notice their own symptoms and avoid harmful exposures. Further research may be able to better distinguish between health effects in children and adults. Children, adolescents and adults who exercise or work outdoors, where \( O_3 \) concentrations are the highest, are at the greatest risk of harm from this pollutant (CARB 2019b).

**Nitrogen Dioxide.** \( \text{NO}_2 \) is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of \( \text{NO}_2 \) in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas. \( \text{NO}_x \) plays a major role, together with VOCs, in the atmospheric reactions that produce \( O_3 \). \( \text{NO}_x \) is formed from fuel combustion under high temperature or pressure. In addition, \( \text{NO}_x \) is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

A large body of health science literature indicates that exposure to \( \text{NO}_2 \) can induce adverse health effects. The strongest health evidence, and the health basis for the ambient air quality standards (AAQS) for \( \text{NO}_2 \), results from controlled human exposure studies that show that \( \text{NO}_2 \) exposure can intensify responses to allergens in allergic asthmatics. In addition, a number of epidemiological studies have demonstrated associations between \( \text{NO}_2 \) exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses. Infants and children are particularly at risk because they have disproportionately higher exposure to \( \text{NO}_2 \) than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. Several studies have shown that long-term \( \text{NO}_2 \) exposure during childhood, the period of rapid lung growth, can lead to smaller lungs at maturity in children with higher levels of exposure compared to children with lower exposure levels. In addition, children with asthma have a greater degree of airway responsiveness compared with adult asthmatics. In adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease (CARB 2019c).

**Carbon Monoxide.** \( \text{CO} \) is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. \( \text{CO} \) is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, such as the Proposed Project location, automobile exhaust accounts for the majority of \( \text{CO} \) emissions. \( \text{CO} \) is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient \( \text{CO} \) concentrations generally follow the spatial and temporal distributions of vehicular traffic. \( \text{CO} \) concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. \( \text{CO} \) from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions
are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

CO is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body’s organs. The most common effects of CO exposure are fatigue, headaches, confusion and reduced mental alertness, light-headedness, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body’s already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Unborn babies, infants, elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO (CARB 2019d).

**Sulfur Dioxide.** SO₂ is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO₂ are coal and oil used in power plants and industries; as such, the highest levels of SO₂ are generally found near large industrial complexes. In recent years, SO₂ concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO₂ and limits on the sulfur content of fuels.

Controlled human exposure and epidemiological studies show that children and adults with asthma are more likely to experience adverse responses with SO₂ exposure, compared with the non-asthmatic population. Effects at levels near the 1-hour standard are those of asthma exacerbation, including bronchoconstriction accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath, and chest tightness, especially during exercise or physical activity. Also, exposure at elevated levels of SO₂ (above 1 parts per million [ppm]) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality. The elderly and people with cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most likely to experience these adverse effects (CARB 2019e).

SO₂ is of concern both because it is a direct respiratory irritant and because it contributes to the formation of sulfate and sulfuric acid in particulate matter (NRC 2005). People with asthma are of particular concern, both because they have increased baseline airflow resistance and because their SO₂-induced increase in airflow resistance is greater than in healthy people, and it increases with the severity of their asthma (NRC 2005). SO₂ is thought to induce airway constriction via neural reflexes involving irritant receptors in the airways (NRC 2005).
Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. PM$_{2.5}$ and PM$_{10}$ represent fractions of particulate matter. Coarse particulate matter (PM$_{10}$) consists of particulate matter that is 10 microns or less in diameter and is about 1/7 the thickness of a human hair. Major sources of PM$_{10}$ include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter (PM$_{2.5}$) consists of particulate matter that is 2.5 microns or less in diameter and is roughly 1/28 the diameter of a human hair. PM$_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, PM$_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO$_x$), NO$_x$, and VOCs.

PM$_{2.5}$ and PM$_{10}$ pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system’s natural defenses and damage the respiratory tract. PM$_{2.5}$ and PM$_{10}$ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body’s ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the bloodstream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas PM$_{10}$ tends to collect in the upper portion of the respiratory system, PM$_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

A number of adverse health effects have been associated with exposure to both PM$_{2.5}$ and PM$_{10}$. For PM$_{2.5}$, short-term exposures (up to 24-hour duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases. In addition, of all of the common air pollutants, PM$_{2.5}$ is associated with the greatest proportion of adverse health effects related to air pollution, both in the United States and worldwide based on the World Health Organization’s Global Burden of Disease Project. Short-term exposures to PM$_{10}$ have been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits (CARB 2017).

Long-term exposure (months to years) to PM$_{2.5}$ has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children. The effects of long-term exposure to PM$_{10}$ are less clear, although several studies suggest a link
between long-term PM$_{10}$ exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that particulate matter in outdoor air pollution causes lung cancer (CARB 2017).

**Lead.** Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient (IQ) performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

**Sulfates.** Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO$_2$ in the atmosphere and can result in respiratory impairment, as well as reduced visibility.

**Vinyl Chloride.** Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air can cause nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

**Hydrogen Sulfide.** Hydrogen sulfide is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of hydrogen sulfide include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to hydrogen sulfide can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

**Visibility-Reducing Particles.** Visibility-reducing particles are any particles in the air that obstruct the range of visibility. Effects of reduced visibility can include obscuring the viewshed of natural scenery, reducing airport safety, and discouraging tourism. Sources of visibility-reducing particles are the same as for PM$_{2.5}$ described above.

**Volatile Organic Compounds.** Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O$_3$ are
referred to and regulated as VOCs (also referred to as reactive organic gases). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of \( \text{O}_3 \) and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate health standards for VOCs as a group.

Non-Criteria Air Pollutants

**Toxic Air Contaminants.** A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the state of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics “Hot Spots” Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

**Diesel Particulate Matter.** Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70th the diameter of a human hair), and thus is a subset of \( \text{PM}_{2.5} \) (CARB 2019f). DPM is typically composed of carbon particles (“soot,” also called black carbon, or BC) and numerous organic
compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2019f). The CARB classified “particulate emissions from diesel-fueled engines” (i.e., DPM; 17 CCR 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of PM$_{2.5}$, DPM also contributes to the same non-cancer health effects as PM$_{2.5}$ exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2019f). Those most vulnerable to non-cancer health effects are children, whose lungs are still developing, and the elderly, who often have chronic health problems.

**Odorous Compounds.** Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person’s reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. In a phenomenon known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

**3.2.1.3 Sensitive Receptors**

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air-pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air-pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005). The SCAQMD identifies sensitive receptors as residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993).
The closest off-site sensitive receptors to the Plan Area include residences of the Bixby Knolls neighborhood and the California Heights Historic District located adjacent to the west side of Cherry Avenue. Schools in the vicinity of the Proposed Project where sensitive receptors may spend considerable time include Burroughs Elementary School (on East 33rd Street in Signal Hill, between Orange Avenue and Gundry Avenue) and the Westerly School of Long Beach (East 29th Street).

3.2.2 Regulatory Setting

3.2.2.1 Federal

Criteria Air Pollutants

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. EPA is responsible for implementing most aspects of the Clean Air Act, including setting National Ambient Air Quality Standards (NAAQS) for major air pollutants; setting hazardous air pollutant standards; approving state attainment plans; setting motor vehicle emissions standards; issuing stationary source emissions standards and permits; and establishing acid rain control measures, stratospheric O₃ protection measures, and enforcement provisions. NAAQS are established for criteria pollutants under the Clean Air Act, which are O₃, CO, NO₂, SO₂, PM₁₀, PM₂.₅, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for O₃, NO₂, SO₂, PM₁₀, PM₂.₅, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O₃, NO₂, SO₂, PM₁₀, and PM₂.₅ are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean Air Act requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a State Implementation Plan that demonstrates how those areas will attain the NAAQS within mandated timeframes. A more detailed discussion of the NAAQS, as well as the CAAQS (discussed below), is provided in Appendix B-2, Health Effects from Criteria Air Pollutants Memorandum.

Hazardous Air Pollutants

The 1977 federal Clean Air Act amendments required the EPA to identify National Emission Standards for Hazardous Air Pollutants to protect public health and welfare. Hazardous air pollutants (HAPs) include certain VOCs, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 federal Clean Air Act amendments, which expanded the control program for HAPs, 189 substances and chemical families were identified as HAPs.
Clean Air Act Conformity / Federal General Conformity Requirements

Under Section 176(c)(1) of the federal Clean Air Act, federal agencies that “engage in, support in any way or provide financial assistance for, license or permit, or approve any activity” must demonstrate that such actions do not interfere with state and local plans to bring an area into attainment with the NAAQS. The program by which a federal agency determines that its action would not obstruct or conflict with air quality attainment plans is called “general conformity.” The implementing regulations for general conformity are found in Title 40, Code of Federal Regulations, Part 51, Subpart W. In addition, the SCAQMD has adopted the federal General Conformity regulations as Rule 1901 (General Conformity), which applies to any general federal action which are funded or approved under Title 23 U.S.C.

Under the general conformity regulations, both the direct and indirect emissions associated with a federal action must be evaluated. Subpart W defines direct emissions as:

[T]hose emissions of a criteria pollutant or its precursors that are caused or initiated by the Federal action and occur at the same time and place as the action.

Indirect emissions are defined as:

[T]hose emissions of a criteria pollutant or its precursors that:

1. Are caused by the Federal action, but may occur later in time and/or may be farther removed in distance from the action itself but are still reasonably foreseeable; and

2. The Federal agency can practicably control and will maintain control over due to a continuing program responsibility of the Federal agency.

3.2.2.2 State

Criteria Air Pollutants

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency (CalEPA) in 1991, is responsible for

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6 Title 40, Code of Federal Regulation, Part 51, Section 51.850.
ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products.

CARB has established California Ambient Air Quality Standards (CAAAQS), which are generally more restrictive than the NAAQS. As stated previously, an ambient air quality standard defines the maximum amount of a pollutant averaged over a specified period of time that can be present in outdoor air without harm to the public’s health. For each pollutant, concentrations must be below the relevant CAAQS before a geographical area can attain the corresponding CAAQS. Air quality is considered “in attainment” if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O₃, CO, SO₂ (1-hour and 24-hour), NO₂, PM₁₀, and PM₂.₅ and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded.

California air districts have based their thresholds of significance for CEQA purposes on the levels that scientific and factual data demonstrate that the air basin can accommodate without affecting the attainment date for the NAAQS or CAAQS. Since an ambient air quality standard is based on maximum pollutant levels in outdoor air that would not harm the public’s health, and air district thresholds pertain to attainment of the ambient air quality standard, this means that the thresholds established by air districts are also protective of human health.

The NAAQS and CAAQS are presented in Table 3.2-1, Ambient Air Quality Standards.

### Table 3.2-1

**Ambient Air Quality Standards**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Averaging Time</th>
<th>California Standards</th>
<th>National Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Concentration</td>
<td>Primary</td>
<td>Secondary</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O₃</td>
<td>1 hour</td>
<td>0.09 ppm (180 µg/m³)</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>8 hours</td>
<td>0.070 ppm (137 µg/m³)</td>
<td>0.070 ppm (137 µg/m³)</td>
</tr>
<tr>
<td>NO₂</td>
<td>1 hour</td>
<td>0.18 ppm (339 µg/m³)</td>
<td>0.100 ppm (188 µg/m³)</td>
</tr>
<tr>
<td></td>
<td>Annual Arithmetic Mean</td>
<td>0.030 ppm (57 µg/m³)</td>
<td>0.053 ppm (100 µg/m³)</td>
</tr>
<tr>
<td>CO</td>
<td>1 hour</td>
<td>20 ppm (23 mg/m³)</td>
<td>35 ppm (40 mg/m³)</td>
</tr>
<tr>
<td></td>
<td>8 hours</td>
<td>9.0 ppm (10 mg/m³)</td>
<td>9 ppm (10 mg/m³)</td>
</tr>
<tr>
<td>SO₂</td>
<td>1 hour</td>
<td>0.25 ppm (655 µg/m³)</td>
<td>0.075 ppm (196 µg/m³)</td>
</tr>
<tr>
<td></td>
<td>3 hours</td>
<td>—</td>
<td>0.075 ppm (196 µg/m³)</td>
</tr>
<tr>
<td></td>
<td>24 hours</td>
<td>0.04 ppm (105 µg/m³)</td>
<td>0.14 ppm (for certain areas)</td>
</tr>
<tr>
<td></td>
<td>Annual</td>
<td>—</td>
<td>0.030 ppm (for certain areas)</td>
</tr>
</tbody>
</table>
Table 3.2-1
Ambient Air Quality Standards

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Averaging Time</th>
<th>California Standards(^a)</th>
<th>National Standards(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Concentration(^c)</td>
<td>Primary(^c,d)</td>
<td>Secondary(^c,e)</td>
</tr>
<tr>
<td>PM(_{10})</td>
<td>24 hours</td>
<td>50 µg/m(^3)</td>
<td>150 µg/m(^3)</td>
</tr>
<tr>
<td></td>
<td>Annual Arithmetic Mean</td>
<td>20 µg/m(^3)</td>
<td>—</td>
</tr>
<tr>
<td>PM(_{2.5})</td>
<td>24 hours</td>
<td>—</td>
<td>35 µg/m(^3)</td>
</tr>
<tr>
<td></td>
<td>Annual Arithmetic Mean</td>
<td>12 µg/m(^3)</td>
<td>12.0 µg/m(^3)</td>
</tr>
<tr>
<td>Lead(^k)</td>
<td>30-day Average</td>
<td>1.5 µg/m(^3)</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Calendar Quarter</td>
<td>—</td>
<td>1.5 µg/m(^3) (for certain areas)(^k)</td>
</tr>
<tr>
<td></td>
<td>Rolling 3-Month Average</td>
<td>—</td>
<td>0.15 µg/m(^3)</td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
<td>1 hour</td>
<td>0.03 ppm (42 µg/m(^3))</td>
<td>—</td>
</tr>
<tr>
<td>Vinyl chloride(^l)</td>
<td>24 hours</td>
<td>0.01 ppm (26 µg/m(^3))</td>
<td>—</td>
</tr>
<tr>
<td>Sulfates</td>
<td>24 hours</td>
<td>25 µg/m(^3)</td>
<td>—</td>
</tr>
<tr>
<td>Visibility reducing particles</td>
<td>8 hour (10:00 a.m. to 6:00 p.m. PST)</td>
<td>Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70%</td>
<td>—</td>
</tr>
</tbody>
</table>

Source: CARB 2016.

Notes: ppm = parts per million by volume; µg/m\(^3\) = micrograms per cubic meter; mg/m\(^3\) = milligrams per cubic meter.

\(^a\) California standards for O\(_3\), CO, SO\(_2\) (1-hour and 24-hour), NO\(_2\), suspended particulate matter—PM\(_{10}\), PM\(_{2.5}\), and visibility-reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

\(^b\) National standards (other than O\(_3\), NO\(_x\), SO\(_2\), particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O\(_3\) standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM\(_{10}\), the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 micrograms per cubic meter (µg/m\(^3\)) is equal to or less than one. For PM\(_{2.5}\), the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

\(^c\) Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25° Celsius (°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.

\(^d\) National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

\(^e\) National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

\(^f\) On October 1, 2015, the primary and secondary NAAQS for O\(_3\) were lowered from 0.075 ppm to 0.070 ppm.

\(^g\) 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 parts per billion (ppb). Note that the national 1-hour standard is in units of 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.

\(^h\) On June 2, 2010, a new 1-hour SO\(_2\) standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO\(_2\) national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010...
standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

On December 14, 2012, the national annual PM$_{2.5}$ primary standard was lowered from 15 μg/m$^3$ to 12.0 μg/m$^3$. The existing national 24-hour PM$_{2.5}$ standards (primary and secondary) were retained at 35 μg/m$^3$, as was the annual secondary standard of 15 μg/m$^3$. The existing 24-hour PM$_{10}$ standards (primary and secondary) of 150 μg/m$^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

CARB has identified lead and vinyl chloride as TACs 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/m$^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

### Toxic Air Contaminants

The state Air Toxics Program was established in 1983 under AB 1807 (Tanner). The California TAC list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) HAPs. In 1987, the Legislature enacted the Air Toxics “Hot Spots” Information and Assessment Act of 1987 (AB 2588) to address public concern over the release of TACs into the atmosphere. AB 2588 law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years. TAC emissions from individual facilities are quantified and prioritized. “High-priority” facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, the facility operator is required to communicate the results to the public in the form of notices and public meetings.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines (CARB 2000). The regulation is anticipated to result in an 80% decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment Program. These regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. There are several airborne toxic control measures that reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 Cal. Code Regs. §§ 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 Cal. Code Regs. § 2025).
California Health and Safety Code Section 41700

Section 41700 of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

3.2.2.3 Regional and Local

South Coast Air Quality Management District

While CARB is responsible for the regulation of mobile emissions sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. SCAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in SCAB, where the Proposed Project is located. The SCAQMD operates monitoring stations in the SCAB, develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections. The SCAQMD’s Air Quality Management Plans (AQMPs) include control measures and strategies to be implemented to attain the CAAQS and NAAQS in the SCAB. The SCAQMD then implements these control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment.

The most-recently adopted AQMP is the 2016 AQMP (SCAQMD 2017), which was adopted by the SCAQMD governing board on March 3, 2017. The 2016 AQMP is a regional blueprint for achieving air quality standards and healthful air. The 2016 AQMP addresses criteria air pollutant emissions from ocean-going vessels, which are considered federal sources, and includes emissions associated with marine vessels and engines in the baseline year and future forecasts. The 2016 AQMP’s overall control strategy is an integral approach relying on fair-share emission reductions from federal, state, and local levels. The 2016 AQMP is composed of stationary and mobile source emission reductions from traditional regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile source strategies, and reductions from federal sources (SCAQMD 2017). These control strategies are to be implemented in partnership with CARB and the EPA.
Applicable Rules

Emissions that would result from stationary and area sources during operation under the Proposed Project may be subject to SCAQMD rules and regulations, which may include the following:

**Rule 201 – Permit to Construct:** This rule establishes an orderly procedure for the review of new and modified sources of air pollution through the issuance of permits. Rule 201 specifies that any facility installing nonexempt equipment that causes or controls the emissions of air pollutants must first obtain a permit to construct from the SCAQMD.

**Rule 202 – Temporary Permit to Operate:** This rule requires a person to obtain a permit to construct prior to operating new equipment, altered equipment, or existing equipment that is being put into service.

**Rule 203 – Permit to Operate:** This rule states that a person shall not operate or use any equipment permit unit, the use of which may cause the issuance of air contaminants, or the use of which may reduce or control the issuance of air contaminants, without first obtaining a written permit to operate from the Executive Officer.

**Rule 301 – Permitting and Associated Fees:** The rule establishes a fee schedule for the issuance of permits to cover the cost of the SCAQMD evaluation, planning, inspection, and monitoring related to permitting.

**Rule 401 – Visible Emissions:** This rule establishes the limit for visible emissions from stationary sources for a period or periods aggregating more than three minutes in any hour. This rule prohibits visible emissions dark or darker than Ringelmann No. 1 for periods greater than three minutes in any hour or such opacity which could obscure an observer’s view to a degree equal or greater than does smoke.

**Rule 402 – Nuisance:** This rule prohibits the discharge of air pollutants from a facility that cause injury, detriment, nuisance, or annoyance to the public or damage to business or property.

**Rule 403 – Fugitive Dust:** This rule requires fugitive dust sources to implement best available control measures for all sources and prohibits all forms of visible particulate matter from crossing any property line. SCAQMD Rule 403 is intended to reduce PM$_{10}$ emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust.

**Rule 431.2 – Sulfur Content of Liquid Fuels:** The purpose of this rule is to limit the sulfur content in diesel and other liquid fuels for the purpose both of reducing the formation of SO$_x$ and particulates during combustion and of enabling the use of add-on control devices for diesel-fueled
internal combustion engines. The rule applies to all refiners, importers, and other fuel suppliers such as distributors, marketers, and retailers, as well as to users of diesel, low-sulfur diesel, and other liquid fuels for stationary-source applications in the SCAQMD. The rule also affects diesel fuel supplied for mobile source applications.

