

AIR QUALITY, GREENHOUSE GAS, AND ENERGY REPORT

MARCH PLAZA PROJECT

Perris, California

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January 2024
Revised September 2024

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1.0 INTRODUCTION

This Air Quality, Greenhouse Gas, and Energy Report (“report”) analyzes the potential air quality, greenhouse gas (GHG), and energy impacts of the proposed March Plaza Project (“project”) in the City of Perris (“City”). The purpose of this analysis is to identify, describe, and evaluate the potential for significant environmental impacts that result from emissions of air pollutants and consumption of energy during construction and operation of the project pursuant to the California Environmental Quality Act (CEQA). The project proposes to construct three light industrial buildings on three separate parcels totaling approximately 4.42 acres located near the northwest corner of the intersection of Perris Boulevard and Harley Knox Boulevard. As shown in as shown in **Figure 1, Regional Location Map**, and **Figure 2, Vicinity Map**, the subject parcels are currently vacant. The project would consist of grading the site and constructing three single-story concrete tilt-up light industrial buildings totaling 66,686 square-foot of floor space. The project will also provide onsite parking for 151 vehicles, and eight tractor-trailer docking bays. Additionally, approximately 28,880 square feet of landscaping will be installed.

2.0 PROJECT SETTING

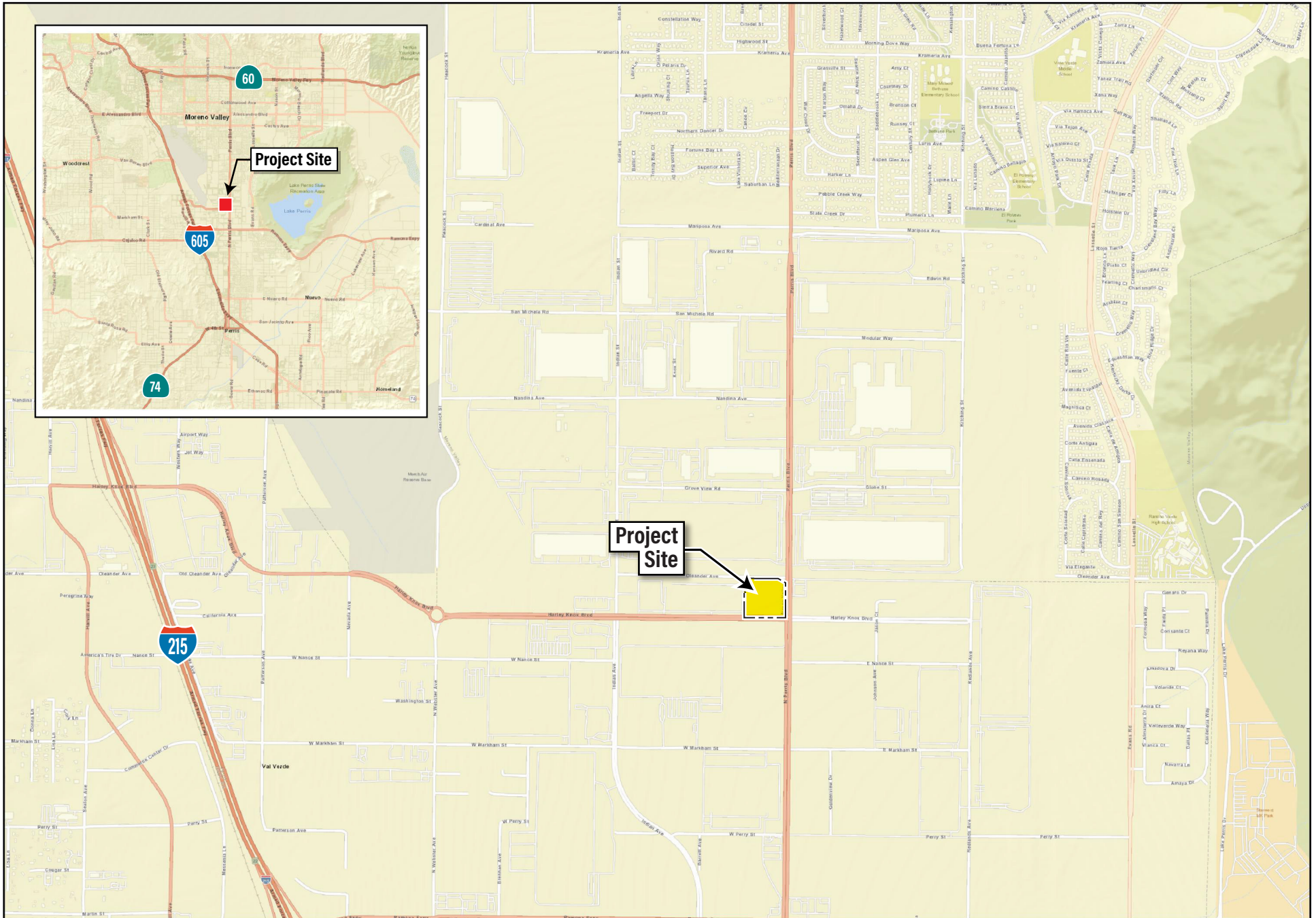
The City is located within Riverside County and the South Coast Air Basin (SCAB or “air basin”) and is within the jurisdictional boundaries of the South Coast Air Quality Management District (SCAQMD). Existing land uses adjacent to the site include large warehouses to the west, north, and northwest, a gas station at the corner intersection, a nursery store and a project under construction across the street to the east, vacant parcels directly south adjacent to another large warehouse, and vacant parcels to the southeast.