**Rule 1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines:** This rule applies to stationary and portable engines rated at greater than 50 horsepower. The purpose of Rule 1110.2 is to reduce NO\textsubscript{x}, VOC, and CO emissions from engines. Emergency engines, including those powering standby generators, are generally exempt from the emissions and monitoring requirements of this rule as they have permit conditions that limit operation to 200 hours or less per year as determined by an elapsed operating time meter.

**Rule 1113 – Architectural Coatings:** This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

**Rule 1146 – Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters:** This rule applies to boilers, steam generators, and process heaters of equal to or greater than 5 million British thermal units (Btu) per hour rated heat input capacity used in all industrial, institutional, and commercial operations with the exception of boilers used by electric utilities to generate electricity, boilers and process heaters with a rated heat input capacity greater than 40 million Btu per hour that are used in petroleum refineries, and sulfur plant reaction boilers. Under this rule, the NO\textsubscript{x} and CO exhaust concentration for Group III boilers (rated from 5 to less than 20 million Btu per hour) are limited to 9 ppm and 400 ppm, respectively, by volume referenced at 3\% oxygen on a dry basis.

**Rule 1301 – General:** This regulation sets forth pre-construction review requirements for new, modified, or relocated facilities, to ensure that the operation of such facilities does not interfere with progress in attainment of the national ambient air quality standards, and that future economic growth within the SCAQMD is not unnecessarily restricted. The specific air quality goal of this regulation is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors.

**Rule 1303 – Requirements (New Source Review):** This rule requires pre-construction review for new, modified, or relocated facilities, to ensure that the operation of such facilities does not interfere with progress in attainment of the national ambient air quality standards. The goal is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors.

**Rule 1401 – New Source Review of Toxic Air Contaminants:** This rule specifies limits for maximum individual cancer risk (MICR), cancer burden, and noncancer acute and chronic...
hazard index (HI) from new permit units, relocations, or modifications to existing permit units, which emit toxic air contaminants listed in Table I of Rule 1401. The rule establishes allowable risks for permit units requiring new permits pursuant to Rules 201 or 203.

**Rule 1470 – Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines:** This rule shall apply to any person who owns or operates a stationary CI engine in the SCAQMD with a rated brake horsepower greater than 50 (>50 bhp), except as provided in subdivision (h). This rule regulates the fuel, hours of operation, maintenance, and reporting requirements for applicable engines.

**Rule 2202 – On-Road Motor Vehicle Mitigation Options:** The purpose of this rule is to provide employers with a menu of options to reduce mobile source emissions generated from employee commutes, to comply with federal and state Clean Air Act requirements, Health & Safety Code Section 40458, and Section 182(d)(1)(B) of the federal Clean Air Act. This Rule applies to any employer who employs 250 or more employees on a full or part-time basis at a worksite for a consecutive six-month period calculated as a monthly average, except as provided in subdivision (l) of this Rule.

**Regulation IX - Standards of Performance for New Stationary Sources (NSPS):** This regulation requires all new, modified, or reconstructed sources of air pollution to comply with criteria air pollutant emission standards established for individual industrial or source categories.

**Regulation X - National Emission Standards for Hazardous Air Pollutants (NESHAPS):** This regulation requires all new, modified, or reconstructed sources of air pollution to comply with air toxics emission standards established for individual industrial or source categories. The Maximum Achievable Control Technology standards requires the maximum degree of emission reduction achievable for particular source categories.

**Regulation XIII – New Source Review:** This regulation sets preconstruction review requirements for new, modified, or relocated facilities to ensure that the operation of such facilities does not interfere with progress in attainment of the NAAQS and that future economic growth within SCAQMD is not unnecessarily restricted. The specific air quality goal of this regulation is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors. In addition to nonattainment air contaminants, this regulation will also limit emissions increases of ammonia and O₃-depleting compounds from new, modified, or relocated facilities by requiring the use of best available control technology.

**Regulation XIV – Toxics and Other Non-Criteria Pollutants:** This regulation includes rules that regulate toxics and other non-criteria pollutants. It provides specifications for maximum individual cancer risk, cancer burden, and noncancer acute and chronic hazard index from new permit units, relocations, or modifications to existing permit units that emit TACs. The rules
establish allowable risks for permit units requiring new permits pursuant to Rules 201 or 203. Under this regulation, Rule 1401 (New Source Review of Toxic Air Contaminants) specifies limits for maximum individual cancer risk, cancer burden, and non-cancer acute and chronic hazard indices from new permit units, relocations, or modifications to existing permit units that emit TACs listed in the rule.

**Regulation XIV – Rule 1403, Asbestos Emissions from Demolition/Renovation Activities:**
This rule states that an owner or operator of any demolition or renovation activity is required to have an asbestos study performed prior to demolition and to provide notification to SCAQMD prior to commencing demolition activities.

**Southern California Association of Governments**

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial counties and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG serves as the federally designated metropolitan planning organization for the Southern California region and is the largest metropolitan planning organization in the United States.

With respect to air quality planning and other regional issues, SCAG has prepared the 2008 Regional Comprehensive Plan: Helping Communities Achieve a Sustainable Future (2008 RCP) for the region (SCAG 2008). The 2008 RCP sets the policy context in which SCAG participates in and responds to the SCAQMD air quality plans and builds off the SCAQMD AQMP processes that are designed to meet health-based criteria pollutant standards in several ways (SCAG 2008). First, it complements AQMPs by providing guidance and incentives for public agencies to consider best practices that support the technology-based control measures in AQMPs. Second, the 2008 RCP emphasizes the need for local initiatives that can reduce the region’s greenhouse gas (GHG) emissions that contribute to climate change, an issue that is largely outside the focus of local attainment plans. Third, the 2008 RCP emphasizes the need for better coordination of land use and transportation planning, which heavily influences the emissions inventory from the transportation sectors of the economy. This also minimizes land use conflicts, such as residential development near freeways, industrial areas, or other sources of air pollution.

On April 7, 2016, SCAG’s Regional Council adopted the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS). The 2016 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The 2016 RTP/SCS charts a course for closely integrating land use and transportation so that the region can grow smartly and sustainably. The 2016 RTP/SCS was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, nonprofit organizations, businesses, and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside,
San Bernardino, and Ventura. In June 2016, SCAG received its conformity determination from the Federal Highway Administration and the Federal Transit Administration indicating that all air quality conformity requirements for the 2016 RTP/SCS and associated 2015 Federal Transportation Improvement Program Consistency Amendment through Amendment 15-12 have been met (SCAG 2016). The SCAQMD 2016 AQMP applies the updated SCAG growth forecasts assumed in the 2016 RTP/SCS.

SCAG has developed Connect SoCal, the 2020-2045 RTP/SCS, which is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. Connect SoCal charts a path toward a more mobile, sustainable and prosperous region by making connections between transportation networks, between planning strategies and between the people whose collaboration can improve the quality of life for Southern Californians. Connect SoCal embodies a collective vision for the region’s future and is developed with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura. On May 7, 2020, SCAG’s Regional Council adopted Connect SoCal for federal transportation conformity purposes only. In light of the COVID-19 pandemic, the Regional Council will consider approval of Connect SoCal in its entirety and for all other purposes within 120 days from May 7, 2020.

City of Long Beach

General Plan

Air Quality Element

The City’s General Plan addresses air quality in the Air Quality Element and contains goals and policies and actions in relation to government organization roles and responsibilities, ground transportation, air transportation, land use, particulate emissions, energy conservation, and education. The following goals and policies in the Air Quality Element that may apply to the Proposed Project are listed below.

Governmental Organization, Roles, and Responsibility

- **Goal 1:** Effective coordination of air quality improvement efforts in the South Coast Air Basin, the Southeast Los Angeles County (SELAC) subregion of SCAG, and other agencies.
- **Policy 1.2:** Encourage Community Participation. Involve environmental groups, the business community, special interests, and the general public in the formulation and implementation of programs that effectively reduce airborne pollutants.
Ground Transportation

- **Goal 2:** A diverse and efficient ground transportation system that minimizes air pollutant emissions.

- **Policy 2.1.1:** Reduce Vehicle Trips. Use incentives, regulations, and transportation demand management techniques, in cooperation with other jurisdictions in the South Coast Air Basin to eliminate vehicle trips that would otherwise occur.

- **Policy 2.1.2:** Reduce Vehicle Miles Traveled. Use incentives, regulations, and transportation demand management in cooperation with other jurisdictions in the South Coast Air Basin, to reduce vehicle miles traveled.

- **Policy 2.1.3:** Increase Cost-Effectiveness of Transportation and Parking Systems. Make cost-effective improvements to transportation and parking systems that will reduce traffic congestion and resulting emissions.

- **Policy 2.2.1:** Modify Work Schedules. Promote and establish modified work schedules that reduce peak period auto travel.

- **Policy 2.3.1:** Expand Transit in the City and the Region. Cooperate in efforts to expand all forms of mass transit within the City and the South Coast Air Basin.

- **Policy 2.4.1:** Promote Non-Motorized Transportation. Promote convenient and continuous bicycle paths and pleasant pedestrian environments that will encourage non-motorized travel within the City.

- **Policy 2.5.1:** Manage the Parking Supply. Manage the City’s parking supply to inhibit auto use, while ensuring that economic development goals are not sacrificed.

- **Policy 2.6.1:** Support Legislation. Participate with other local governments in seeking State and Federal legislation to improve vehicle/transportation technology and establish a direct link between the true cost of emissions and the sources of pollution.

- **Policy 2.6.2:** Fleet Conversion to Clean Fuels. Play a leadership role in the conversion to clean fuels by promoting the increased use of compressed natural gas (CNG), electric vehicles, and other alternative fuels.

Land Use

- **Goal 5:** A pattern of land uses that can be efficiently served by a diversified transportation system and that directly and indirectly minimizes air pollutants.

- **Policy 5.1:** Manage Growth. Regulate land use and promote development in a manner that will support established transit services and reduce the need for the automobile.
• **Policy 5.2:** Balance Growth. Improve the balance between jobs and housing to create a more efficient urban form.

**Particulate Emissions**

• **Goal 6:** Minimize particulate emissions from the construction and operation of roads and buildings, from mobile sources, and from the transportation, handling and storage of materials.

• **Policy 6.1:** Control Dust. Further reduce particulate emissions from roads, parking lots, construction sites, unpaved alleys, and port operations and related uses.

**Energy Conservation**

• **Goal 7:** Reduce emissions through reduced energy consumption.

• **Policy 7.1:** Energy Conservation. Reduce energy consumption through conservation improvements and requirements.

• **Policy 7.2:** Recycle Wastes. Promote local recycling of wastes and the use of recycled materials.

**Mobility Element**

The City’s Mobility Element (City of Long Beach 2013) of the General Plan aims at creating a safe, efficient, balanced and multimodal mobility network, maintaining and enhancing air, ground, and water transportation capacity, and leading the region by example with innovative and experimental practices, and includes goals, policies and actions that help reduce criteria air pollutant emissions through more efficient transportation. The goals, policies, and strategies of the City’s Mobility Element that may apply to the Proposed Project are presented below.

**Mobility of People**

• **Goal 1:** Create a safe, efficient, balanced, and multimodal mobility network.

• **Strategy 1:** Establish a network of complete streets that complements the related street type.

• **Policy 1-9:** Increase mode shift of transit, pedestrians, and bicycles.

• **Policy 1-12:** Encourage large employers to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpool/vanpools.

• **Policy 1-17:** Develop land use policies that focus development potential in locations best served by transit.

• **Strategy 2:** Reconfigure streets to emphasize their modal priorities.
- **Policy 2-17**: Ensure safe, convenient, and adequate, on- and off-street bicycle parking facilities to accommodate and encourage residents to cycle for commuting and daily needs.

- **Strategy 3**: Strategically improve congested intersections and corridors.

- **Policy 4-3**: Develop a new Multimodal Level of Service (MMLOS) methodology that includes the following components:
  - Emphasis on pedestrian and bicycle access and circulation.
  - Maintenance of appropriate emergency vehicle access and response time.
  - Support for reduced vehicle miles traveled (VMT).
  - Considers, but does not deem, auto congestion in Downtown or Long Beach Boulevard Transit-Oriented Development (TOD) district to be an impact.

- **Strategy 5**: Reduce the environmental impacts of the transportation system.

- **Policy 5-2**: Reduce VMT and vehicle trips through the use of alternative modes of transportation and Transportation Demand Management (TDM).

- **Policy 5-3**: Encourage the use of low- or no-emission vehicles to reduce pollution.

- **Policy 5-4**: Promote car-sharing and Neighborhood Electric Vehicle ownership as an important means to reduce traffic congestion.

- **Policy 5-5**: Sustain the recent improvements in air quality and achieve further significant progress in such improvements to meet State and federal mandates.

- **Strategy 6**: Manage the supply of parking.

- **Policy 6-3**: Where appropriate, encourage the conversion of on-street parking space for expanded sidewalk widths or landscaping.

- **Policy 6-7**: Support using parking supply and pricing as a strategy to encourage use of non-automobile modes where feasible.

- **Policy 6-8**: Where applicable, encourage users to park once to meet all of their travel needs within the City.

- **Policy 6-11**: Encourage the use of transit, carpooling, and walking to reduce the need for parking.

- **Policy 6-12**: Promote transit-oriented development with reduced parking requirements around appropriate transit hubs and stations to facilitate the use of available transit services.

- **Policy 6-13**: Consider reducing parking requirements for mixed-use developments, for developments providing shared parking or a comprehensive TDM Program, or developments located near major transit hubs.
• **Policy 6-15:** Encourage and provide incentives for commercial, office, and industrial development to provide preferred parking for carpoools, vanpools, electric vehicles, and flex cars.

**Mobility of Goods**

• **Goal 3:** Lead the region by example with innovative and experimental practices.

• **Strategy 10:** Be a leader in regional cooperation on transportation issues.

• **Strategy 11:** Adapt mobility strategies and programs based on new concepts and technologies that reduce environmental impacts and increase quality of life.

• **Strategy 12:** Develop freight-related improvements consistent with the regional transportation network.

• **Policy 13-2:** Reduce truck congestion and parking impacts on city streets.

• **Strategy 14:** Reduce the air quality impacts of freight transportation and Port-related traffic.

• **Policy 14-1:** Provide for the efficient, clean, and safe movement of goods to support commerce and industry.

• **Policy 14-2:** Adopt and enforce truck routes to minimize the impacts of truck emissions on the community.

• **Policy 14-3:** Reduce congestion on freeways and designated truck routes.

**2019 Land Use Element**

On December 3, 2019, the City Council adopted a resolution adopting the updated Land Use Element to the Long Beach General Plan, replacing the existing Land Use Element comprised of policies and the adopted General Plan Land Use Designation maps, with the updated Land Use Element, including revised policies and the PlaceType and Height maps. The 2019 Land Use Element of the City’s General Plan contains the following strategies and policies related to air quality:

• **Strategy No. 15:** Protect neighborhoods from adverse environmental conditions.

• **LU Policy 15-1:** Develop public health and environmental protection programs that promote equity and that provide for the fair treatment of all Long Beach residents, regardless of race, age, culture, income, or geographic location.

• **LU-M-48:** Continue to develop and implement innovative programs aimed at reducing the air pollutants from port operations (e.g., San Pedro Bay Clean Air Action Plan, Clean Truck Programs, Main Engine Low-Sulfur Fuel Incentive Program, and Shoreside Electricity).
Sustainable City Action Plan

The City’s Sustainable City Action Plan (SCAP) was adopted in February 2010. The SCAP is intended to guide operational, policy, and financial decisions to create a more sustainable Long Beach. The SCAP includes initiatives, goals and actions that will move Long Beach toward becoming a sustainable city. These goals and actions included in the SCAP relate to buildings and neighborhoods, energy, green economy and lifestyle, transportation, urban nature, waste reduction, and water.

3.2.2.4 Air Quality Conditions

Regional and Local Air Quality Conditions

SCAB Attainment Designation

Pursuant to the 1990 federal Clean Air Act amendments, the EPA classifies air basins (or portions thereof) as “attainment” or “nonattainment” for each criteria air pollutant based on whether the NAAQS have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as “attainment” for that pollutant. If an area exceeds the standard, the area is classified as “nonattainment” for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as “unclassified” or “unclassifiable.” The designation of “unclassifiable/attainment” means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are redesignated as maintenance areas and must have approved Maintenance Plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as “attainment” or “nonattainment,” but based on CAAQS rather than the NAAQS. Table 3.2-2 depicts the current attainment status of the SCAB with respect to the NAAQS and CAAQS.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Designation/Classification</th>
<th>National Standards</th>
<th>California Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone (O₃), 1-hour</td>
<td>No National Standard</td>
<td></td>
<td>Nonattainment</td>
</tr>
<tr>
<td>Ozone (O₃), 8-hour</td>
<td><strong>Extreme Nonattainment</strong></td>
<td></td>
<td>Nonattainment</td>
</tr>
<tr>
<td>Nitrogen Dioxide (NO₂)</td>
<td>Unclassifiable/Attainment</td>
<td></td>
<td>Attainment</td>
</tr>
<tr>
<td>Carbon Monoxide (CO)</td>
<td>Attainment/Maintenance</td>
<td></td>
<td>Attainment</td>
</tr>
<tr>
<td>Sulfur Dioxide (SO₂)</td>
<td>Unclassifiable/Attainment</td>
<td></td>
<td>Attainment</td>
</tr>
<tr>
<td>Coarse Particulate Matter (PM₁₀)</td>
<td>Attainment/Maintenance</td>
<td></td>
<td>Nonattainment</td>
</tr>
<tr>
<td>Fine Particulate Matter (PM₂.₅)</td>
<td><strong>Serious Nonattainment</strong></td>
<td></td>
<td>Nonattainment</td>
</tr>
</tbody>
</table>
### Table 3.2-2
South Coast Air Basin Attainment Classification

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Designation/Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>National Standards</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>Nonattainment</td>
</tr>
<tr>
<td>Hydrogen Sulfide</td>
<td>No National Standard</td>
</tr>
<tr>
<td>Sulfates</td>
<td>No National Standard</td>
</tr>
<tr>
<td>Visibility-Reducing Particles</td>
<td>No National Standard</td>
</tr>
<tr>
<td>Vinyl Chloride</td>
<td>No National Standard</td>
</tr>
</tbody>
</table>

**Sources:** EPA 2020a (national); CARB 2019g (California).

**Notes:** Bold text = not in attainment; Attainment = meets the standards; Attainment/Maintenance = achieves the standards after a nonattainment designation; Nonattainment = does not meet the standards; Unclassified or Unclassifiable = insufficient data to classify; Unclassifiable/Attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.

In summary, the SCAB is designated as a nonattainment area for federal and state O₃ standards and federal and state PM₂.₅ standards. The SCAB is designated as a nonattainment area for state PM₁₀ standards; however, it is designated as an attainment area for federal PM₁₀ standards. The SCAB is designated as an attainment area for federal and state CO standards, federal and state NO₂ standards, and federal and state SO₂ standards. While the SCAB has been designated as nonattainment for the federal rolling 3-month average lead standard, it is designated attainment for the state lead standard (EPA 2020a, CARB 2019g).

Despite the current nonattainment status, air quality within the SCAB has generally improved since the inception of air pollutant monitoring in 1976. This improvement is mainly a result of lower-polluting on-road motor vehicles, more stringent regulation of industrial sources, and the implementation of emission reduction strategies by the SCAQMD. This trend toward cleaner air has occurred in spite of continued population growth. PM₁₀ levels have declined almost 50% since 1990, and PM₂.₅ levels have also declined 50% since measurements began in 1999 (SCAQMD 2013). Similar improvements are observed with O₃, although the rate of O₃ decline has slowed in recent years.