3.0 AIR QUALITY SETTING

Air Pollutants

The criteria pollutants for which federal and state standards have been promulgated are briefly described below. The pollutants most relevant to air quality planning and regulation in the basin are ozone and fine suspended particulate matter.

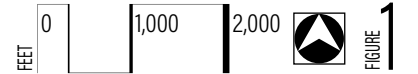
- Carbon Monoxide (CO) is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during the winter morning, with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, motor vehicles operating at slow speeds are the primary source of CO in the Basin. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections. CO is a health concern because it competes with oxygen, often replacing it in the blood and reducing the blood’s ability to transport oxygen to vital organs. Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving heart and blood vessels, fetuses, and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes.
- Nitrogen dioxide (NO₂) is a compound that is produced by the combustion of fossil fuels, such as in internal combustion engines (both gasoline and diesel powered), as well as point sources, especially power plants. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts quickly to form NO₂, creating the mixture of NO and NO₂ commonly called NO_x, a major contributor to O₃ formation. NO₂ also contributes to the formation of PM-10. High concentrations of NO₂ can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. There is some indication of a relationship between NO₂ and chronic pulmonary fibrosis. Some increase of bronchitis in children (2-3 years old) has been observed at concentrations below 0.3 parts per million (ppm).



Source: ESRI, World Street Map Background Imagery, 2024.

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Regional Location Map





Source: Google Earth Pro, Aug. 5, 2021.