**Local Ambient Air Quality**

CARB, air districts, and other agencies monitor ambient air quality at approximately 250 air quality monitoring stations across the state. SCAQMD monitors local ambient air quality at the Plan Area. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. The most recent background ambient air quality data from 2016 to 2018 are presented in Table 3.2-3, Local Ambient Air Quality Data.

The North Long Beach monitoring station, located at 3648 North Long Beach Boulevard, California, 90807, is the nearest air quality monitoring station to the Plan Area, located...
approximately 1.2 miles west of the Proposed Project area. Because not all pollutants are monitored at the North Long Beach monitoring station, air quality data from the Long Beach Webster Street monitoring station (2425 Webster Street, California 90810, approximately 2.5 miles southwest from the Proposed Project area) is also presented. Air quality data for PM$_{2.5}$ from the North Long Beach station and air quality data for O$_3$, NO$_2$, CO, SO$_2$, and PM$_{10}$ from the Webster Street monitoring station are provided in Table 3.2-3. The data collected at these two stations is considered representative of the air quality experienced in the Proposed Project vicinity. The number of days exceeding the ambient air quality standards is also shown in Table 3.2-3.

### Table 3.2-3
Local Ambient Air Quality Data

<table>
<thead>
<tr>
<th>Monitoring Station</th>
<th>Unit</th>
<th>Averaging Time</th>
<th>Agency/Method</th>
<th>Ambient Air Quality Standard</th>
<th>Measured Concentration by Year</th>
<th>Exceedances by Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2016</td>
<td>2017</td>
</tr>
<tr>
<td>Webster Street</td>
<td>ppm</td>
<td>Maximum 1-hour concentration</td>
<td>California</td>
<td>0.09</td>
<td>0.079</td>
<td>0.082</td>
</tr>
<tr>
<td></td>
<td>ppm</td>
<td>Maximum 8-hour concentration</td>
<td>California</td>
<td>0.070</td>
<td>0.059</td>
<td>0.068</td>
</tr>
<tr>
<td></td>
<td>ppm</td>
<td>Annual concentration</td>
<td>California</td>
<td>0.070</td>
<td>0.059</td>
<td>0.068</td>
</tr>
<tr>
<td></td>
<td>ppm</td>
<td>Annual concentration</td>
<td>National</td>
<td>0.070</td>
<td>0.059</td>
<td>0.068</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Monitoring Station</th>
<th>Unit</th>
<th>Averaging Time</th>
<th>Agency/Method</th>
<th>Ambient Air Quality Standard</th>
<th>Measured Concentration by Year</th>
<th>Exceedances by Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2016</td>
<td>2017</td>
</tr>
<tr>
<td>Webster Street</td>
<td>ppm</td>
<td>Maximum 1-hour concentration</td>
<td>California</td>
<td>0.18</td>
<td>0.075</td>
<td>0.089</td>
</tr>
<tr>
<td></td>
<td>ppm</td>
<td>Maximum 8-hour concentration</td>
<td>California</td>
<td>0.030</td>
<td>0.018</td>
<td>0.018</td>
</tr>
<tr>
<td></td>
<td>ppm</td>
<td>Annual concentration</td>
<td>California</td>
<td>0.053</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>ppm</td>
<td>Annual concentration</td>
<td>National</td>
<td>0.100</td>
<td>0.0756</td>
<td>0.0895</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Monitoring Station</th>
<th>Unit</th>
<th>Averaging Time</th>
<th>Agency/Method</th>
<th>Ambient Air Quality Standard</th>
<th>Measured Concentration by Year</th>
<th>Exceedances by Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Webster Street</td>
<td>ppm</td>
<td>Maximum 1-hour concentration</td>
<td>California</td>
<td>0.18</td>
<td>0.075</td>
<td>0.089</td>
</tr>
<tr>
<td></td>
<td>ppm</td>
<td>Maximum 8-hour concentration</td>
<td>California</td>
<td>0.030</td>
<td>0.018</td>
<td>0.018</td>
</tr>
<tr>
<td></td>
<td>ppm</td>
<td>Annual concentration</td>
<td>California</td>
<td>0.053</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>ppm</td>
<td>Annual concentration</td>
<td>National</td>
<td>0.100</td>
<td>0.0756</td>
<td>0.0895</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Monitoring Station</th>
<th>Unit</th>
<th>Averaging Time</th>
<th>Agency/Method</th>
<th>Ambient Air Quality Standard</th>
<th>Measured Concentration by Year</th>
<th>Exceedances by Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Webster Street</td>
<td>ppm</td>
<td>Maximum 1-hour concentration</td>
<td>National</td>
<td>20</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>ppm</td>
<td>Maximum 8-hour concentration</td>
<td>National</td>
<td>9.0</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>ppm</td>
<td>Annual concentration</td>
<td>National</td>
<td>9</td>
<td>2.2</td>
<td>2.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Monitoring Station</th>
<th>Unit</th>
<th>Averaging Time</th>
<th>Agency/Method</th>
<th>Ambient Air Quality Standard</th>
<th>Measured Concentration by Year</th>
<th>Exceedances by Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Webster Street</td>
<td>ppm</td>
<td>Maximum 1-hour concentration</td>
<td>National</td>
<td>0.075</td>
<td>0.0178</td>
<td>0.0197</td>
</tr>
<tr>
<td></td>
<td>ppm</td>
<td>Maximum 24-hour concentration</td>
<td>National</td>
<td>0.14</td>
<td>0.036</td>
<td>0.032</td>
</tr>
<tr>
<td></td>
<td>ppm</td>
<td>Annual concentration</td>
<td>National</td>
<td>0.030</td>
<td>0.092</td>
<td>0.085</td>
</tr>
</tbody>
</table>

7 The address of 2425 Webster Street has been changed to 2425 Webster Avenue; however, the location is the same.
Table 3.2-3
Local Ambient Air Quality Data

<table>
<thead>
<tr>
<th>Monitoring Station</th>
<th>Unit</th>
<th>Averaging Time</th>
<th>Agency/Method</th>
<th>Ambient Air Quality Standard</th>
<th>Measured Concentration by Year</th>
<th>Exceedances by Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2016</td>
<td>2017</td>
</tr>
<tr>
<td><strong>Coarse Particulate Matter (PM$_{10}$)</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Webster Street</td>
<td>μg/m$^3$</td>
<td>Maximum 24-hour concentration</td>
<td>California 50</td>
<td>75.3</td>
<td>79.0</td>
<td>83.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>National 150</td>
<td>75.0</td>
<td>79.0</td>
<td>84.0</td>
</tr>
<tr>
<td></td>
<td>μg/m$^3$</td>
<td>Annual concentration</td>
<td>California 20</td>
<td>ND</td>
<td>ND</td>
<td>32.5</td>
</tr>
<tr>
<td><strong>Fine Particulate Matter (PM$_{2.5}$)</strong>&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Long Beach</td>
<td>μg/m$^3$</td>
<td>Maximum 24-hour concentration</td>
<td>National 35</td>
<td>29.3</td>
<td>55.3</td>
<td>79.6</td>
</tr>
<tr>
<td></td>
<td>μg/m$^3$</td>
<td>Annual concentration</td>
<td>California 12</td>
<td>10.3</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>National 12.0</td>
<td>10.3</td>
<td>10.9</td>
<td>11.4</td>
</tr>
</tbody>
</table>

Sources: CARB 2020; EPA 2020.
Notes: ppm = parts per million by volume; ND = insufficient data available to determine the value; — = not available; μg/m$^3$ = micrograms per cubic meter.

Data taken from CARB iADAM (http://www.arb.ca.gov/adam) and EPA AirData (http://www.epa.gov/airdata/) represent the highest concentrations experienced over a given year.

Exceedences of national and California standards are only shown for O$_3$ and particulate matter. Daily exceedances for particulate matter are estimated days because PM$_{10}$ and PM$_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed national or California standards during the years shown. There is no national standard for 1-hour O$_3$, annual PM$_{10}$, or 24-hour SO$_2$, nor is there a California 24-hour standard for PM$_{2.5}$.

Webster Street Monitoring Station is located at 2425 Webster Street, Long Beach, California 90810.
North Long Beach Monitoring Station is located at 3648 North Long Beach Boulevard, Long Beach, California 90807.

<sup>a</sup> Mean does not satisfy minimum data completeness criteria.

<sup>b</sup> Measurements of PM$_{10}$ and PM$_{2.5}$ are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

3.2.3 Thresholds of Significance

3.2.3.1 Significance Criteria

The significance criteria used to evaluate the Proposed Project’s impacts to air quality is based on the recommendations provided in Appendix G of the State CEQA Guidelines (14 CCR 15000 et seq.). For the purposes of this air quality analysis, a significant impact would occur if the Proposed Project would:

A. Conflict with or obstruct implementation of the applicable air quality plan.

B. 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.
C. Expose sensitive receptors to substantial pollutant concentrations.

D. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Appendix G of the State CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to determine whether the Proposed Project would have a significant impact on air quality.

The SCAQMD has established Air Quality Significance Thresholds, as revised in April 2019, that set forth quantitative emission significance thresholds below which a project would not have a significant impact on ambient air quality (SCAQMD 2019). The quantitative air quality analysis provided herein applies the SCAQMD thresholds identified in Table 3.2-4, SCAQMD Air Quality Significance Thresholds, to determine the potential for the Proposed Project to result in a significant impact under CEQA.

### Table 3.2-4

**SCAQMD Air Quality Significance Thresholds**

<table>
<thead>
<tr>
<th>Criteria Pollutants</th>
<th>Mass Daily Thresholds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pollutant</td>
<td>Construction (Pounds per Day)</td>
</tr>
<tr>
<td>VOCs</td>
<td>75</td>
</tr>
<tr>
<td>NOx</td>
<td>100</td>
</tr>
<tr>
<td>CO</td>
<td>550</td>
</tr>
<tr>
<td>SOx</td>
<td>150</td>
</tr>
<tr>
<td>PM10</td>
<td>150</td>
</tr>
<tr>
<td>PM2.5</td>
<td>55</td>
</tr>
<tr>
<td>Lead(^a)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TACs and Odor Thresholds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum incremental cancer risk ≥ 10 in 1 million</td>
</tr>
<tr>
<td>Cancer Burden &gt; 0.5 excess cancer cases (in areas ≥ 1 in 1 million)</td>
</tr>
<tr>
<td>Chronic and acute hazard index ≥ 1.0 (project increment)</td>
</tr>
<tr>
<td>Project creates an odor nuisance pursuant to SCAQMD Rule 402</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ambient Air Quality Standards for Criteria Pollutants(^c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards:</td>
</tr>
<tr>
<td>NO(_2) 1-hour average 0.18 ppm (state)</td>
</tr>
<tr>
<td>NO(_2) annual arithmetic mean 0.030 ppm (state) and 0.0534 ppm (federal)</td>
</tr>
<tr>
<td>CO 1-hour average 20 ppm (state) and 35 ppm (federal)</td>
</tr>
<tr>
<td>CO 8-hour average 9.0 ppm (state/federal)</td>
</tr>
</tbody>
</table>
### Table 3.2-4

SCAQMD Air Quality Significance Thresholds

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Construction (Pounds per Day)</th>
<th>Operation (Pounds per Day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM$_{10}$ 24-hour average</td>
<td>10.4 µg/m³ (construction)$^a$</td>
<td>2.5 µg/m³ (operation)</td>
</tr>
<tr>
<td>PM$_{10}$ annual average</td>
<td>2.5 µg/m³</td>
<td></td>
</tr>
<tr>
<td>PM$_{2.5}$ 24-hour average</td>
<td>10.4 µg/m³ (construction)$^a$</td>
<td>2.5 µg/m³ (operation)</td>
</tr>
</tbody>
</table>

Source: SCAQMD 2019.

Notes: SCAQMD = South Coast Air Quality Management District; VOC = volatile organic compounds; NO$_x$ = oxides of nitrogen; CO = carbon monoxide; SO$_x$ = sulfur oxides; PM$_{10}$ = coarse particulate matter; PM$_{2.5}$ = fine particulate matter; TAC = toxic air contaminant; NO$_2$ = nitrogen dioxide; ppm = parts per million by volume; µg/m³ = micrograms per cubic meter.

GHG emissions thresholds for industrial projects, as added in the March 2015 revision to the SCAQMD Air Quality Significance Thresholds, were not included in Table 3.2-4 as they are addressed within the GHG emissions analysis and not the air quality analysis.

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The phasing out of leaded gasoline started in 1976. As gasoline no longer contains lead, the Proposed Project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

The evaluation of whether the Proposed Project would conflict with or obstruct implementation of the applicable air quality plan (Impact A) is based on the SCAQMD CEQA Air Quality Handbook (SCAQMD 1993), Chapter 12, Sections 12.2 and 12.3. The first criterion assesses if the Proposed Project would 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 of the interim emissions reductions specified in the AQMP, which is addressed in detail in Section 3.2.4, Threshold B. The second criterion is if the Proposed Project would exceed the assumptions in the AQMP or increments based on the year of Proposed Project buildout and phase, as discussed further in Section 3.2.4, Threshold A.

To evaluate the potential for the Proposed Project result in a cumulatively considerable net increase of any criteria pollutant for which the Proposed Project region is non-attainment under an applicable federal or state ambient air quality standard (Threshold B), this analysis applies the SCAQMD’s construction and operational criteria pollutants mass daily thresholds, as shown in Table 3.2-4. A project would potentially result in a cumulatively considerable net increase in O$_3$, which is a nonattainment pollutant, if the project’s construction or operational emissions would exceed the SCAQMD VOC or NO$_x$ thresholds shown in Table 3.2-4. These emissions-based thresholds for O$_3$ precursors are intended to serve as a surrogate for an “ozone significance threshold” (i.e., the potential for adverse O$_3$ impacts to occur). This approach is used because O$_3$ is not emitted directly,
and the effects of an individual project’s emissions of O₃ precursors (VOC and NOₓ) on O₃ levels in ambient air cannot be determined through air quality models or other quantitative methods.

The assessment of the Proposed Project’s potential to expose sensitive receptors to substantial pollutant concentrations (Threshold C) includes a localized significance threshold (LST) analysis, as recommended by the SCAQMD, to evaluate the potential of localized air quality impacts to sensitive receptors in the immediate vicinity of the Proposed Project from construction and operation. For project sites of 5 acres or less, the SCAQMD LST Methodology (SCAQMD 2009) includes lookup tables that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance criteria (i.e., the emissions would not cause an exceedance of the applicable concentration limits for NO₂, CO, PM₁₀, and PM₂.₅) without performing project-specific dispersion modeling.

The LST significance thresholds for NO₂ and CO represent the allowable increase in concentrations above background levels in the vicinity of a project that would not cause or contribute to an exceedance of the relevant ambient air quality standards, while the threshold for PM₁₀ represents compliance with SCAQMD Rule 403 (Fugitive Dust). The LST significance threshold for PM₂.₅ is intended to ensure that construction emissions do not contribute substantially to existing exceedances of the PM₂.₅ ambient air quality standards. The allowable emission rates depend on the following parameters:

a. Source-Receptor Area (SRA) in which the project is located;
b. Size of the project site; and
c. Distance between the project site and the nearest sensitive receptor (e.g., residences, schools, hospitals).

The Plan Area is located in SRA 4 (South Coastal LA County). The SCAQMD provides guidance for applying California Emissions Estimator Model (CalEEMod) to the LSTs. LST pollutant screening level concentration data is currently published for 1-, 2-, and 5-acre sites for varying distances. The maximum number of acres disturbed on the peak day was estimated using the Fact Sheet for Applying CalEEMod to Localized Significance Thresholds (SCAQMD 2014), which provides estimated acres per 8-hour/day for crawler tractors, graders, rubber tired dozers, and scrapers. Based on the SCAQMD guidance, it was estimated that the maximum acres on the Plan Area that would be disturbed by off-road equipment would be 6.0 acres per day during the grading phase. However, because the assumed construction scenario is intended to represent construction

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8 Model scenario assumptions for the grading phase includes 16 pieces of equipment, which is anticipated to overestimate actual equipment at one site within an already developed area. As noted previously, CalEEMod default assumptions for all construction phases were multiplied by two to account for a condensed 1-year schedule. Construction sites, especially ones within developed areas, are typically restricted by how many pieces of equipment can be safely operated at the same time within the project limits.
of more than one project site within the Plan Area and may not be representative of actual construction, the LSTs for 1-acre and 2-acre disturbance areas are also presented in Table 3.2-5 and the analysis conservatively applies the most stringent thresholds, which are for 1-acre sites.

The closest sensitive receptor to the Proposed Project area are residences located adjacent to Cherry Avenue, which is included in the Plan Area. As residential properties are located directly adjacent to the Proposed Project boundary, the LST receptor distance was assumed to be 82 feet (25 meters), which is the shortest distance provided by the SCAQMD lookup tables. The LST values from the SCAQMD lookup tables for SRA 4 (South Coastal LA County) for a disturbed acreage of 1-, 2-, and 5- acres and a receptor distance of 25 meters are shown in Table 3.2-5.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Threshold by Acres Disturbed Per Day (Pounds per Day)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-acre</td>
</tr>
<tr>
<td>NO₂</td>
<td>57</td>
</tr>
<tr>
<td>CO</td>
<td>585</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>4</td>
</tr>
<tr>
<td>PM₂.₅</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: SCAQMD 2009.
Notes: NO₂ = nitrogen dioxide; CO = carbon monoxide; PM₁₀ = coarse particulate matter; PM₂.₅ = fine particulate matter.
LST thresholds were determined based on the values for a distance of 25 meters (82 feet) from the nearest sensitive receptor.

The potential for the Proposed Project to expose sensitive receptors to substantial pollutant concentrations (Section 3.2.4, Threshold C) includes the LST analysis, a CO hotspot analysis, a qualitative health risk discussion, and a qualitative assessment of the health effects of other criteria air pollutants.

The potential for the Proposed Project to result in other emissions, specifically an odor impact, (Section 3.2.4, Threshold D) is based on the Proposed Project’s land use types and anticipated construction activity, and the potential for the Proposed Project to create an odor nuisance pursuant to SCAQMD Rule 402.

**General Conformity**

The first step in the general conformity analysis is the applicability analysis. The National Highway System Designation Act of 1995, (Pub. L. 104–59) added section 176(c)(5) to the Clean Air Act to limit applicability of the conformity programs to areas designated as nonattainment under section 107 of the Clean Air Act and maintenance areas under section 175A of the Clean Air Act only. Therefore, only actions in designated nonattainment and maintenance areas are
subject to the regulation. In addition, the regulations recognize that the vast majority of Federal actions do not result in significant increase in emissions and, therefore, include a number of exemptions such as de minimis emission levels based on the type and severity of the nonattainment problem. In the applicability analysis phase, the Federal agency determines:

1. Whether the action will occur in a nonattainment or maintenance area;
2. Whether one of the specific exemptions apply to the action;
3. Whether the Federal agency has included the action on its list of ‘presumed to conform’ actions; or
4. Whether the total direct and indirect emissions are below or above the de minimis levels.

Because the SCAB, where the Proposed Project is located, is a nonattainment and maintenance area for some pollutants, the conformity analysis is applicable per item 1 above. In addition, no exemptions apply to the Proposed Project (item 2) and the Federal agency has not presumed the Proposed Project would confirm at this time (item 3). Therefore, the applicability analysis focuses on item 4.

Regarding item 4, a conformity determination is required for each criteria pollutant or precursor where the total of direct and indirect emissions of the criteria pollutant or precursor in a federal nonattainment or maintenance area would equal or exceed specified annual emission rates, referred to as “de minimis” thresholds or would be “regionally significant.” A project’s direct and indirect emissions are regionally significant if they exceed 10 percent or more of a nonattainment or maintenance area’s emissions inventory for that pollutant. For ozone precursors, PM$_{10}$, and PM$_{2.5}$, the de minimis thresholds depend on the severity of the nonattainment classification; for other pollutants, the threshold is set at 100 tons per year. As indicated in Section 3.2.2.4, the SCAB is designated as extreme nonattainment for ozone, serious nonattainment for PM$_{2.5}$, and attainment/maintenance for CO and PM$_{10}$ under the NAAQS. The relevant de minimis thresholds for the SCAB are shown in Table 3.2-6, General Conformity De Minimis Thresholds.