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Vicinity Map



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- Ozone (O₃) is a gas that is typically formed in the atmosphere when volatile organic compounds (VOCs)¹ and nitrogen oxides (NO_x) undergo slow photochemical reactions in the presence of sunlight. As such, emissions of VOCs and NO_x are considered to be O₃ precursors. O₃ concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant. Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the subgroups most susceptible to O₃ effects. Short-term exposures (lasting for a few hours) to O₃ 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.
 - Particulate Matter PM-10 and PM-2.5 consists of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter, respectively, that can lodge in the lungs when inhaled. Some sources of particulate matter, like pollen and windstorms, are naturally occurring. However, in populated areas, most particulate matter is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities. Inhaled particulate matter can contribute to respiratory problems and can cause permanent lung damage. Inhalable particulates can also have a damaging effect on health by interfering with the body's mechanism for clearing the respiratory tract or by acting as a carrier of an absorbed toxic substance.
 - Sulfur dioxide (SO₂) is a toxic gas produced largely by the burning of sulfur-bearing fossil fuels. Sulfur oxides (SO_x) are a group of molecules made of sulfur and oxygen atoms and are pollutants that contribute to the formation of acid rain and particulate pollution. SO₂ is the component of greatest concern and is used as the indicator for all gaseous sulfur oxides. Volcanoes are a natural source of sulfur oxides, but 99% of the SO₂ in the atmosphere comes from human activity, such as burning coal, oil, and gas. The sulfur in coal and oil combine with oxygen when burned to make sulfur oxides. Processing mineral ores that contain sulfur and industrial burning of fossil fuels are also sources of sulfur oxides in the atmosphere.
 - Lead (Pb) in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturers of batteries, paint, 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 phase-out of leaded gasoline reduced the inventory of airborne lead by nearly 95 percent. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities have become emission 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 performance, psychomotor performance, reaction time, and growth.

Criteria pollutants emitted directly from sources are called primary pollutants and include CO, SO₂, particulate matter, and Pb. Secondary pollutants, NO₂ and O₃, are those formed through chemical and photochemical reactions of precursor pollutants in the atmosphere such as VOCs and NOs.

Table 1, Criteria Pollutant Sources and Health Effects provides a summary below of these major criteria pollutants of concern and their effects on public health.

¹ VOC is synonymous with reactive organic gases (ROG) and reactive organic compounds (ROC).

Table 1
Criteria Pollutant Sources and Health Effects

Pollutants	Sources	Primary Health Effects
Carbon Monoxide (CO)	<ul style="list-style-type: none"> Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves 	<ul style="list-style-type: none"> Chest pain in patients with heart disease Headache Light-headedness Reduced mental alertness
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> See CO sources 	<ul style="list-style-type: none"> Lung irritation Enhanced allergic responses
Ozone (O ₃)	<ul style="list-style-type: none"> Motor vehicles Industrial emissions Consumer products <p>Note: These sources emit NO_x and VOC which are precursors for the formation of O₃ in the atmosphere when they react with sunlight.</p>	<ul style="list-style-type: none"> Respiratory symptoms Worsening of lung disease leading to premature death Damage to lung tissue
Particulate Matter (PM-10)	<ul style="list-style-type: none"> Cars and trucks (especially diesels) Fireplaces, woodstoves Windblown dust from roadways, agriculture and construction 	<ul style="list-style-type: none"> Premature death & hospitalization, primarily for worsening of respiratory disease
Particulate Matter (PM-2.5)	<ul style="list-style-type: none"> Cars and trucks (especially diesels) Fireplaces, woodstoves Windblown dust from roadways, agriculture and construction 	<ul style="list-style-type: none"> Premature death Hospitalization for worsening of cardiovascular disease Hospitalization for respiratory disease Asthma-related emergency room visits, increased symptoms, increased inhaler usage
Sulfur Oxides (SO _x)	<ul style="list-style-type: none"> Burning of coal and oil Refining oil Ore and metal processing 	<ul style="list-style-type: none"> Worsening of asthma: increased symptoms, increased medication usage, and emergency room visits.
Lead (Pb)	<ul style="list-style-type: none"> Ore and metal processing Leaded aviation fuel Waste incineration 	<ul style="list-style-type: none"> Impaired mental functioning in children Learning disabilities in children Brain and kidney damage
Sources: California Air Resources Board (CARB). Sources of Air Pollution, https://ww2.arb.ca.gov/resources/sources-air-pollution , and Common Air Pollutants https://ww2.arb.ca.gov/resources/common-air-pollutants .		

Toxic Air Contaminants

Toxic air contaminants (TACs) are airborne pollutants identified by CARB which may cause or contribute to an increase in deaths or in serious illness, or which may pose a present or potential hazard to human health. TACs are not criteria pollutants and are regulated separately. The USEPA regulates TACs through technology-based requirements which are implemented by state & local agencies. California regulates TACs through the air toxics program (H&SC §§ 39660 et seq.) and the Air Toxics “Hot Spots” Information and Assessment Act (H&SC §§ 44300 et seq.). Sources of TACs include some industrial and commercial activities, and mobile emissions from cars and trucks, particularly diesel particulate matter (DPM). The “Hot Spots” Act applies to stationary sources and requires operators of specified facilities (those that produce TACs) to submit emission inventories to the AQMD. Those deemed as high priority must prepare a health risk assessment which may result in notification to the surrounding population and development of a risk reduction plan. There are also “industry-wide” inventories and assessed risks of small business

facilities with emissions that are easily characterized such as gas stations, small auto body shops, small dry cleaners, plating shops, and fiberglass product manufacturers. This information can be used when considering siting such a facility near a sensitive receptor, or vice versa.

Ambient Air Quality Standards

National and state ambient air quality standards (AAQS),² shown in **Table 2, Ambient Air Quality Standards**, are the air quality levels that are considered safe, with an adequate margin of safety, to protect the public health and welfare of “sensitive receptors,” which include the elderly, young children, the acutely and chronically ill (e.g., those with cardio-respiratory disease, including asthma), and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Recent research has shown, however, that chronic exposure to ozone, the primary ingredient in photochemical smog, may lead to adverse respiratory health, even at concentrations close to the ambient standard.

Baseline Air Quality

Recent ambient air quality measurements of criteria pollutants recorded at monitoring stations in the vicinity are shown below in **Table 3, Project Area Air Quality Monitoring Summary**. Ozone measurements up to 2021 are taken from the Perris Valley, however, that station does not record data for the other criteria pollutants and the station closed in 2022. As such, 2022 O₃, and all NO₂ and PM-10 measurements are taken from a station in Lake Elsinore, and PM-2.5 measurements are taken from a station in Jurupa Valley. These are the closest available locations for the subject data.

As shown below in Table 3, O₃ levels within the City consistently exceed both the 1-hour and 8-hour standards on a yearly basis, which is common within the County.

² California Air Resources Board. California and National Ambient Air Quality Standards. Available at: <https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf>.

Table 2
Ambient Air Quality Standards

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards ¹		National Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O₃) ⁸	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
Respirable Particulate Matter (PM₁₀) ⁹	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		—		
Fine Particulate Matter (PM_{2.5}) ⁹	24 Hour	—	—	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³	15 µg/m ³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m ³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m ³)		9 ppm (10 mg/m ³)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—	—	
Nitrogen Dioxide (NO₂) ¹⁰	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m ³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		0.053 ppm (100 µg/m ³)	Same as Primary Standard	
Sulfur Dioxide (SO₂) ¹¹	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m ³)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (for certain areas) ¹¹	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) ¹¹	—	
Lead ^{12,13}	30 Day Average	1.5 µg/m ³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m ³ (for certain areas) ¹²	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m ³		
Visibility Reducing Particles ¹⁴	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

See footnotes on next page

For more information please call ARB-PIO at (916) 322-2990

California Air Resources Board (5/4/16)

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1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
 2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above $150 \mu\text{g}/\text{m}^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
 3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
 4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
 5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
 6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
 7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
 8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
 9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from $15 \mu\text{g}/\text{m}^3$ to $12.0 \mu\text{g}/\text{m}^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at $35 \mu\text{g}/\text{m}^3$, as was the annual secondary standard of $15 \mu\text{g}/\text{m}^3$. The existing 24-hour PM10 standards (primary and secondary) of $150 \mu\text{g}/\text{m}^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
 10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
 11. 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 one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
 12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
 13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ($1.5 \mu\text{g}/\text{m}^3$ 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.
 14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990

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Table 3
Project Area Air Quality Monitoring Summary