**Table 3.2-6**

General Conformity De Minimis Thresholds

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>NAAQS Attainment Status</th>
<th>Annual Emissions (tons per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO$_x$</td>
<td>Extreme Nonattainment (O$_3$)</td>
<td>10</td>
</tr>
<tr>
<td>VOC</td>
<td>Extreme Nonattainment (O$_3$)</td>
<td>10</td>
</tr>
<tr>
<td>CO</td>
<td>Attainment/Maintenance</td>
<td>100</td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>Attainment/Maintenance</td>
<td>100</td>
</tr>
<tr>
<td>PM$_{2.5}$ (direct)</td>
<td>Serious Nonattainment</td>
<td>70</td>
</tr>
<tr>
<td>PM$_{2.5}$ (NO$_x$)$^1$</td>
<td>(Serious Nonattainment)</td>
<td>70</td>
</tr>
</tbody>
</table>
Table 3.2-6
General Conformity De Minimis Thresholds

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>NAAQS Attainment Status</th>
<th>Annual Emissions (tons per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM_{2.5} (VOC and NH\textsubscript{3})\textsuperscript{2}</td>
<td>(Serious Nonattainment)</td>
<td>70</td>
</tr>
<tr>
<td>PM_{2.5} (SO\textsubscript{2})</td>
<td>(Serious Nonattainment)</td>
<td>70</td>
</tr>
</tbody>
</table>

\textsuperscript{1} NO\textsubscript{x} is included unless determined not to be a significant precursor. However, the NO\textsubscript{x} threshold based on its contribution to ozone is more stringent.

\textsuperscript{2} VOC and ammonia (NH\textsubscript{3}) are not included unless determined to be a significant precursor. However, the VOC threshold based on their contribution to ozone is more stringent. Ammonia would not be emitted as a result of the proposed action.

When the applicability analysis shows that the action must undergo a conformity determination, Federal agencies must first show that the action will meet all SIP control requirements such as reasonably available control measures, and the emissions from the action will not interfere with the timely attainment of the standard, the maintenance of the standard or the area’s ability to achieve an interim emission reduction milestone. Federal agencies then must demonstrate conformity by meeting one or more of the methods specified in the regulation for determining conformity:

1. Demonstrating that the total direct and indirect emissions are specifically identified and accounted for in the applicable SIP,

2. Obtaining a written statement from the State or local agency responsible for the SIP documenting that the total direct and indirect emissions from the action along with all other emissions in the area will not exceed the SIP emission budget,

3. Obtaining a written commitment from the State to revise the SIP to include the emissions from the action,

4. Obtaining a statement from the metropolitan planning organization for the area documenting that any on-road motor vehicle emissions are included in the current regional emission analysis for the area’s transportation plan or transportation improvement program,

5. Fully offset the total direct and indirect emissions by reducing emissions of the same pollutant or precursor in the same nonattainment or maintenance area, or

6. Conducting air quality modeling that demonstrates that the emissions will not cause or contribute to new violations of the standards, or increase the frequency or severity of any existing violations of the standards.
3.2.3.2 Approach and Methodology

The GCSP identifies anticipated development by land use type and square footage. However, individual project specifics for construction and operation of future development under the Proposed Project are not yet available. Nonetheless, Proposed-Project-generated emissions were estimated in a good faith effort to disclose the magnitude of potential criteria air pollutant emissions generated during construction and operation of future development under the Proposed Project.

Construction Emissions

Emissions from the construction phase of the Proposed Project were estimated using CalEEMod Version 2016.3.2. Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on CalEEMod default values, which were adjusted to more accurately reflect long-term buildout of the Proposed Project.

For purposes of estimating Proposed Project emissions, construction is assumed to start in 2020 and have a duration of 20 years, reaching completion in 2040. While construction specifics for buildout of the Proposed Project are not currently available, the analysis contained herein is based on the first full year of construction (2020), which is the estimated worst-case construction year because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years. To estimate a single year of construction, the entire Proposed Project buildout land use quantities was scaled by 20-years of construction (i.e., 5% of total buildout) and then compressed to a 1-year period. CalEEMod default values for buildout of 5% of the Proposed Project was estimated to take a little less than 2 years; therefore, corresponding construction equipment were multiplied by a factor of 2 to account for the compressed 1-year period (i.e., reducing schedule by half and increasing intensity by doubling equipment). Building construction and architectural coating worker and vendor trips were similarly multiplied by 2; all other construction phase worker trips were based on the number of equipment and CalEEMod default assumptions of 1.25 workers per piece of equipment. CalEEMod default trip length values were used for the distances for all construction-related trips.

The resulting 1-year construction assumptions are provided for each year of construction (duration of phases is approximate):

- Demolition: 11 days
- Site Preparation: 5 days
- Grading: 19 days


- Building Construction: 203 days
- Paving: 11 days
- Application of Architectural Coatings: 11 days

While not all of the existing buildings would be demolished and replaced, it was conservatively assumed that all 3,503,616 square feet of existing structures would be demolished over the 20-year buildout. Accordingly, it was assumed that 175,181 square feet (3,503,616 square feet ÷ 20 years) would be demolished during the demolition phase for the 1-year construction scenario. Grading quantities are currently not identified and grading is anticipated to be minimal because the site is already developed; however, to capture potential haul truck trips during the grading phase, it was assumed that 10,000 cubic yards would be exported during the grading phase for the 1-year construction scenario. To capture emissions associated with the asphalt surfaces (e.g., streets and parking lots) it was assumed that 20% of total GCSP acreage was paved. While only one phase of each type of construction activity is included in the model run, it is anticipated that this model scenario would include construction activity at more than one site within the Proposed Project area. Not all development under the Proposed Project would require all of the construction phases assumed; however, the above-listed six default CalEEMod construction phases were included to present the potential range of emissions and capture a maximum daily scenario. For example, due to the developed nature of the Plan Area, many projects may only require a demolition (existing buildings and asphalt pavement) and minor site preparation phase prior to building construction, while some projects may require renovation, which would be less intensive than reconstruction.

The construction equipment mix and vehicle trips used for estimating the Proposed Project-generated construction emissions are shown in Table 3.2-7, Construction Scenario Assumptions. For the analysis, it was assumed that heavy construction equipment would be operating at the site 5 days per week (22 days per month) during Proposed Project construction.\(^9\)

\(^9\) As shown in Table 3.2-7, most equipment was assumed to operate for 8 hours per day. In reality, it is anticipated that equipment would be used for less than 8 hours a day when considering mandated worker breaks and that equipment would only be operated when needed; in addition, it is anticipated that the construction areas are cannot allow every piece of equipment to be in operation at the same time. Therefore, the equipment usage hours is anticipated to be conservative.

<table>
<thead>
<tr>
<th>Construction Phase</th>
<th>One-Way Vehicle Trips</th>
<th>Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average Daily Worker</td>
<td>Concrete/industrial saws</td>
</tr>
<tr>
<td></td>
<td>Average Daily Vendor Truck Trips</td>
<td>Excavators</td>
</tr>
<tr>
<td>Demolition</td>
<td>30</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 3.2-7
Construction Scenario Assumptions
### Operational Emissions

Emissions from the operational phase of the Proposed Project were estimated using CalEEMod Version 2016.3.2. Operational year 2040 was assumed consistent with the traffic impact analysis (TIA) (LLG 2020) prepared for the Proposed Project (Appendix D, Traffic Impact Analysis). Per the TIA, the Proposed Project development scenario would include a mix of commercial, retail, and industrial land uses totaling 7,011,195 square feet.

Emissions from the existing land uses (Existing Scenario) were also estimated using CalEEMod to present the net change in criteria air pollutant emissions. Operational year 2018 was assumed for the Existing Scenario. A large portion of the existing uses (1,409,441 square feet, approximately 40% of 3,503,616 square feet of existing land use) is currently vacant, which was formerly occupied by Boeing. The total existing land use within the Plan Area that is currently occupied and therefore, evaluated in the Existing Scenario, is approximately 2,094,175 square feet.

The Proposed Project and Existing Scenario land use assumptions in CalEEMod were based on the TIA (Appendix D), and are presented in Table 3.2-8, Proposed Project and Existing Scenario Development Land Use Summary.

---

Table 3.2-7
Construction Scenario Assumptions

<table>
<thead>
<tr>
<th>Construction Phase</th>
<th>One-Way Vehicle Trips</th>
<th>Equipment</th>
<th></th>
<th>Usage Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average Daily Worker</td>
<td>Average Daily Vendor Truck Trips</td>
<td>Total Haul Truck Trips</td>
<td>Equipment Type</td>
</tr>
<tr>
<td>Site Preparation</td>
<td>36</td>
<td>0</td>
<td>0</td>
<td>Rubber-tired dozers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tractors/loaders/backhoes</td>
</tr>
<tr>
<td>Grading</td>
<td>40</td>
<td>0</td>
<td>1,250</td>
<td>Excavators</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Graders</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Rubber-tired dozers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Scrapers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tractors/loaders/backhoes</td>
</tr>
<tr>
<td>Building construction</td>
<td>446</td>
<td>92</td>
<td>0</td>
<td>Cranes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Forklifts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Generator sets</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tractors/loaders/backhoes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Welders</td>
</tr>
<tr>
<td>Paving</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>Pavers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Paving equipment</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Rollers</td>
</tr>
<tr>
<td>Architectural coating</td>
<td>90</td>
<td>0</td>
<td>0</td>
<td>Air compressors</td>
</tr>
</tbody>
</table>

**Notes:** See Appendix B-1, Emission Calculations for details.
Table 3.2-8
Proposed Project and Existing Scenario Development Land Use Summary

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Proposed Project</th>
<th>Existing Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Square Feet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal Hospital Veterinary Clinic</td>
<td>0</td>
<td>3,280</td>
</tr>
<tr>
<td>Automated Car Wash</td>
<td>0</td>
<td>5,435</td>
</tr>
<tr>
<td>Automobile Care Center</td>
<td>0</td>
<td>15,114</td>
</tr>
<tr>
<td>Automobile Parts Sales</td>
<td>0</td>
<td>36,824</td>
</tr>
<tr>
<td>Automobile Parts and Service Center</td>
<td>0</td>
<td>122,812</td>
</tr>
<tr>
<td>Automobile Sales New</td>
<td>0</td>
<td>1,993</td>
</tr>
<tr>
<td>Automobile Sales Used</td>
<td>0</td>
<td>1,758</td>
</tr>
<tr>
<td>Construction Equipment Rental Store</td>
<td>0</td>
<td>23,049</td>
</tr>
<tr>
<td>Drive in Bank</td>
<td>0</td>
<td>4,507</td>
</tr>
<tr>
<td>Fast Casual Restaurant</td>
<td>33,524</td>
<td>0</td>
</tr>
<tr>
<td>Fast-Food Restaurant with Drive</td>
<td>11,177</td>
<td>0</td>
</tr>
<tr>
<td>Through Window</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Office Building</td>
<td>1,770,539</td>
<td>136,662</td>
</tr>
<tr>
<td>High Cube Cold Storage Warehouse</td>
<td>468,112</td>
<td>0</td>
</tr>
<tr>
<td>High Turnover Sit Down Restaurant</td>
<td>37,015</td>
<td>19,372</td>
</tr>
<tr>
<td>Hotel</td>
<td>162,943 (332 rooms)</td>
<td>0</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>1,046,952</td>
<td>758,116</td>
</tr>
<tr>
<td>Medical Dental Office Building</td>
<td>127,992</td>
<td>14,823</td>
</tr>
<tr>
<td>Mini Warehouse</td>
<td>259,667</td>
<td></td>
</tr>
<tr>
<td>Quality Restaurant</td>
<td>7,636</td>
<td>0</td>
</tr>
<tr>
<td>Recreational Community Center</td>
<td>14,683</td>
<td></td>
</tr>
<tr>
<td>Research and Development Center</td>
<td>234,650</td>
<td>0</td>
</tr>
<tr>
<td>Shopping Center</td>
<td>458,015</td>
<td>30,041</td>
</tr>
<tr>
<td>Warehousing</td>
<td>2,652,640</td>
<td>546,039</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7,011,195</strong></td>
<td><strong>2,094,175</strong></td>
</tr>
</tbody>
</table>

**Source:** Appendix D, Traffic Impact Analysis (June 30, 2020).

**Notes:** For the Existing Scenario, the square footage total reported excludes 1,409,441 square feet of existing vacant industrial uses located within traffic analysis zone 9 (Boeing Site). Total may not sum due to rounding.

The net change in total square footage from the Proposed Project and the Existing Scenario is approximately 4,917,020 square feet.

**Area Sources**

CaEEMod was used to estimate operational emissions from area sources, including emissions from consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating, water heating, and stoves are calculated in the building energy use module of CaEEMod, as described in the following text. The
Proposed Project and Existing Scenario are assumed to not include woodstoves or fireplaces (wood or natural gas). As such, area source emissions associated with hearths were not included.

Consumer products are chemically formulated products used by household and institutional consumers, including detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. Other paint products, furniture coatings, or architectural coatings are not considered consumer products (California Air Pollution Control Officers Association (CAPCOA) 2017). Consumer product VOC emissions are estimated in CalEEMod based on the floor area of nonresidential buildings and on the default factor of pounds of VOC per building square foot per day. For the asphalt surface land use assumed in the Proposed Project scenario, CalEEMod estimates VOC emissions associated with use of parking surface degreasers based on a square footage of parking surface area and pounds of VOC per square foot per day.

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings such as in paints and primers using during building maintenance. CalEEMod calculates the VOC evaporative emissions from application of nonresidential surface coatings based on the VOC emission factor, the building square footage, the assumed fraction of surface area, and the reapplication rate. The VOC emission factor is based on the VOC content of the surface coatings, and SCAQMD’s Rule 1113 (Architectural Coatings) governs the VOC content for interior and exterior coatings. The model default reapplication rate of 10% of area per year is assumed. Consistent with CalEEMod defaults, it is assumed that the nonresidential surface area for painting equals 2.0 times the floor square footage, with 75% assumed for interior coating and 25% assumed for exterior surface coating. For the other asphalt surfaces assumed in the Proposed Project scenario, the architectural coating area is assumed to be 6% of the total square footage, consistent with the supporting CalEEMod studies provided as an appendix to the CalEEMod User’s Guide (CAPCOA 2017).

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers. The emissions associated from landscape equipment use are estimated based on CalEEMod default values for emission factors (grams per residential dwelling unit per day and grams per square foot of nonresidential building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days.

**Energy Sources**

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off site.
The energy use from nonresidential land uses (natural gas usage per square foot per year) is calculated in CalEEMod based on the California Commercial End-Use Survey database. The current version of CalEEMod assumes compliance with the 2016 Title 24 Building Energy Efficiency Standards (CAPCOA 2017); however, the Proposed Project would be required to comply with the 2019 Title 24 Standards at a minimum. Per the CEC Impact Analysis for the 2019 Update to the California Energy Efficiency Standards for Residential and Non-Residential Buildings, the first-year savings for newly constructed nonresidential buildings are 197 gigawatt hours of electricity, 76.6 megawatt of demand, and 0.27 million therms of gas, representing reductions from the 2016 Title 24 standard of 10.7%, 9%, and 1%, respectively (CEC 2018a). To take into account energy reductions associated with compliance with 2019 Title 24, the CalEEMod Title 24 natural gas values were reduced by 1%, for all Proposed Project buildings. The applied reductions are anticipated to be conservative as in general, nonresidential buildings built to the 2019 standards are anticipated to use an estimated 30% less energy than those built to the 2016 standards (CEC 2018b).

**Mobile Sources**

Mobile sources for the Proposed Project would primarily be motor vehicles (passenger vehicles and heavy-duty trucks) traveling to and from the Plan Area, which is the same for the Existing Scenario. Emissions from the mobile sources during operation of the Proposed Project and Existing Scenario were estimated using a spreadsheet-based model and emission factors from the CARB EMFAC2017 and EPA AP-42 factors for paved road dust generation. Vehicle trip lengths were assumed to be 20.4 miles for truck trips and the passenger car trip length was assumed to be 6.95 miles for the Proposed Project (LSA 2020). VMT was not estimated for the Existing Scenario; however, because the Proposed Project and Existing Scenario mix of land uses are similar, it is reasonable to assume that the trip length estimated for the Proposed Project would also be reasonable to apply to the Existing Scenario. As such, an average trip length of 20.4 miles for truck trips and 6.95 miles for passenger car trips was assumed for the Existing Scenario.

Based on the TIA (Appendix D), the Proposed Project would generate a total of 59,437 trips; 54,107 trips would be passenger vehicle (91%) and 5,330 trips would be heavy-duty trucks (9%).

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10 “Heavy-duty trucks” include light-heavy-duty trucks (categories 1 and 2 in EMFAC, 2-axle), medium-heavy-duty trucks (3-axle), and heavy-heavy-duty trucks (4+-axle).

11 The passenger vehicle trip length is based on the VMT analysis prepared for the Proposed Project, which assumed an average VMT per employee of 13.9 miles, which represents a round trip (13.9 miles ÷ 2 one-way trips = 6.95 miles per one-way trip) (LSA 2020). The truck one-way trip length of 20.4 miles was based on the SCAG travel model (pers. comm. Mukherjee, 2020). The SCAG travel model includes a fairly sophisticated heavy-duty truck sub model, which includes various components such as truck trip generation based on different employment categories, port truck model, intermodal facilities etc. that generate and distribute truck trips. The output truck trip table along with distance based truck skims (truck trip lengths) are used to estimate truck VMT. Truck VMT and truck trips for the project zone are used to estimate a weighted average trip length (average trip length = truck VMT ÷ truck trips) for truck trips (pers. comm. Mukherjee, 2020).
Total daily VMT for the Proposed Project is estimated to be 484,776. The Existing Scenario would generate a total of 18,138 trips; 15,627 trips would be passenger vehicle (86%) and 2,511 trips would be heavy-duty trucks (14%). Total daily VMT for the Existing Scenario is estimated to be 159,832. To estimate annual emissions, daily activity was multiple by 365 days per year. While the 365 days per year operating scenario is appropriate for industrial and retail land uses, it is conservative to apply to commercial land uses that have a reduction in activity on the weekends. Annually, the Proposed Project is estimated to generate 21,694,505 trips and 176,943,112 VMT annually. The Existing Scenario is estimated to generate 6,620,370 trips and 58,338,698 VMT annually. Note that the VMT analysis prepared for the Proposed Project (LSA 2020) uses a VMT per employee metric and employee vehicles are assumed to be passenger vehicles (light-duty vehicles). However, the air quality (and GHG emissions) analysis includes emissions from all vehicles traveling to and from the Plan Area, including passenger vehicles, heavy-duty trucks, and other vehicle categories included in EMFAC2017 for the region. Therefore, the Proposed Project and Existing Scenario VMT estimates for the air quality (and GHG emissions) analysis are specifically developed for emission estimation purposes. Nonetheless, the employee VMT estimate assumed for emission estimation purposes is consistent with the Proposed Project VMT analysis (i.e., 6.95 miles per one-way trip).

Vehicle emissions occur during startup, operation (running), and idling, as well as from evaporative losses when the engines are resting. The emissions factors for trucks and passenger vehicles were determined using EMFAC2017, which generates emissions factors, expressed in grams per mile, grams per trip, and grams per vehicle per day, for the fleet in a class of motor vehicles within a region for a particular study year. For this analysis, SCAQMD was selected for the region and calendar year 2040 and 2018 were selected in EMFAC to represent the Proposed Project and Existing Scenario operational start years, respectively.

A composite, or weighted-average, emissions factor was developed for project vehicle types if more than one vehicle category in EMFAC is anticipated to be representative of the project vehicle. The composite emission factors are weighted by VMT, population, or trips depending on the emissions process, which is the physical mechanism that results in the emissions of a pollutant. The trips by vehicle type were provided by the TIA (Appendix D) and 4-axle trucks were assumed to be heavy-duty trucks, 3-axle trucks were assumed to be medium-heavy-duty trucks, and 2-axle trucks were assumed to be of light-heavy-duty trucks. For the passenger vehicles, the composite emission factor represents the weighted average emission rate for passenger vehicles, light-duty trucks, motorcycles, motor homes, buses. All trucks and passenger vehicles were assumed to be a composite mix of gasoline, diesel-fueled, natural gas, and electric consistent with the default EMFAC vehicle mix.

Truck idling would be limited to 5 minutes in accordance with CARB’s adopted Airborne Toxic Control Measure; however, for modeling purposes, it was conservatively assumed that
the heavy-duty trucks would idle for a total of 15 minutes; entering the site, at the loading dock, and prior to exiting site. Transport refrigeration unit (TRU) emissions were included in the emission inventory, but discussed under Off-road Equipment, Stationary Sources, and Other Sources of Emissions, below.

**Off-road Equipment, Stationary Sources, and Other Sources of Emissions**

Based on the type of land uses that would be developed under the GCSP, there are additional emission sources that are either not captured in CalEEMod or specifics are not available to accurately estimate emissions using CalEEMod. Potential additional sources of criteria air pollutant and TAC emissions include: emergency generators, boilers, broilers (meat cooking), ovens, cogeneration facilities, chillers, cooling towers, autoclave, metals production, painting and spray booths, off-road equipment (e.g., forklifts), truck idling, TRUs, and various VOC sources. In addition, emissions from the stationary and mobile sources listed above are also anticipated to occur under the Existing Scenario based on the existing land use.

For most of these sources, because specifics are not available to accurately estimate emissions from these anticipated sources under the Proposed Project and Existing Scenario, associated emissions are not included in the estimated emissions presented herein. However, in a good faith effort to include sources typically associated with warehouse/industrial land uses (i.e., warehousing, high cube cold storage warehouse, and manufacturing), forklifts, yard trucks, emergency generators, and TRUs are included in the Proposed Project’s emission inventory. For the Existing Scenario, emissions from forklifts and yard trucks associated with the warehouse/industrial land uses (i.e., warehousing, mini warehouse, and manufacturing) are included in the emission inventory. Methods and assumptions to estimate these sources of emissions are discussed below. Note that all stationary sources developed under the GCSP would be required to comply with applicable SCAQMD rules and regulations, and would be required to obtain a permit to operate from the SCAQMD.

**Forklifts**

The SCAQMD published a high cube warehouse truck trip study white paper summary of business survey results, which summarizes various operational results from 34 operating high cube warehouses (“SCAQMD Survey”, SCAQMD 2014). The SCAQMD Survey reported an average of 0.12 forklifts/pallet jacks per 1,000 square feet of building area, which was applied to both the Proposed Project and Existing Scenario. Note that this estimate if for total forklifts and pallet jacks while pallet jacks are small as they are primarily used to lift small loads in tight quarters (and are electric or manual); therefore, assuming all pieces of equipment are forklifts is conservative. While manufacturing includes a different operation that warehousing, because there is no factor available for manufacturing, the high cube warehouse factor of 0.12 forklifts/pallet jacks per 1,000 square feet of building area was applied. For the Proposed Project, a total of 500 forklifts were assumed, and for the Existing Scenario a total of...
188 forklifts were assumed. All indoor forklifts are anticipated to be electric-powered and while the majority of forklifts are anticipated to be used indoors, to conservatively capture the potential for outdoor forklift usage that may be diesel-fueled, 75% of the forklifts were assumed to be electric and 25% were assumed to be diesel. The indoor forklifts were modeled as 89-horsepower electric forklifts that would operate at 8 hours per day, 365 days per year. The outdoor forklifts were modeled as 100-horsepower diesel rough terrain forklifts that would operate at 8 hours per day, 365 days per year. CalEEMod was used to estimate emissions from forklifts.

Yard Trucks

Industrial warehouse building operation may 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, which is commonly done by yard trucks. Yard trucks, which are also called yard goats, utility tractors, hustlers, yard hostlers, and yard tractors, were reported at the majority of the 34 high cube warehouses in the SCAQMD Survey with an average usage of 3.6 hostlers per million square feet of building area. The 3.6 hostlers per million square feet of building area was applied to the Proposed Project and Existing Scenario – both warehouse and manufacturing land uses – with the Proposed Project totaling 16 yard trucks and the Existing Scenario totaling 6 yard trucks. All yard trucks were assumed to be diesel-powered, 200 horsepower, and would operate for 8 hours per day, 365 days per year. CalEEMod was used to estimate emissions from yard trucks.

Emergency Generators

Emergency, or stand-by, generators are anticipated to be required for the high cube cold storage warehouse land uses to ensure that product stays cold in the event of a power outage. While use of generators during an emergency is not included in the emissions inventory as they are speculative, emissions associated with testing and maintenance of the generators is included. No industry standard factor is available, so one generator per 100,000 square feet of cold storage warehouse was assumed to capture at least one generator associated with a small warehouse building. Accordingly, for the Proposed Project, 5 generators were assumed associated with cold storage warehouse space and an additional 5 generators were assumed to account for other potential generator use within the GCSP. All generators were assumed to be diesel-fueled, meet Tier 4 Final engine emission regulatory standards, would be tested for 1 hour per day and 50 hours per year, and would be 500 horsepower based on a review of existing permits for warehouses within the SCAQMD jurisdiction and SCAQMD Rule 1470. \(^\text{12}\) CalEEMod was used to estimate emissions from emergency generator testing and maintenance. While emergency generators may be operating within the Plan Area, it was

\(^\text{12}\) Per SCAQMD Rule 1470 (Requirement for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines), new stationary emergency standby diesel-fueled engines (greater than 50 brake horsepower) shall not operate more than 50 hours per year for maintenance and testing.
conservatively assumed that no emergency generators and associated emissions would occur under the Existing Scenario.

Transport Refrigeration Units

TRUs are designed to maintain the temperature inside delivery truck trailers and are anticipated to be associated with the high cube cold storage warehouse land uses. For the Proposed Project, it was conservatively assumed that 100% of all cold storage warehouse 3-axle and 4-axle truck trips would include a TRU that would be diesel-powered and 25-horsepower. Because the availability of electric plug-ins at each loading dock cannot be confirmed, it was assumed that TRUs would operate on site for 60 minutes (1 hour) per visit. On-site emissions from TRUs was estimated based on OFFROAD2017 emission inventory for instate TRUs for calendar year 2040. Because the Existing Scenario land uses do not include cold storage, no TRUs were assumed to be associated with the Existing Scenario.

3.2.4 Impacts Analysis

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

As previously discussed, the Plan Area is located within the SCAB under the jurisdiction of the SCAQMD, which is the local agency responsible for administration and enforcement of air quality regulations for the area. The SCAQMD has established criteria for determining consistency with the AQMP, currently the 2016 AQMP, in Chapter 12, Sections 12.2 and 12.3, in the SCAQMD CEQA Air Quality Handbook (SCAQMD 1993). The criteria are as follows (SCAQMD 1993):

- **Consistency Criterion No. 1**: The Proposed Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards of the interim emissions reductions specified in the AQMP.

- **Consistency Criterion No. 2**: The Proposed Project will not exceed the assumptions in the AQMP or increments based on the year of Proposed Project buildout and phase.

**Consistency Criterion No. 1**

Section 3.2.4, Threshold B, evaluates the Proposed Project’s potential impacts with regards to State CEQA Guidelines Appendix G Threshold 2 (a project’s potential to result in a cumulatively considerable net increase of any nonattainment criteria pollutant). As discussed in below, the Proposed Project would result exceed the SCAQMD construction thresholds for VOC and NOx and the SCAQMD operational thresholds for CO, VOC, and...
3.2 – Air Quality

PM₁₀, and VOC and PM₁₀ are nonattainment pollutants under the NAAQS and/or CAAQS (VOC as a precursor to O₃, which is the nonattainment pollutant). Because the Proposed Project would result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, the Proposed Project would potentially conflict with Consistency Criterion No. 1 of the SCAQMD CEQA Air Quality Handbook.

Consistency Criterion No. 2

While striving to achieve the NAAQS for O₃ and PM₂.₅ and the CAAQS for O₃, PM₁₀, and PM₂.₅ through a variety of air quality control measures, the 2016 AQMP also accommodates planned growth in the SCAB. Projects are considered consistent with, and would not conflict with or obstruct implementation of, the AQMP if the growth in socioeconomic factors (e.g., population, employment) is consistent with the underlying regional plans used to develop the AQMP (per Consistency Criterion No. 2 of the SCAQMD CEQA Air Quality Handbook).

The SCAQMD primarily uses demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by the SCAG for its RTP/SCS (SCAG 2016), which is based on general plans for cities and counties in the SCAB, for the development of the AQMP emissions inventory (SCAQMD 2017).¹³  
The SCAG 2016 RTP/SCS, and associated Regional Growth Forecast, are generally consistent with the local plans; therefore, the SCAQMD 2016 AQMP is generally consistent with local government plans. While SCAG has adopted their 2020 RTP/SCS for federal transportation conformity purposes, the SCAQMD 2016 AQMP is based on the SCAG 2016 RTP/SCS; therefore, the SCAG 2016 RTP/SCS is the appropriate document for comparison. Nonetheless, the evaluation criteria for consistency between a project and a RTP/SCS is consistency with land use designations; therefore, the analysis of the Proposed Project consistency with the SCAG 2016 RTP/SCS and the SCAG 2020 RTP/SCS is the same.

At the time of publication of the NOP, the 1989 General Plan was in effect and identified the majority of the Plan Area as 9G (General Industry). The area east of the former Boeing C-17 Site, adjacent to the airport, is designated 12 (Harbor/Airport), which requires special planning documents (i.e., an Airport Layout Plan) to govern land use development. The

¹³ Information necessary to produce the emission inventory for the SCAB is obtained from the SCAQMD and other governmental agencies, including CARB, Caltrans, and SCAG. Each of these agencies is responsible for collecting data (e.g., industry growth factors, socio-economic projections, travel activity levels, emission factors, emission speciation profile, and emissions) and developing methodologies (e.g., model and demographic forecast improvements) required to generate a comprehensive emissions inventory. SCAG incorporates these data into their Travel Demand Model for estimating/projecting vehicle miles traveled and driving speeds. SCAG’s socio-economic and transportation activities projections in their 2016 RTP/SCS are integrated in the 2016 AQMP (SCAQMD 2017).
northern portion to the east of Cherry Avenue is designated as 9R (Restricted Industry) and 8A (Traditional Retail Strip Commercial). South of the I-405 freeway, the Plan Area is designated 9R (Restricted Industry) and 7 (Mixed-Uses) to the east; and 9G (General Industry), 8A (Traditional Retail Strip Commercial), and 11 (Open Space/Parks) to the west (City of Long Beach 1989).

On December 3, 2019, the City Council adopted a resolution adopting the updated Land Use Element to the Long Beach General Plan, replacing the existing Land Use Element comprised of policies and the adopted General Plan Land Use Designation maps, with the updated Land Use Element, including revised policies and the PlaceType and Height maps. The City currently envisions maintaining the Cherry Avenue Corridor for community commercial uses. The C-17 Site and adjacent area to the east near the airport are designated RSF (Regional-Serving Facilities). The northern portion of the Plan Area east of Cherry Avenue is designated CC (Community Commercial). South of the I-405 freeway, the Plan Area is CC (Community Commercial), I (Industrial), NI (Neo Industrial), and OS (Open Space) (City of Long Beach 2019).

The C-17 Site is located within the Planned Development 19 (PD-19) zoning area. The Cherry Avenue Corridor area is located in the IG (General Industrial) zone, as is the portion of the Plan Area north of Wardlow Road. The northern portion of the Plan Area to the east of Cherry Avenue is designated as IG (General Industrial) and CCA (Commercial). South of I-405 the Plan Area is designated IG (General Industrial), CCA (Commercial), P (Park), and I (Institutional). In order to construct the Proposed Project, approval of a Zoning Code Amendment from the City is required, which would change the designation to GCSP.

As discussed in Section 3.9, Population and Housing, of this Draft PEIR/PEIS, the GCSP does not include any zoning for residential land uses that could directly induce population growth. While the GCSP does not include plans for residentially zoned areas, which could directly induce population growth, the GCSP does have the potential to induce growth through the increase in the number of jobs available within the Plan Area. While the GCSP could increase the number of jobs available relative to the number of jobs that are currently available, increase in employment during construction and operation are not expected to cause people to move into the City or the County from areas outside the City or County. In addition, the proposed GCSP land use districts are consistent with the City’s 2019 Draft General Plan Land Use Element.

While the GCSP is a planning document and does not include any physical improvements or projects at this time, future development facilitated by approval of this plan would create a number of temporary, construction related jobs, as well as, permanent jobs associated with the new developments. The City of Long Beach is expected to have a jobs-to-housing
ratio of 1.04 by 2040, which is lower than Los Angeles County and the SCAG region by 0.28 and 0.27, respectively (City of Long Beach 2017, see Table 3.9-3). This means that the City is considered to be “jobs poor,” indicating that many of the residents must commute to places of employment outside of the City. While it is uncertain where future place of residence would be for employees working within the Plan Area, due to the City’s projected jobs-to-housing ratio (1.04 by 2040), it is reasonable to assume that a large percentage of these jobs would be filled by persons already living within the City. Therefore, a substantial increase in population as a result of future employment opportunities potentially facilitated by the GCSP is not anticipated.

In addition, due to the significant job loss that resulted in the area from closure of the C-17 Site, which is evident by the number of manufacturing jobs lost from 2010 to 2016, the new jobs created by the GCSP would likely be replacing those that were lost in the area due to closure of the C-17 site. A principal goal of the GCSP is to stimulate economic growth and attract businesses that replenish high-quality jobs lost from the closure of the former Boeing C-17 manufacturing plant.

Furthermore, although the GCSP would allow for new employment opportunities in the City of Long Beach through the year 2040, it would be consistent with SCAG’s regional growth forecasts for employment in the same horizon year (See Section 3.9, Population and Housing, of this Draft PEIR/PEIS). Thus, the Proposed Project would not foster growth in excess of what was assumed in projections made by regional planning agencies (e.g., SCAG) for the City as a whole. Therefore, implementation of the GCSP would not result in direct or indirect substantial population growth.

Based on these considerations, vehicle trip generation and planned development for the site are concluded to have been anticipated in the SCAG growth projections and implementation of the Proposed Project would not result in a conflict with, or obstruct implementation of, the applicable air quality plan (i.e., SCAQMD 2016 AQMP). Accordingly, the Proposed Project would meet Consistency Criterion No. 2 of the SCAQMD CEQA Air Quality Handbook.

Summary

CEQA Impact Determination

As described previously, the Proposed Project would potentially result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, and would potentially conflict with Consistency Criterion No. 1. Implementation of the Proposed Project would not exceed the demographic growth forecasts in the SCAG 2016 RTP/SCS; therefore, the Proposed Project would be consistent
with the SCAQMD 2016 AQMP, which based future emission estimates on the SCAG 2016 RTP/SCS. Thus, the Proposed Project would not conflict with Consistency Criterion No. 2. However, because the Proposed Project would potentially conflict with Consistency Criterion No. 1, impacts related to the Proposed Project’s potential to conflict with or obstruct implementation of the applicable air quality plan is considered potentially significant and mitigation is required. Mitigation measures MM-AQ-1 (Construction Equipment Emissions Reductions), MM-AQ-2 (Fugitive Dust Control), and MM-AQ-3 (Architectural Coating VOC Emissions) would be required to reduce Proposed Project construction-related emissions and MM-AQ-4 (Vehicle Miles Traveled Reduction Strategies), MM-AQ-5 (Encourage Electric Vehicles), MM-AQ-6 (Idling Restriction), MM-AQ-7 (Energy Conservation), MM-AQ-8 (Low-VOC-Green Cleaning Product Education Program), MM-AQ-9 (Electric Forklifts), and MM-AQ-10 (TRU Plug-Ins) would be required to reduce emissions generated during operation of the Proposed Project. Mitigation measure MM-AQ-1 would reduce various air pollutant emissions associated with construction equipment operation. Mitigation measure MM-AQ-2 would reduce dust-related PM$_{10}$ and PM$_{2.5}$ emissions generated during construction and mitigation measure MM-AQ-3 would reduce VOC emissions generated the application of architectural coating during construction. Mitigation measures MM-AQ-4, MM-AQ-5, and MM-AQ-6 aim to reduce operational mobile source emissions of various air pollutants. Mitigation measure MM-AQ-7 focuses on reducing energy-related operational emissions and mitigation measure MM-AQ-8 encourages reduction of operational area source VOC emissions. Mitigation measure MM-AQ-9 would reduce criteria air pollutants by replacing diesel-fueled forklifts with electric forklifts and mitigation measure MM-AQ-10 would reduce criteria air pollutants generated by TRU idling. Nonetheless, even with the implementation of mitigation, due to the magnitude of emissions associated with buildout of the Proposed Project, potential impacts would remain significant and unavoidable under CEQA.

NEPA Impact Determination

In summary, under NEPA, effects associated with the Proposed Project potentially resulting in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, and would potentially conflict with Consistency Criterion No. 1. Implementation of the Proposed Project would be not exceed the demographic growth forecasts in the SCAG 2016 RTP/SCS; therefore, the Proposed Project would be consistent with the SCAQMD 2016 AQMP, which based future emission estimates on the SCAG 2016 RTP/SCS. Thus, the Proposed Project would not conflict with Consistency Criterion No. 2. However, because the Proposed Project would potentially conflict with Consistency Criterion No. 1, effects related to the Proposed Project’s potential

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14 Even though estimated Proposed Project mass daily emissions do not exceed the PM$_{10}$ and PM$_{2.5}$. 
to conflict with or obstruct implementation of the applicable air quality plan is considered potentially significant and adverse. Mitigation measures MM-AQ-1 (Construction Equipment Emissions Reductions), MM-AQ-2 (Fugitive Dust Control), and MM-AQ-3 (Architectural Coating VOC Emissions) would be required to reduce Proposed Project construction-related emissions and MM-AQ-4 (Vehicle Miles Traveled Reduction Strategies), MM-AQ-5 (Encourage Electric Vehicles), MM-AQ-6 (Idling Restriction), MM-AQ-7 (Energy Conservation), MM-AQ-8 (Low-VOC-Green Cleaning Product Education Program), MM-AQ-9 (Electric Forklifts), and MM-AQ-10 (TRU Plug-Ins) would be required to reduce emissions generated during operation of the Proposed Project. Mitigation measure MM-AQ-1 would reduce various air pollutant emissions associated with construction equipment operation. Mitigation measure MM-AQ-2 would reduce dust-related PM$_{10}$ and PM$_{2.5}$ emissions generated during construction and mitigation measure MM-AQ-3 would reduce VOC emissions generated the application of architectural coating during construction. Mitigation measures MM-AQ-4, MM-AQ-5, and MM-AQ-6 aim to reduce operational mobile source emissions of various air pollutants. Mitigation measure MM-AQ-7 focuses on reducing energy-related operational emissions and mitigation measure MM-AQ-8 encourages reduction of operational area source VOC emissions. Mitigation measure MM-AQ-9 would reduce criteria air pollutants by replacing diesel-fueled forklifts with electric forklifts and mitigation measure MM-AQ-10 would reduce criteria air pollutants generated by TRU idling. Nonetheless, even with the implementation of mitigation, due to the magnitude of emissions associated with buildout of the Proposed Project, potential effects would remain adverse under NEPA.

b) **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.**

Past, present, and future development projects may contribute to the SCAB adverse air quality impacts on a cumulative basis. By its nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SCAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are used in the determination of whether a project’s individual emissions would have a cumulatively considerable contribution on air quality. If a project’s emissions would exceed the SCAQMD significance thresholds, it would be considered to have a cumulatively considerable contribution. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant (SCAQMD 2003a).
Construction and operation of the Proposed Project would result in emissions of criteria air pollutants from mobile, area, energy and/or stationary sources, which may result in a cumulatively considerable net increase in emissions of criteria air pollutants for which the SCAB is designated as nonattainment under the NAAQS or CAAQS. The following discussion identifies potential short-term construction and long-term operational impacts that would result from implementation of the Proposed Project.