Pollutant/Standard	2019	2020	2021	2022
Ozone (O₃)¹				
<i>Number of Days Standards Exceeded</i>				
1-Hour > 0.09 ppm (S)	26	34	25	17 ²
8-Hour > 0.07 ppm (F)	64	74	55	37
<i>Maximum Observed Concentration</i>				
Max. 1-Hour Conc. (ppm)	0.118	0.125	0.117	0.121
Max. 8-Hour Avg. (ppm)	0.095	0.106	0.094	0.091
Nitrogen Dioxide (NO₂)²				
<i>Number of Days Standards Exceeded</i>				
1-Hour > 0.18 ppm (S)	0	0	0	0
<i>Maximum Observed Concentration</i>				
Max. 1-Hour Conc. (ppm)	0.0380	0.0436	0.0437	0.0474
Inhalable Particulates (PM-10)²				
<i>Number of Days Standards Exceeded</i>				
24-Hour > 50 µg/m ³ (S)	5	7	4	1
24-Hour > 150 µg/m ³ (F)	0	0	0	0
<i>Maximum Observed Concentration</i>				
Max. 24-Hr. Conc. (µg/m ³)	93	84	89	91
Ultra-Fine Particulates (PM-2.5)³				
24-Hour > 35 µg/m ³ (F)	4	5	10	1
Max. 24-Hr. Conc. (µg/m ³)	46.7	38.7	82.1	38.5
¹ Data from Perris monitoring station ² Data from Lake Elsinore monitoring station ³ Data from Rubidoux monitoring station Source: SCAQMD, Historical Data by Year, Air Quality Data Tables downloaded from: https://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year Notes: S = State; F = federal; µg/m ³ = micrograms per cubic meter of air				

Regulatory Setting

Federal

Clean Air Act (CAA)

The CAA regulates sources of air emissions within the United States. The CAA requires U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants that are common in outdoor air, considered harmful to public health and the environment, and that come from numerous and diverse sources. The six criteria pollutants regulated by the EPA through the NAAQS are: CO, NO₂, O₃, particulate matter (PM-10, PM-2.5), SO₂, and Pb. The EPA designates areas in the nation as in attainment, nonattainment, or maintenance in regard to the NAAQS for each criteria pollutant. For nonattainment or maintenance areas states are tasked with the development of State Implementation Plans (SIPs) to bring the area into attainment. Areas must be brought into attainment by a certain date for each pollutant. This attainment date is set by the EPA according to the severity of nonattainment. The areas in Riverside County within the air basin are currently in nonattainment for 8-Hour Ozone and PM 2.5 standards. The EPA also establishes vehicle emission standards for vehicles sold in states other than California, which maintains stricter vehicle emission standards than the EPA.

State

California Clean Air Act (CCAA)

The CCAA was adopted in 1988 to require state air districts to meet California Ambient Air Quality Standards (CAAQS) developed by the California Air Resources Board (CARB), which is responsible for administering the CCAA. The CAAQS meet or exceed the NAAQS and in some cases use calculation methods that are different from the NAAQS. CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county levels as part of the state's SIPs. The CCAA requires CARB to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under state standards, Riverside County within the SCAB is designated as a nonattainment area for O₃, PM-10, and PM-2.5. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as nonattainment.

Regional

The air basins are geographic areas that share common airsheds. Administratively, cities and counties either fall under the authority of a county air pollution control district (APCD) or a multi-county air quality management district (AQMD). These local districts have the responsibility of administering and enforcing the CCAA and controlling air pollution emissions from stationary sources within their jurisdictions. The air quality plans developed by these bodies are part of California's SIPs. The project site falls within the boundaries of the SCAQMD which is responsible for developing the regional Air Quality Management Plan (AQMP). The 2022 AQMP is a regional blueprint for achieving the CAAQS, and it represents a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures. The Southern California Association of Governments (SCAG) develops portions of the AQMP that address transportation control measures, land use, and growth projections within districts that have not met air quality standards. The 2022 AQMP relies on the growth estimates and transportation control measures found in the SCAG 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The land use and transportation control measures of the RTP/SCS are a component of the SIP to reach attainment.