**Construction Emissions**

Construction of the Proposed Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

As discussed in Section 3.2.3.2, Approach and Methodology (Construction), criteria air pollutant emissions associated with temporary construction activity were quantified using CalEEMod. Construction emissions were calculated for the estimated worst-case day over year one of Proposed Project construction (2020) and associated with each phase and reported as the maximum daily emissions estimated in 2020. Construction schedule assumptions, including phase type, duration, and sequencing, were based on CalEEMod default values that were then scaled down into a 1-year period and intensity was doubled to account for the condensed schedule. Overall, construction scenario assumptions are intended to represent a reasonable scenario in the absence of Proposed Project-specific information.

Implementation of the Proposed Project would generate criteria air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, architectural coatings, and asphalt pavement application. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM$_{10}$ and PM$_{2.5}$ emissions. The Proposed Project would be required to comply with SCAQMD Rule 403 to control dust emissions generated during the grading activities. Standard construction practices that were assumed to be employed to reduce fugitive dust emissions, and were quantified in CalEEMod, include watering of the active sites two times per day depending on weather conditions. Internal combustion engines used by construction equipment, vendor trucks (i.e., delivery trucks), and worker vehicles would result in emissions of VOCs, NO$_x$, CO, PM$_{10}$, and PM$_{2.5}$. The application of architectural coatings, such as exterior application/interior paint and other finishes, and application of asphalt pavement would also produce VOC emissions; however, the contractor is required to procure
architectural coatings from a supplier in compliance with the requirements of SCAQMD’s Rule 1113 (Architectural Coatings).

Table 3.2-9, Estimated Maximum Daily Construction (On-Site and Off-Site) Criteria Air Pollutant Emissions by Phase – Unmitigated, presents the estimated maximum daily construction emissions generated during construction of the Proposed Project in year 1 (2020) and presented by phase. If multiple large construction projects within the Proposed Project area occur simultaneously, it is possible that cumulative impacts associated with air quality violations could occur. To present a conservative scenario of potential emissions associated with multiple construction projects occurring at the same time, the maximum daily emissions during the six analyzed construction phases (i.e., demolition, site preparation, grading, building construction, paving, and architectural coating) of Proposed Project construction are presented below. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Appendix B-1, Emission Calculations.

Table 3.2-9
Estimated Maximum Daily Construction (On-Site and Off-Site) Criteria Air Pollutant Emissions by Phase - Unmitigated

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<th>CO</th>
<th>SOx</th>
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</tr>
<tr>
<td>Architectural Coating</td>
<td>301.68</td>
<td>3.67</td>
<td>6.98</td>
<td>0.02</td>
<td>1.24</td>
<td>0.50</td>
</tr>
<tr>
<td>Maximum Daily Emissions From Phases Separately</td>
<td>301.68</td>
<td>118.66</td>
<td>69.22</td>
<td>0.18</td>
<td>33.39</td>
<td>13.09</td>
</tr>
<tr>
<td>Maximum Daily Emissions Assuming Concurrent Phase Construction</td>
<td>337.73</td>
<td>371.51</td>
<td>252.48</td>
<td>0.59</td>
<td>117.29</td>
<td>37.04</td>
</tr>
<tr>
<td>SCAQMD Threshold</td>
<td>75</td>
<td>100</td>
<td>550</td>
<td>150</td>
<td>150</td>
<td>55</td>
</tr>
<tr>
<td>Threshold Exceeded?</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Notes: VOC = volatile organic compound; NOx = oxides of nitrogen; CO = carbon monoxide; SOx = sulfur oxides; PM10 = coarse particulate matter; PM2.5 = fine particulate matter; SCAQMD = South Coast Air Quality Management District.
See Appendix B-1, Emission Calculations, for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
These estimates implementation of the Proposed Project’s fugitive dust control strategies, including watering of an active site two times per day.
Because construction specifications are not currently available, under a conservative scenario where maximum emissions from each assessed construction phase would occur concurrently, estimated Proposed Project emissions would exceed the SCAQMD thresholds for VOC and NO\textsubscript{x}. Emissions of CO, SO\textsubscript{x}, PM\textsubscript{10}, and PM\textsubscript{2.5} are not estimated to exceed SCAQMD thresholds. The implementation of mitigation measures MM-AQ-1 through MM-AQ-3 would be required to reduce Proposed Project construction-related emissions. As described previously, mitigation measure MM-AQ-1 would reduce various air pollutant emissions associated with construction equipment operation, mitigation measure MM-AQ-2 would reduce dust-related PM\textsubscript{10} and PM\textsubscript{2.5} emissions generated during construction, and mitigation measure MM-AQ-3 would reduce VOC emissions generated the application of architectural coating during construction. Nonetheless, even with the implementation of mitigation, Proposed Project-generated construction criteria air pollutant emissions would remain significant and unavoidable.

### Operational Emissions

Operation of the Proposed Project would generate VOC, NO\textsubscript{x}, CO, SO\textsubscript{x}, PM\textsubscript{10}, and PM\textsubscript{2.5} emissions from mobile sources, including vehicle trips; area sources, including the use of consumer products, architectural coatings for repainting, and landscape maintenance equipment; and energy sources, including combustion of fuels used for space and water heating. As discussed in Section 3.2.3.2, Approach and Methodology (Operational Emissions), pollutant emissions associated with long-term operation of the Proposed Project and the Existing Scenario were quantified using CalEEMod (area, energy, off-road equipment, and stationary sources) and EMFAC2017 (mobile sources and TRU).

Table 3.2-10, Estimated Maximum Daily Operational Criteria Air Pollutant Emissions – Unmitigated, presents the net change maximum daily area, energy, mobile, and other source emissions associated with operation of the Proposed Project in 2040 and operation under the Existing Scenario in 2018, and the estimated net change in emissions (Proposed Project minus the Existing Scenario). The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Appendix B-1, Emission Calculations.

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>VOC (pounds per day)</th>
<th>NO\textsubscript{x}</th>
<th>CO</th>
<th>SO\textsubscript{x}</th>
<th>PM\textsubscript{10}</th>
<th>PM\textsubscript{2.5}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed Project</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>158.51</td>
<td>0.01</td>
<td>0.74</td>
<td>0.00</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Energy</td>
<td>2.08</td>
<td>18.95</td>
<td>15.92</td>
<td>0.11</td>
<td>1.44</td>
<td>1.44</td>
</tr>
</tbody>
</table>
### Table 3.2-10
Estimated Maximum Daily Operational Criteria Air Pollutant Emissions - Unmitigated

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>VOC</th>
<th>NO\textsubscript{x}</th>
<th>CO</th>
<th>SO\textsubscript{x}</th>
<th>PM\textsubscript{10}</th>
<th>PM\textsubscript{2.5}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile</td>
<td>36.76</td>
<td>500.87</td>
<td>881.31</td>
<td>3.88</td>
<td>324.57</td>
<td>82.57</td>
</tr>
<tr>
<td>Off-road Equipment</td>
<td>26.40</td>
<td>136.69</td>
<td>350.16</td>
<td>0.64</td>
<td>1.62</td>
<td>1.62</td>
</tr>
<tr>
<td>Stationary (Emergency Generators)</td>
<td>1.55</td>
<td>3.31</td>
<td>28.66</td>
<td>0.05</td>
<td>0.11</td>
<td>0.11</td>
</tr>
<tr>
<td>Transport Refrigeration Units</td>
<td>2.87</td>
<td>27.84</td>
<td>23.32</td>
<td>0.01</td>
<td>1.09</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>228.17</td>
<td>687.67</td>
<td>1,300.11</td>
<td>4.69</td>
<td>328.84</td>
<td>86.75</td>
</tr>
<tr>
<td>Existing Scenario</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>46.80</td>
<td>0.01</td>
<td>0.22</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Energy</td>
<td>0.73</td>
<td>6.59</td>
<td>5.53</td>
<td>0.04</td>
<td>0.50</td>
<td>0.50</td>
</tr>
<tr>
<td>Mobile</td>
<td>50.45</td>
<td>572.15</td>
<td>614.11</td>
<td>2.29</td>
<td>115.82</td>
<td>35.63</td>
</tr>
<tr>
<td>Off-road Equipment</td>
<td>9.55</td>
<td>120.58</td>
<td>118.89</td>
<td>0.20</td>
<td>5.48</td>
<td>5.04</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>107.53</td>
<td>699.33</td>
<td>738.75</td>
<td>2.53</td>
<td>121.80</td>
<td>41.17</td>
</tr>
</tbody>
</table>

**Net Change in Emissions**

| Net Change (Proposed Project – Existing Scenario) | 120.64 | (11.66) | 561.36 | 2.16 | 207.05 | 45.58 |
| SCAQMD Threshold                         | Yes    | Yes     | Yes    | No   | Yes    | No    |

**Notes:**
VOC = volatile organic compound; NO\textsubscript{x} = oxides of nitrogen; CO = carbon monoxide; SO\textsubscript{x} = sulfur oxides; PM\textsubscript{10} = coarse particulate matter; PM\textsubscript{2.5} = fine particulate matter; SCAQMD = South Coast Air Quality Management District.

See Appendix B-1, Emission Calculations, for complete results.
Numbers in parenthesis represent a negative number.
Totals may not sum due to rounding.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
The Proposed Project emissions reflect operational year 2040. The Existing Scenario emissions reflect operational year 2018.
Off-road equipment includes emissions from the diesel rough terrain forklifts and the diesel yard trucks. CalEEMod erroneously reports criteria air pollutant emissions associated with electric off-road equipment, including the electric forklift; therefore, those erroneous criteria air pollutant emissions from electric forklifts are omitted.
Limited to sources discussed under Section 3.2.3.2.

As shown in Table 3.2-10, the net change in combined daily area, energy, mobile, and other source emissions from the Proposed Project and the Existing Scenario would exceed the SCAQMD operational mass daily thresholds for VOC, CO, and PM\textsubscript{10}. The net change in NO\textsubscript{x}, SO\textsubscript{x}, and PM\textsubscript{2.5} emissions are not anticipated to exceed SCAQMD operational thresholds. As discussed previously, emissions are limited to sources that are discussed in Section 3.2.3.2 and sources where Proposed Project-specifics are available or can be reasonably estimated. Impacts associated with Proposed Project-generated operational criteria air pollutant emissions would be potentially significant.
As discussed in Section 3.2.2.4, Air Quality Conditions (South Coast Air Basin Attainment Designation), the SCAB has been designated as a national nonattainment area for O₃ and PM₂.₅ and a California nonattainment area for O₃, PM₁₀, and PM₂.₅. The nonattainment status is the result of cumulative emissions from various sources of air pollutants and their precursors within the SCAB, including motor vehicles, off-road equipment, and commercial and industrial facilities. Construction and operation of the Proposed Project would generate VOC and NOₓ emissions (which are precursors to O₃) and emissions of PM₁₀ and PM₂.₅. As indicated in Tables 3.2-10 and 3.2-11, Proposed Project-generated construction emissions would exceed the SCAQMD emission-based construction significance thresholds for VOC and NOₓ, would exceed the SCAQMD operational thresholds for VOC and PM₁₀.

Cumulative localized impacts would potentially occur if a construction project were to occur concurrently with another off-site project. Construction schedules for potential future projects near the Plan Area are currently unknown; therefore, potential construction impacts associated with two or more simultaneous projects would be considered speculative.

However, future projects would be subject to CEQA and would require air quality analysis and, where necessary, mitigation if the project would exceed SCAQMD thresholds. Criteria air pollutant emissions associated with construction activity of future projects would be reduced through implementation of control measures required by the SCAQMD. Cumulative PM₁₀ and PM₂.₅ emissions would be reduced because all future projects would be subject to SCAQMD Rule 403 (Fugitive Dust), which sets forth general and specific requirements for all construction sites in the SCAQMD. In addition, cumulative VOC emissions would be subject to SCAQMD Rule 1113 (Architectural Coatings).

Based on the Proposed Project-generated construction and operational emissions of VOC, NOₓ, PM₁₀, and PM₂.₅ the Proposed Project would result in a cumulatively considerable increase in emissions of nonattainment pollutants. Impacts would be potentially significant and, thus, require mitigation.

As discussed above, prior to mitigation, the Proposed Project would result in emissions that would exceed the SCAQMD thresholds for VOC and NOₓ during construction, as well as VOC, CO, and PM₁₀ exceedances during operations. Notably, since the emission-based thresholds used in this analysis were established to provide Proposed Project-level estimates of criteria air pollutant quantities that the SCAB can accommodate without affecting the attainment dates for the ambient air quality standards, and since the EPA and

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15 The State CEQA Guidelines state that if a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact (14 CCR 15145). This discussion is nonetheless provided in an effort to show good-faith analysis and comply with CEQA’s information disclosure requirements.
CARB have established the ambient air quality standards at levels above which concentrations could be harmful to human health and welfare, with an adequate margin of safety, elevated levels of criteria air pollutants above adopted thresholds as a result of the Proposed Project’s construction and operation could cause adverse health effects associated with these pollutants. (The effects typically associated with unhealthy levels of criteria air pollutant exposure are described in Section 3.2.1.2, Pollutants and Effects, above.) However, as detailed in the Appendix B-2, Health Effects from Criteria Air Pollutants Memorandum, there are numerous scientific and technological complexities associated with correlating criteria air pollutant emissions from an individual project to specific health effects or potential additional nonattainment days. In addition, methods available for conducting health impact assessments (see Appendix B-2, Health Effects from Criteria Air Pollutants Memorandum, for method details) require project emissions that are estimated with a high-level of accuracy, which is not possible for the Proposed Project due to the nature of it being a specific plan. For CEQA purposes, it is assumed that the entire GCSP would be built out by 2040, whereas employment projections only estimate 44% job absorption by 2040 (the remaining 56% of jobs would occur after 2040) and full buildout may never occur. For these reasons, conducting a health impact assessment may not yield accurate results and would likely overestimate health effects associated with the Proposed Project. Nonetheless, because the Proposed Project would exceed the SCAQMD mass daily thresholds of VOC, NOx, CO, and PM10 during construction and/or operation, the Proposed Project could have a significant impact on public health.

Mitigation measures MM-AQ-4 (Vehicle Miles Traveled Reduction Strategies), MM-AQ-5 (Encourage Electric Vehicles), MM-AQ-6 (Idling Restriction), MM-AQ-7 (Energy Conservation), MM-AQ-8 (Low-VOC-Green Cleaning Product Education Program), MM-AQ-9 (Electric Forklifts), and MM-AQ-10 (TRU Plug-Ins) would be required to reduce emissions generated during operation of the Proposed Project. Nonetheless, even with the implementation of mitigation, potential impacts during operation of the Proposed Project would remain significant and unavoidable.

Summary

CEQA Impact Determination

Because construction specifications are not currently available, under a conservative scenario where maximum emissions from each assessed construction phase would occur concurrently, estimated Proposed Project emissions would exceed the SCAQMD thresholds for VOC and NOx. Emissions of CO, SOx, PM10, and PM2.5 are not estimated to exceed SCAQMD thresholds. The implementation of mitigation measures MM-AQ-1 through
MM-AQ-3 would be required to reduce Proposed Project construction-related emissions. As described previously, mitigation measure MM-AQ-1 would reduce various air pollutant emissions associated with construction equipment operation, mitigation measure MM-AQ-2 would reduce dust-related PM$_{10}$ and PM$_{2.5}$ emissions generated during construction (even though estimated Proposed Project mass daily emissions do not exceed the PM$_{10}$ and PM$_{2.5}$), and mitigation measure MM-AQ-3 would reduce VOC emissions generated by the application of architectural coating during construction. Nonetheless, even with the implementation of mitigation, Proposed Project-generated construction criteria air pollutant emissions would remain significant and unavoidable, under CEQA.

During operations, Proposed Project-generated VOC, CO, and PM$_{10}$ would exceed the SCAQMD thresholds. Mitigation measures MM-AQ-4 (Vehicle Miles Traveled Reduction Strategies), MM-AQ-5 (Encourage Electric Vehicles), MM-AQ-6 (Idling Restriction), MM-AQ-7 (Energy Conservation), MM-AQ-8 (Low-VOC-Green Cleaning Product Education Program), MM-AQ-9 (Electric Forklifts), and MM-AQ-10 (TRU Plug-Ins) would be required to reduce emissions generated during operation of the Proposed Project. Nonetheless, even with the implementation of mitigation, potential impacts during operation of the Proposed Project would remain significant and unavoidable under CEQA.

**NEPA Impact Determination**

See below discussion for the evaluation of the Proposed Project Clean Air Act General Conformity. This NEPA determination is based on the CEQA determination provided above.

Because construction specifications are not currently available, under a conservative scenario where maximum emissions from each assessed construction phase would occur concurrently, estimated Proposed Project emissions would exceed the SCAQMD thresholds for VOC and NO$_x$. Emissions of CO, SO$_x$, PM$_{10}$, and PM$_{2.5}$ are not estimated to exceed SCAQMD thresholds. The implementation of mitigation measures MM-AQ-1 through MM-AQ-3 would be required to reduce Proposed Project construction-related emissions. As described previously, mitigation measure MM-AQ-1 would reduce various air pollutant emissions associated with construction equipment operation, mitigation measure MM-AQ-2 would reduce dust-related PM$_{10}$ and PM$_{2.5}$ emissions generated during construction (even though estimated Proposed Project mass daily emissions do not exceed the PM$_{10}$ and PM$_{2.5}$), and mitigation measure MM-AQ-3 would reduce VOC emissions generated by the application of architectural coating during construction. Nonetheless, even with the implementation of mitigation measures, Proposed Project-generated construction criteria air pollutant emissions would remain unavoidable.
During operations, Proposed Project-generated VOC, CO, and PM10 emissions would exceed the SCAQMD thresholds. Mitigation measures MM-AQ-4 (Vehicle Miles Traveled Reduction Strategies), MM-AQ-5 (Encourage Electric Vehicles), MM-AQ-6 (Idling Restriction), MM-AQ-7 (Energy Conservation), MM-AQ-8 (Low-VOC-Green Cleaning Product Education Program), MM-AQ-9 (Electric Forklifts), and MM-AQ-10 (TRU Plug-Ins) would be required to reduce emissions generated during operation of the Proposed Project. Nonetheless, even with the implementation of mitigation measures, potential effects during operation of the Proposed Project would remain adverse under NEPA.

Clean Air Act General Conformity

As discussed previously, the first step in the Clean Air Act General Conformity analysis is the applicability analysis where project-generated emissions are compared to the appropriate de minimis thresholds. Annual Proposed Project construction emissions are presented in Table 3.2-11, Estimated Annual Construction (On-Site and Off-Site) Criteria Air Pollutant Emissions by Phase - Unmitigated. As discussed previously, 2020 was assumed as the first year of construction, which would represent the most conservative analysis as emission factors for equipment and vehicles decrease over time. The 2020 scenario assumes buildout of 5% of the Proposed Project, which assumes steady development of the GCSP over 20 years.

<table>
<thead>
<tr>
<th></th>
<th>VOC</th>
<th>NOx</th>
<th>CO</th>
<th>SOx</th>
<th>PM10</th>
<th>PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tons per Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>De Minimis Threshold</td>
<td>10</td>
<td>10</td>
<td>100</td>
<td>N/A</td>
<td>100</td>
<td>70</td>
</tr>
<tr>
<td>Threshold Exceeded?</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>N/A</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Notes: VOC = volatile organic compound; NOx = oxides of nitrogen; CO = carbon monoxide; SOx = sulfur oxides; PM10 = coarse particulate matter; PM2.5 = fine particulate matter.
See Appendix B-1, Emission Calculations, for complete results.
The values shown are the annual emissions results from CalEEMod.
These estimates implementation of the Proposed Project’s fugitive dust control strategies, including watering of an active site two times per day.
The SCAQMD is in attainment for SO2 under the NAAQS; however, annual emissions are presented for disclosure.

As shown in Table 3.2-11, estimated Proposed Project-generated construction emissions within a typical year of construction would not exceed the de minimis thresholds and no additional General Conformity analysis is required.

Annual operational emissions resulting from full buildout of the Proposed Project in 2040 and annual operational emissions associated with the Existing Scenario in 2018 are presented in Table 3.2-12, Estimated Annual Operational Criteria Air Pollutant Emissions - Unmitigated.
Table 3.2-12
Estimated Annual Operational Criteria Air Pollutant Emissions - Unmitigated

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>VOC</th>
<th>NOₓ</th>
<th>CO</th>
<th>SOₓ</th>
<th>PM₁₀</th>
<th>PM₂.₅</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tons per year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proposed Project</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>28.92</td>
<td>0.00</td>
<td>0.09</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Energy</td>
<td>0.38</td>
<td>3.46</td>
<td>2.91</td>
<td>0.02</td>
<td>0.26</td>
<td>0.26</td>
</tr>
<tr>
<td>Mobile</td>
<td>6.71</td>
<td>91.41</td>
<td>160.84</td>
<td>0.71</td>
<td>59.23</td>
<td>15.07</td>
</tr>
<tr>
<td>Off-road Equipment</td>
<td>4.82</td>
<td>24.95</td>
<td>63.90</td>
<td>0.12</td>
<td>0.30</td>
<td>0.30</td>
</tr>
<tr>
<td>Stationary</td>
<td>0.04</td>
<td>0.08</td>
<td>0.72</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Transport Refrigeration Units</td>
<td>0.52</td>
<td>5.08</td>
<td>4.26</td>
<td>0.00</td>
<td>0.20</td>
<td>0.18</td>
</tr>
<tr>
<td>Total</td>
<td>41.39</td>
<td>124.98</td>
<td>232.72</td>
<td>0.85</td>
<td>59.99</td>
<td>15.81</td>
</tr>
<tr>
<td>Existing Scenario</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Area</td>
<td>8.54</td>
<td>0.00</td>
<td>0.03</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Energy</td>
<td>0.13</td>
<td>1.20</td>
<td>1.01</td>
<td>0.00</td>
<td>0.09</td>
<td>0.09</td>
</tr>
<tr>
<td>Mobile</td>
<td>9.21</td>
<td>104.42</td>
<td>112.08</td>
<td>0.42</td>
<td>21.14</td>
<td>6.50</td>
</tr>
<tr>
<td>Off-road Equipment</td>
<td>1.74</td>
<td>22.01</td>
<td>21.70</td>
<td>0.04</td>
<td>1.00</td>
<td>0.92</td>
</tr>
<tr>
<td>Total</td>
<td>19.62</td>
<td>127.63</td>
<td>134.82</td>
<td>0.46</td>
<td>22.23</td>
<td>7.51</td>
</tr>
</tbody>
</table>

| Net Change (Proposed Project – Existing Scenario) | 21.77 | (2.65) | 97.90 | 0.39  | 37.77 | 8.30 |
| De Minimis Threshold     | 10    | 10     | 100   | N/A   | 100   | 70   |
| Threshold Exceeded?      | Yes   | No     | No    | N/A   | No    | No   |

Notes: VOC = volatile organic compound; NOₓ = oxides of nitrogen; CO = carbon monoxide; SOₓ = sulfur oxides; PM₁₀ = coarse particulate matter; PM₂.₅ = fine particulate matter; SCAQMD = South Coast Air Quality Management District.

As shown in Table 3.2-12, the net change in combined annual emissions from the Proposed Project and the Existing Scenario would exceed the de minimis thresholds for VOC; emissions of NOₓ, CO, SOₓ, CO, PM₁₀ and PM₂.₅ are not anticipated to exceed de minimis thresholds.
Because the Proposed Project exceeds the applicability analysis for VOC, the Proposed Project must then demonstrate conformity by meeting one or more of the methods specified in the regulation for determining conformity as presented in Section 3.2.3.1.\textsuperscript{16} For this analysis, option 4, which is demonstrating that the Proposed Project’s motor vehicle emissions are included in the current regional emission analysis for the area’s transportation plan, is pursued.

The applicable metropolitan planning organization for the Proposed Project is SCAG and the applicable RTP is Connect SoCal, the 2020-2045 RTP/SCS. For the traffic analysis zones (TAZs) that the GCSP is located within, SCAG estimates a base of 7,000 employees in 2016 (pers. comm, Zhou 2019a). For those TAZs that the Proposed Project touches, SCAG estimates a growth of 2,000 employees between 2016 and 2040 (pers. comm, Zhou 2019b). However, it is more reasonable to allocate half of that growth (1,000 employees) to the GCSP rather than all of it to allow for other growth in the area (pers. comm, Zhou 2019b). As such, 8,000 employees are estimated for the Plan Area in 2040 (base of 7,000 employees plus 1,000 employee growth).

Between 2020 and 2040, the Proposed Project is estimated to result in a total growth of 4,884 employees (Svesson 2020). As such, the Proposed Project employment growth and associated mobile source emissions are included in the SCAG 2020-2045 RTP/SCS (i.e., 4,884 employees is under the 8,000 employee projection for 2040) as well as the SCAG 2016 RTP/SCS. Therefore, the Proposed Project would not interfere with state and local plans to bring an area into attainment with the NAAQS and the Proposed Project is in conformance with the Clean Air Act and no adverse effect would occur.

\begin{itemize}
\item[\textit{c)}] \textbf{Would the project expose sensitive receptors to substantial pollutant concentrations?}
\end{itemize}

\section*{Localized Significance Thresholds Analysis}

As discussed in Section 3.2.1.3, Sensitive Receptors, sensitive receptors are those individuals more susceptible to the effects of air pollution than the population at large. People most likely to be affected by air pollution include children, the elderly, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993). As discussed in Section 3.2.1.3, the closest off-site sensitive receptors to the Plan Area include residences of the Bixby Knolls neighborhood and the California

\textsuperscript{16} Also note that the Proposed Project would be required to comply with all of the SCAQMD rules and reasonably available control measures required in the SIP, as the SCAQMD’s current rules, in large part, meet the U.S. EPA’s criteria for reasonably available control technology acceptability and inclusion in the SIP as demonstration in the 2016 AQMP Reasonably Available Control Technology Demonstration.
Heights Historic District located adjacent to the west side of Cherry Avenue. Schools in the vicinity of the Proposed Project where sensitive receptors may spend considerable time include Burroughs Elementary School (on East 33rd Street in Signal Hill, between Orange Avenue and Gundry Avenue) and the Westerly School of Long Beach (East 29th Street).

An LST analysis has been prepared to determine potential impacts to nearby sensitive receptors during construction of the Proposed Project. As indicated in the discussion of the thresholds of significance (Section 3.2.3), SCAQMD also recommends the evaluation of localized NO$_2$, CO, PM$_{10}$, and PM$_{2.5}$ impacts as a result of construction activities to sensitive receptors in the immediate vicinity of the Plan Area. The impacts were analyzed using methods consistent with those in SCAQMD’s Final LST Methodology (2009). According to the Final LST Methodology, “off-site mobile emissions from the project should not be included in the emissions compared to the LSTs” (SCAQMD 2009). Hauling of soils and construction materials associated with project construction are not expected to cause substantial air quality impacts to sensitive receptors along off-site roadways. Localized emissions from the trucks would be relatively brief in nature and would cease once the trucks pass through the main streets.

Construction activities associated with the Proposed Project would result in temporary sources of on-site fugitive dust and construction equipment emissions. As discussed above, off-site emissions from vendor trucks, haul trucks, and worker vehicle trips are not included in the LST analysis. The most stringent SCAQMD localized significance criteria for SRA 4 (for 1-acre project sites corresponding to a distance to a sensitive receptor of 25 meters, which represents a conservative analysis) are presented in Table 3.2-13, Localized Significance Thresholds Analysis for Proposed Project Construction, and compared to the maximum daily on-site emissions generated during construction of the Proposed Project in 2020.$^{17}$

<table>
<thead>
<tr>
<th>Maximum On-Site Emissions</th>
<th>NO$_2$</th>
<th>CO</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction emissions</td>
<td>100.40</td>
<td>63.92</td>
<td>20.65</td>
<td>12.98</td>
</tr>
<tr>
<td>SCAQMD LST</td>
<td>57</td>
<td>585</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>LST exceeded?</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Source: SCAQMD 2009.

$^{17}$ As explained previously, the analysis assumes a construction start date of 2020, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.
3.2 – AIR QUALITY

Notes:
NO₂ = nitrogen dioxide; CO = carbon monoxide; PM₁₀ = coarse particulate matter; PM₂.₅ = fine particulate matter; SCAQMD = South Coast Air Quality Management District; LST = localized significance threshold.
See Appendix B-1, Emission Calculations, for complete results.
Localized significance thresholds are shown for 1-acre project sites corresponding to a distance to a sensitive receptor of 25 meters. These estimates implementation of the Proposed Project’s fugitive dust control strategies, including watering of an active site two times per day.

As shown in Table 3.2-13, construction activities would generate NO₂(NOₓ), PM₁₀, and PM₂.₅ emissions in excess of site-specific LSTs.

CEQA Impact Determination

Therefore, localized construction impacts would be potentially significant and mitigation is required. Mitigation measures MM-AQ-1 and MM-AQ-2 (Construction Equipment Emissions Reductions and Fugitive Dust Control, respectively), would be required to reduce Proposed Project construction-related emissions. Nonetheless, even with the implementation of mitigation, site-specific construction impacts during construction of the Proposed Project would remain significant and unavoidable under CEQA.

NEPA Impact Determination

Therefore, localized construction effects would be potentially significant and mitigation is required. Mitigation measures MM-AQ-1 and MM-AQ-2 (Construction Equipment Emissions Reductions and Fugitive Dust Control, respectively), would be required to reduce Proposed Project construction-related emissions. Nonetheless, even with the implementation of mitigation, site-specific construction effects during construction of the Proposed Project would remain adverse under NEPA.

Carbon Monoxide Hotspots

Mobile source impacts occur on two scales of motion. Regionally, Proposed Project-related travel would add to regional trip generation and increase the vehicle miles traveled within the local airshed and the SCAB. Locally, traffic generated by the Proposed Project would be added to the City’s roadway system near the Plan Area. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles cold-started and operating at pollution-inefficient speeds, and is operating on roadways already crowded with non-Proposed Project traffic, there is a potential for the formation of microscale CO hotspots in the area immediately around points of congested traffic. Because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SCAB is steadily decreasing.
At the time that the SCAQMD 1993 Handbook was published, the SCAB was designated nonattainment under the CAAQS and NAAQS for CO. In 2007, the SCAQMD was designated in attainment for CO under both the CAAQS and NAAQS as a result of the steady decline in CO concentrations in the SCAB due to turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities. The SCAQMD conducted CO modeling for the 2003 AQMP (Appendix V: Modeling and Attainment Demonstrations, SCAQMD 2003b) for the four worst-case intersections in the SCAB: (1) Wilshire Boulevard and Veteran Avenue, (2) Sunset Boulevard and Highland Avenue, (3) La Cienega Boulevard and Century Boulevard, and (4) Long Beach Boulevard and Imperial Highway. At the time the 2003 AQMP was prepared, the intersection of Wilshire Boulevard and Veteran Avenue was the most congested intersection in Los Angeles County, with an average daily traffic volume of about 100,000 vehicles per day. Using CO emission factors for 2002, the peak modeled CO 1-hour concentration was estimated to be 4.6 ppm at the intersection of Wilshire Boulevard and Veteran Avenue. When added to the maximum 1-hour CO concentration from 2016 through 2018 at the Webster monitoring station (see Table 3.2-3, Local Ambient Air Quality Data), which was 3.9 ppm in 2017, the 1-hour CO would be 8.5 ppm, while the CAAQS is 20 ppm.

The 2003 AQMP also projected 8-hour CO concentrations at these four intersections for 1997 and from 2002 through 2005. From years 2002 through 2005, the maximum 8-hour CO concentration was 3.8 ppm at the Sunset Boulevard and Highland Avenue intersection in 2002; the maximum 8-hour CO concentration was 3.4 ppm at the Wilshire Boulevard and Veteran Avenue in 2002. Adding the 3.8 ppm to the maximum 8-hour CO concentration from 2016 through 2018 at the Webster monitoring station (see Table 3.2-3), which was 2.6 ppm in 2017, the 8-hour CO would be 6.4 ppm, while the CAAQS is 9.0 ppm.

Accordingly, CO concentrations at congested intersections would not exceed the 1-hour or 8-hour CO CAAQS unless projected daily traffic would be at least over 100,000 vehicles per day. Because the Proposed Project would not increase daily traffic volumes at any study intersection to more than 100,000 vehicles per day, a CO hotspot is not anticipated to occur and associated impacts would be less than significant.

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Footnote 18:
For each study intersection in each scenario evaluated in the TIA (Appendix D), the daily volumes were estimated by assuming that the AM peak hour intersection volumes represent 8% of the daily traffic volumes and the total PM peak hour intersection volumes represent 10% of the daily traffic volumes. Using this method, all 28 study intersections were estimated to result in less than 100,000 vehicles per day in every scenario evaluated (ranging from 8,060 vehicles to 84,663 vehicles).
CEQA Impact Determination

As such, potential Proposed Project-generated operational impacts associated with CO hotspots would be less than significant under CEQA.

NEPA Impact Determination

As such, potential Proposed Project-generated operational effects associated with CO hotspots would ensure no adverse effect under NEPA.

Toxic Air Contaminants

Construction

The Proposed Project could result in TAC exposure to existing or future sensitive land uses during construction. Diesel equipment would be subject to the CARB airborne toxic control measures for in-use off-road diesel fleets, which would minimize DPM emissions, including an airborne toxic control measure to limit idling of diesel-fueled commercial vehicles, which requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than 5 minutes at any location (13 CCR 2485). However, the levels of potential emissions in relation to the location of sensitive receptors cannot be estimated with a level of accuracy. As such, the potential health risk of exposing sensitive receptors to construction-generated TAC emissions, primarily DPM, is considered potentially significant and mitigation is required. Mitigation measure MM-AQ-1, which would result in reductions in exhaust PM$_{10}$ emissions from construction equipment, would be required.

CEQA Impact Determination

Nonetheless, even with the implementation of mitigation, the potential health risk of exposing sensitive receptors to construction-generated TAC emissions, primarily DPM, is considered significant and unavoidable under CEQA.

NEPA Impact Determination

Nonetheless, even with the implementation of mitigation, the potential health risk of exposing sensitive receptors to construction-generated TAC emissions, primarily DPM, is considered adverse under NEPA.

Operation

The Proposed Project includes various nonresidential land uses, including industrial land uses such as manufacturing and warehousing, and research and development, which could
include various sources of TACs. As discussed in Section 3.2.3.2, potential sources of TAC emissions from the Proposed Project include, but are not limited to: emergency generators, boilers, broilers (meat cooking), ovens, cogeneration facilities, chillers, cooling towers, autoclave, metals production, painting and spray booths, off-road equipment (e.g., forklifts), truck idling, and TRUs. However, because the type and location of Proposed Project land uses and tenants have not been identified, the potential health risk associated with buildout of the GCSP cannot be accurately estimated. Due to the uncertainty of Proposed Project land uses and tenants, and their associated TAC emissions, as well as the potential location of additional sensitive receptors, and the effectiveness of TAC reduction measures, the Proposed Project would have a potentially significant health risk impact as a result of operation and mitigation is required. Because tenants and associated operational TAC sources have not been identified, not source-specific TAC mitigation measures cannot be identified at this time. However, to reduce the potential for the Proposed Project to expose sensitive receptors to TACs and the associated health risk, mitigation measures MM-AQ-11 (Health Risk Siting), MM-AQ-12 (Toxic Air Contaminant Reduction) and MM-AQ-13 (Health Risk Assessment Requirements) would be implemented. Note that mitigation measures that reduce criteria air pollutants also reduce TACs, specifically mitigation measures MM-AQ-6 (Idling Restriction), MM-AQ-9 (Electric Forklifts), and MM-AQ-10 (TRU Plug-Ins).

**CEQA Impact Determination**

Nonetheless, even with the implementation of mitigation, which cannot be quantified at this time, the Proposed Project would have a **significant and unavoidable** health risk impact as a result of operation under CEQA.

**NEPA Impact Determination**

Nonetheless, even with the implementation of mitigation, which cannot be quantified at this time, the Proposed Project would have an **adverse** health risk effect as a result of operation under NEPA.

**Health Effects of Other Criteria Air Pollutants**

Construction of the Proposed Project could result in emissions that would exceed the SCAQMD thresholds for criteria air pollutants including VOC and NOx. Operation of the Proposed Project would result in emissions that would exceed the SCAQMD thresholds for criteria air pollutants including VOC, CO, and PM10.

VOCs and NOx are precursors to O3, for which the SCAB is designated as nonattainment with respect to the NAAQS and CAAQS. The health effects associated with O3 are
generally associated with reduced lung function. The contribution of VOCs and NO\textsubscript{x} to regional ambient O\textsubscript{3} concentrations is the result of complex photochemistry. The increases in O\textsubscript{3} concentrations in the SCAB due to O\textsubscript{3} precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O\textsubscript{3} concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O\textsubscript{3} ambient air quality standards tend to occur between April and October when solar radiation is highest. The holistic effect of a single project’s emissions of O\textsubscript{3} precursors is speculative because of the lack of quantitative methods to assess this impact. Nonetheless, because VOC and NO\textsubscript{x} emissions associated with Proposed Project construction and/or operation would exceed the SCAQMD mass daily thresholds, it could minimally contribute to regional O\textsubscript{3} concentrations and the associated health effects.

Health effects that result from NO\textsubscript{2} and NO\textsubscript{x} include respiratory irritation. Although Proposed Project construction would generate NO\textsubscript{x} emissions that would exceed the SCAQMD mass daily thresholds, construction of the Proposed Project is not anticipated to contribute to exceedances of the NAAQS and CAAQS for NO\textsubscript{2} because the SCAB is designated as in attainment of the NAAQS and CAAQS for NO\textsubscript{2} and the existing NO\textsubscript{2} concentrations in the area are well below the NAAQS and CAAQS standards. Nonetheless, because there are nearby receptors to be affected by off-road construction equipment, the Proposed Project could result in potential health effects associated with NO\textsubscript{2} and NO\textsubscript{x} during construction.

CO tends to be a localized impact associated with congested intersections. The associated potential for CO hotspots were discussed previously and are determined to be a less-than-significant impact. However, operation of the Proposed Project would generate CO emissions that would exceed the SCAQMD threshold during operation. Therefore, the Proposed Project’s CO emissions could potentially contribute to significant health effects associated with this pollutant.

Operation of the Proposed Project would exceed the SCAQMD threshold for PM\textsubscript{10}. As such, the Proposed Project would potentially contribute to exceedances of the NAAQS and CAAQS for particulate matter or would obstruct the SCAB from coming into attainment for these pollutants. Because the Proposed Project has the potential to contribute particulate matter during operation, the Proposed Project would result in associated health effects.

In summary, because construction and operation of the Proposed Project could result in exceedances of the SCAQMD significance thresholds for VOC, NO\textsubscript{x}, CO, and PM\textsubscript{10}, the potential health effects associated with criteria air pollutants are considered potentially significant. Notably, there are numerous scientific and technological complexities
associated with correlating criteria air pollutant emissions from an individual project to specific health effects or potential additional nonattainment days, and methods available to quantitatively evaluate health effects may not be appropriate to apply to emissions associated with the Proposed Specific Plan Project, which cannot be estimated with a high-level of accuracy and assumes full buildout by 2040, which may never occur. These subjects are discussed further in Appendix B-2, Health Effects from Criteria Air Pollutants Memorandum.

CEQA Impact Determination

The implementation of mitigation measures MM-AQ-1 through MM-AQ-3 would be required to reduce Proposed Project construction-related emissions, and the implementation of mitigation measures MM-AQ-4 through MM-AQ-10 would be required to reduce emissions generated during operation of the Proposed Project. Nonetheless, even with the implementation of mitigation, potential impacts would remain significant and unavoidable during both construction and operation under CEQA.

NEPA Impact Determination

The implementation of mitigation measures MM-AQ-1 through MM-AQ-3 would be required to reduce Proposed Project construction-related criteria air pollutant emissions, and the implementation of mitigation measures MM-AQ-4 through MM-AQ-10 would be required to reduce criteria air pollutant emissions generated during operation of the Proposed Project. Nonetheless, even with the implementation of mitigation, potential effects would remain significant and adverse during both construction and operation under NEPA.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Based on available information, the Proposed Project is not anticipated to result in other emissions that have not been addressed under Thresholds A through C. As such, this analysis focuses on the potential for the Proposed Project to generate odors.

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.
Odors would be potentially generated from vehicles and equipment exhaust emissions during construction of the Proposed Project. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application. Such odors would disperse rapidly from the Plan Area and generally occur at magnitudes that would not affect substantial numbers of people.

Land uses and industrial operations that typically are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. While the Proposed Project does not propose the aforementioned odor-generating land uses, based on potential types of land uses for the GCSP, during the operational phase of the Proposed Project, anticipated odors could be generated from industrial or retail land uses, including food-service odors.

**CEQA Impact Determination**

Potential odor impacts associated with Proposed Project construction would be less than significant. Because specific land uses and tenants have not been identified for the GCSP, odor sources associated with Proposed Project buildout and their potential to cause a significant impact to nearby sensitive receptors also cannot be completely identified. Therefore, the potential for the Proposed Project to generate an odor impact is considered potentially significant and mitigation measures MM-AQ-14 (Odor Siting) and MM-AQ-15 (Odor Abatement Plan), requiring the implementation of an Odor Abatement Plan, would be required for uses that could cause a significant odor impact. Therefore, impacts associated with odors during operation are considered less than significant with mitigation incorporated under CEQA.

**NEPA Impact Determination**

Because specific land uses and tenants have not been identified for the GCSP, odor sources associated with Proposed Project buildout and their potential to cause a significant effect to nearby sensitive receptors also cannot be completely identified. Therefore, the potential for the Proposed Project to generate an odor effect is considered potentially significant and adverse. Mitigation measures MM AQ-14 (Odor Siting) and MM-AQ-15 (Odor Abatement Plan), requiring the implementation of an Odor Abatement Plan, would be required to reduce these effects to below a level of significance under NEPA.
3.2 – AIR QUALITY

3.2.5 Cumulative Impacts

As discussed under Impact A through Impact D above, the Proposed Project would result in a cumulatively considerable increase in emissions of nonattainment pollutant and potential emissions of TACs. As such, cumulative impacts during both construction and operation are considered significant and unavoidable with the exception of CO hotspots, which would be less than significant.

3.2.6 Mitigation Measures

State CEQA Guidelines Section 15126.4 requires EIRs to describe feasible measures that can minimize significant adverse impacts. The following mitigation measures have been evaluated for feasibility and are incorporated in order to reduce potentially significant impacts related to air quality emissions during operation of the Proposed Project.

Mitigation measures MM-AQ-1 through MM-AQ-3 shall be implemented to reduce criteria air pollutant emissions generated during construction of the Proposed Project:

MM-AQ-1 Construction Equipment Emissions Reductions. The following measures shall be incorporated into the Proposed Project to reduce construction criteria air pollutant emissions, including VOC, NOx, PM10, and PM2.5, generated by construction equipment used for future development projects implemented under the proposed GCSP:

a) For off-road equipment with engines rated at 50 horsepower or greater, no construction equipment shall be used that is less than Tier 4 Interim. An exemption from these requirements may be granted by the City in the event that the applicant documents that equipment with the required tier is not reasonably available and corresponding reductions in criteria air pollutant emissions are achieved from other construction equipment.19 Before an exemption may be considered by the City, the applicant shall be required to demonstrate that two construction fleet owners/operators in the Los Angeles Region were contacted and that those owners/operators confirmed Tier 4 Interim or better equipment could not be located within the Los Angeles region. To ensure that Tier 4 construction equipment or better would be used during the Proposed Project’s construction, the City shall include this requirement in applicable bid documents, purchase orders, and contracts. Successful contractor(s) must demonstrate the ability to supply the compliant construction equipment for use prior to any ground disturbing and construction activities.

19 For example, if a Tier 4 Interim piece of equipment is not reasonably available at the time of construction and a lower tier equipment is used instead (e.g., Tier 3), another piece of equipment could be upgraded from a Tier 4 Interim to a higher tier (i.e., Tier 4 Final) or replaced with an alternative-fueled (not diesel-fueled) equipment to offset the emissions associated with using a piece of equipment that does not meet Tier 4 Interim standards.
3.2 – Air Quality

b) Minimize simultaneous operation of multiple construction equipment units. During construction, vehicles in loading and unloading queues shall not idle for more than 5 minutes, and shall turn their engines off when not in use to reduce vehicle emissions.

c) Properly tune and maintain all construction equipment in accordance with manufacturer’s specifications;

d) Where feasible, employ the use of electrical or alternative fueled (i.e., non-diesel) construction equipment, including forklifts, concrete/industrial saws, pumps, aerial lifts, air compressors, and other comparable equipment types to the extent commercially available.

e) To reduce the need for electric generators and other fuel-powered equipment, provide on-site electrical hookups for the use of hand tools such as saws, drills, and compressors used for building construction.

f) Develop a Construction Traffic Control Plan to ensure construction traffic and equipment use is minimized to the extent practicable. The Construction Traffic Control Plan shall include measures to reduce the number of large pieces of equipment operating simultaneously during peak construction periods, scheduling of vendor and haul truck trips to occur during non-peak hours, establish dedicated construction parking areas to encourage carpooling and efficiently accommodate construction vehicles, identify alternative routes to reduce traffic congestion during peak activities, and increase construction employee carpooling.

g) Encourage construction contractors to apply for South Coast Air Quality Management District “SOON” funds. The “SOON” program provides funds to applicable fleets for the purchase of commercially-available low-emission heavy-duty engines to achieve near-term reduction of NOx emissions from in-use off-road diesel vehicles.

MM-AQ-2 Fugitive Dust Control. The following measures shall be incorporated into the Proposed Project to reduce construction fugitive dust emissions (PM$_{10}$ and PM$_{2.5}$), generated by grading and construction activities of future development projects implemented under the proposed GCSP, consistent with SCAQMD Rule 403, with a goal of retaining dust on the site:

a) Water, or utilize another SCAQMD-approved dust control non-toxic agent, on the grading areas at least three times daily to minimize fugitive dust.

b) All permanent roadway improvements shall be constructed and paved as early as possible in the construction process to reduce construction vehicle travel on unpaved roads. To reduce fugitive dust from earth-moving operations, building
3.2 – Air Quality

pads shall be finalized as soon as possible following site preparation and grading activities.

c) Stabilize grading areas as quickly as possible to minimize fugitive dust.

d) Apply chemical stabilizer, install a gravel pad, or pave the last 100 feet of internal travel path within the construction site prior to public road entry, and to on-site stockpiles of excavated material.

e) Remove any visible track-out into traveled public streets with the use of sweepers, water trucks, or similar method as soon as possible.

f) Provide sufficient perimeter erosion control to prevent washout of silty material onto public roads. Unpaved construction site egress points shall be graveled to prevent track-out.

g) Wet wash the construction access point at the end of the workday if any vehicle travel on unpaved surfaces has occurred.

h) Cover haul trucks or maintain at least 2 feet of freeboard to reduce blow-off during hauling.

i) Evaluate the need for reduction in dust generating activity, potential to stop work, and/or implementation of additional dust control measures if winds exceed 25 miles per hour.

j) Enforce a 15-mile-per-hour speed limit on unpaved surfaces.

k) Provide haul truck staging areas for the loading and unloading of soil and materials. Staging areas shall be located away from sensitive receptors, at the furthest feasible distance.

l) Construction Traffic Control Plans shall route delivery and haul trucks required during construction away from sensitive receptor locations and congested intersections, to the extent feasible. Construction Traffic Control plans shall be finalized and approved prior to issuance of grading permits.

m) Review and comply with any additional requirements of SCAQMD Rule 403.

MM-AQ-3 Architectural Coating VOC Emissions. To address the impact relative to VOC emissions, Super-Compliant VOC-content architectural coatings (0 grams per liter to less than 10 grams per liter VOC) shall be used during Proposed Project construction/application of paints and other architectural coatings to reduce ozone precursors. If paints and coatings with VOC content of 0 grams/liter to less than 10 grams/liter cannot be utilized, the developer shall avoid application of architectural coatings during the peak smog season: July, August, and September. The developer
shall procure architectural coatings from a supplier in compliance with the requirements of SCAQMD’s Rule 1113 (Architectural Coatings).

Mitigation measures MM-AQ-4 through MM-AQ-10 shall be implemented to reduce criteria air pollutant emissions generated during operation of the Proposed Project:

**MM-AQ-4  Vehicle Miles Traveled Reduction Strategies.** The Proposed Project shall implement a Transportation Demand Management (TDM) Program to facilitate increased opportunities for transit, bicycling, and pedestrian travel, as well as provide the resources, means, and incentives for ride-sharing and carpooling to reduce vehicle miles traveled and associated criteria air pollutant emissions. The following components are to be included in the TDM Program:

**Bicycle and Pedestrian Travel**

a) Develop a comprehensive pedestrian network designed to provide safe bicycle and pedestrian access between the various internal Proposed Project land uses, which will include design elements to enhance walkability and connectivity and shall minimize barriers to pedestrian access and interconnectivity. Physical barriers, such as walls or landscaping, that impede pedestrian circulation shall be eliminated.

b) The Proposed Project design shall include a network that connects the Proposed Project uses to the existing off-site facilities (e.g., existing off-site bike paths).

c) Proposed Project design shall include pedestrian/bicycle safety and traffic calming measures in excess of jurisdiction requirements. Roadways shall be designed to reduce motor vehicle speeds and encourage pedestrian and bicycle trips with traffic calming features. Traffic calming features may include: marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts or mini-circles, on-street parking, planter strips with street trees, chicanes/chokers, and others.

d) Provide bicycle parking facilities along main travel corridors: one bike rack space per 20 vehicle/employee parking spaces or to meet demand, whichever results in the greater number of bicycle racks.

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20 Regarding MM-AQ-5, Encourage Electric Vehicles, the GCSP includes a development standard that requires at least 3% of the total parking spaces, but not less than one, shall be capable of supporting future electric vehicle supply equipment. This MM is intended to be more stringent than already required by the GCSP.
e) Provide shower and locker facilities to encourage employees to bike and/or walk to work: one shower and three lockers per every 25 employees.

**Ride-Sharing and Commute Reduction**

f) Promote ridesharing programs through a multi-faceted approach, such as designating a certain percentage of parking spaces for ridesharing vehicles; designating adequate passenger loading and unloading and waiting areas for ridesharing vehicles; or providing a website or message board for coordinating rides.

g) Implement marketing strategies to reduce commute trips. Information sharing and marketing are important components to successful commute trip-reduction strategies. Implementing commute trip-reduction strategies without a complementary marketing strategy would result in lower VMT reductions. Marketing strategies may include: new employee orientation of trip reduction and alternative mode options; event promotions; or publications.

h) One percent (1%) of vehicle/employee parking spaces shall be reserved for preferential spaces for car pools and van pools.

i) Coordinate with the Southern California Association of Governments (SCAG) for carpool, vanpool, and rideshare programs that are specific to the Proposed Project.

j) Implement a demand-responsive shuttle service that provides access throughout the Plan Area, to the park-and-ride lots, and to the nearby transit centers.

**Transit**

k) Bus pull-ins shall be constructed where appropriate within the Plan Area.

l) Coordinate with SCAG on the future siting of transit stops/stations within or near the GCSP.

**MM-AQ-5 Encourage Electric Vehicles.** Subsequent future projects under the Proposed Project shall incorporate the following into final plans:

a) Designate 10% of parking spaces to be for electric and alternative fuel vehicles.

b) Install Level 2 EV charging stations in 6% of all parking spaces.

**MM-AQ-6 Idling Restriction.** For Proposed Project land uses that include truck idling, the Proposed Project shall minimize idling time of all vehicles and equipment to the extent feasible; idling for periods of greater than five (5) minutes shall be
prohibited. Signage shall be posted at truck parking spots, entrances, and truck bays advising that idling time shall not exceed five (5) minutes per idling location. To the extent feasible, the tenant shall restrict idling emission from trucks by using auxiliary power units and electrification.

**MM-AQ-7 Energy Conservation.** The following energy conservation measures into Proposed Project building plans:

a) Install a solar photovoltaic rooftop system to reduce the electric demand from the local grid.

b) Install Energy Star rated heating, cooling, lighting, and appliances.

c) Outdoor lighting shall be light emitting diodes (LED) or other high-efficiency lightbulbs.

d) Provide information on energy efficiency, energy efficient lighting and lighting control systems, energy management, and existing energy incentive programs to future tenants of the Proposed Project.

e) Non-residential structures shall meet the U.S. Green Building Council standards for cool roofs. This is defined as achieving a 3-year solar reflective index (SRI) of 64 for a low-sloped roof and 32 for a high-sloped roof.

f) Outdoor pavement, such as walkways and patios, shall include paving materials with 3-year SRI of 0.28 or initial SRI of 0.33.

g) Construction of modest cool roof, defined as Cool Roof Rating Council (CRRC) Rated 0.15 aged solar reflectance and 0.75 thermal emittance.

h) Use of Heating, Ventilation and Air Conditioning (HVAC) equipment with a Seasonal Energy Efficiency Ratio (SEER) of 12 or higher.

i) Installation of water heaters with an energy factor of 0.92 or higher.

j) Maximize the use of natural lighting and include daylighting (e.g., skylights, windows) in rooms with exterior walls that would normally be occupied.

k) Include high-efficacy artificial lighting in at least 50% of unit fixtures.

l) Install low-NOx water heaters and space heaters, solar water heaters, or tankless water heaters.

m) Use passive solar cooling/heating.

n) Strategically plant trees to provide shade.
o) Structures shall be equipped with outdoor electric outlets in the front and rear of the structure to facilitate use of electrical lawn and garden equipment.

**MM-AQ-8 Low-VOC/Green Cleaning Product Educational Program.** Proposed Project tenants shall develop and implement a Low-VOC/Green Cleaning Product and Paint education program.

**MM-AQ-9 Electric Forklifts.** Proposed Project warehouse and manufacturing tenants shall require that all forklifts are electric-powered; if electric is not available or feasible, propane is acceptable.

**MM-AQ-10 Transport Refrigeration Unit Plug-Ins.** Electric plug-ins shall be installed at the loading docks at cold storage facilities to allow for transport refrigeration unit standby electric plug-in.

Mitigation measures MM-AQ-11, MM-AQ-12, and MM-AQ-13 shall be implemented to reduce the potential for the Proposed Project to expose sensitive receptors to TACs and the associated health risk. Note that mitigation measures that reduce criteria air pollutants also reduce TACs, specifically mitigation measures MM-AQ-6 (Idling Restriction), MM-AQ-9 (Electric Forklifts), and MM-AQ-10 (TRU Plug-Ins).

**MM-AQ-11 Health Risk Siting.** The City shall minimize exposure of sensitive receptors to toxic air contaminants (TACs), to the extent possible, by considering distance, orientation, and wind direction to minimize exposure and associated health risk when siting TAC-emitting sources near sensitive land uses.

**MM-AQ-12 Toxic Air Contaminant Reduction.** At the time of discretionary approval of new sources of TAC emissions in close proximity to existing sensitive land uses, the City shall require development projects to implement applicable best management practices, as necessary and feasible, that will reduce exposure to TACs. Specific reduction measures will be evaluated and determined depending on proposed land use TAC sources and feasibility.

**MM-AQ-13 Health Risk Assessment Requirements.** Consistent with the California Air Resources Board’s recommendations on siting new sensitive land uses, a formal health risk assessment shall be performed under the following conditions:

a) **Distribution Centers.** For any distribution center that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week located within 1,000 feet of a sensitive receptor. In addition, configuration of
entry and exit points of the distribution center shall be considered to minimize exposure to sensitive receptors.

b) *Gasoline Dispensing Facilities.* For any large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater) within 300 feet of a sensitive receptor. For any typical gas dispensing facility (with a throughput of less than 3.6 million gallons per year) within 50 feet of a sensitive receptor.

c) *Dry Cleaners Using Perchloroethylene.* For any dry cleaning operation within 300 feet of a sensitive receptor. For operations with three or more machines, consult with the South Coast Air Quality Management District for when a health risk assessment shall be prepared as the distance to the closest sensitive receptor may be less than 300 feet.

d) *Other Sources of Toxic Air Contaminants.* For other sources of TACs, the City shall evaluate the need to prepare a health risk assessment based on the types of TACs and the distance to sensitive receptors.

Mitigation measures MM-AQ-14 and MM-AQ-15 shall be implemented to reduce Proposed Project generated odors:

**MM AQ-14 Odor Siting.** Land uses that have the potential to generate objectionable odors shall be located as far away as possible and/or downwind from sensitive receptors.

**MM AQ-15 Odor Abatement Plan.** To address odors from the Proposed Project, any odor-generating land use shall implement an Odor Abatement Plan (OAP). The OAP shall include the following:

a. Name and telephone number of contact person(s) at the facility responsible for logging in and responding to odor complaints

b. Policy and procedure describing the actions to be taken when an odor complaint is received, including the training provided to the staff on how to respond

c. Description of potential odor sources at the facility

d. Description of potential methods for reducing odors, including minimizing idling of delivery and service trucks and buses, process changes, facility modifications, and/or feasible add-on air pollution control equipment

e. Contingency measures to curtail emissions in the event of a public nuisance complaint.
3.2.7 Significance After Mitigation

Conflict with AQMP

Implementation of mitigation measures MM-AQ-1 through MM-AQ-10 would reduce construction and operational emissions; however, due to the lack of project-specific information, the effectiveness in reducing construction and operational emissions cannot be accurately quantified. Therefore, the potential for the Proposed Project to conflict with the SCAQMD 2016 AQMP is significant and unavoidable.

Cumulatively Considerable Net Increase of Nonattainment Criteria Air Pollutants

As discussed above, while mitigation would reduce Proposed Project-generated construction and operational emissions, the reduction in emissions cannot be accurately quantified. Therefore, the potential for the Proposed Project to result in a cumulatively considerable net increase of any criteria pollutant for which the Proposed Project region is non-attainment under an applicable national or California ambient air quality standard is significant and unavoidable.

Sensitive Receptor Impacts

All new development undergoing discretionary review would be required to evaluate existing TAC exposure and incorporate available reduction measures, if necessary; however, due to the uncertainty of future sensitive receptor locations and the effectiveness of TAC reduction measures, The Proposed Project’s impact related to exposure of sensitive receptors to TAC would remain significant and unavoidable.

Other Emissions (Odors)

As specific permits are requested for potential odor-generating land uses, the City may further evaluate odor emissions from such uses to determine if additional environmental review is warranted at that time. However, with the implementation of mitigation measures MM-AQ-14 and MM-AQ-15, Proposed Project operations would result in a less-than-significant odor impact.

3.2.8 References


3.2 – AIR QUALITY


City of Long Beach. 2013. Long Beach General Plan. October.