Local

Local governments are responsible for land use planning and review, mitigation of any air quality impacts that result from development projects, development and maintenance of local transportation infrastructure, and development and implementation of local air quality programs, if any. The City of Perris does not have any specific programs or legislation regarding air quality.

4.0 PROPOSED DEVELOPMENT

The project site would be graded in preparation for construction, necessitating the import of approximately 2,000 cubic yards of soil. The project would construct three single-story concrete tilt-up light industrial buildings of 20,340, 22,465, and 23,881 square-feet in size. The project will provide 151 parking spaces and have dedicated loading areas at the rear of each building. Additionally, approximately 28,880 square feet of landscaping will be installed. **Figure 3, Site Plan** depicts the layout of the proposed structure, driveways, and surface parking spaces within the property.



Source: Arcadia Studio Landscape Architects, Sept. 13, 2022.

5.0 AIR QUALITY IMPACTS

Significance Criteria

State CEQA Guidelines

Air quality impacts of a project are considered significant if they cause clean air standards to be violated where they are currently met, or if they substantially contribute to an existing violation of standards. Substantial emissions of air contaminants for which there is no safe exposure, or nuisance emissions such as dust or odors, that are generated by a project, would also be considered significant impacts.

As set forth in Appendix G, Environmental Checklist, of the State CEQA Guidelines, a project could have a potentially significant impact if it 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; and/or
- d. Result in other emissions such as those leading to odors adversely affecting a substantial number of people.

Air Quality Plan Consistency and Criteria Pollutant Significance Thresholds

AQMP Consistency

The SCAQMD's 2022 Air Quality Management Plan (AQMP) is the area's applicable air quality plan. As part of the SIP the AQMP is designed to reduce air pollution year over year and bring the region into attainment as applicable. The project could conflict with the AQMP if it significantly deviated from the projected growth estimates that underline the pollution control measures developed in the plan.

Growth estimates used to prepare the AQMP are derived from the Southern California Association of Governments (SCAG) 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Riverside County is projected to add 186,000 new jobs between 2020 and 2035 and increase in population by 503,000 people. The project would be estimated to employ approximately 96 people based upon trip generation estimates. The number of jobs created by the project and the potential households that could move from outside of the County for the jobs would be well within expected growth projections for the County. The project would therefore be consistent with the assumptions the AQMP is based upon. The project also does not change the land-use designation or zoning of the project site, and therefore does not affect the assumptions the AQMP is based upon.

However, the project's consistency with the AQMP is primarily based upon its consistency with SCAQMD's project impact evaluation thresholds. The SCAQMD significance thresholds were established to assess impacts of project-related criteria pollutant emissions. Non-exceedance of these thresholds demonstrates consistency with the AQMP and a less than significant CEQA impact.

As the amount of a secondary pollutant that may result from a project cannot be quantified by direct measurement of its emissions from a source, the SCAQMD has designated significant emissions levels of precursor components as surrogates for evaluating whether a project's emissions could result in significant regional air quality impacts associated with secondary pollutants. Projects with daily emissions that exceed

any of the emission thresholds shown in **Table 5, SCAQMD CEQA Daily Emissions Thresholds**, are recommended by the SCAQMD to be considered significant under CEQA.

Table 5
SCAQMD CEQA Daily Emissions Thresholds

Pollutant	Construction	Operations
Reactive Organic Gasses (ROG)	75	55
Oxides of Nitrogen (NO _x)	100	55
Carbon Monoxide (CO)	550	550
Particulate Matter (PM-10)	150	150
Particulate Matter (PM-2.5)	55	55
Sulfur Oxides (SO _x)	150	150

Source: SCAQMD CEQA Air Quality Significance Thresholds. Revision March 2023.

Construction Activity Impacts

Dust is typically the primary concern during the construction of projects that would involve land clearing and grading. Because such emissions are not amenable to collection and discharge through a controlled source, they are called “fugitive emissions.” Emission rates vary as a function of many parameters (including soil silt, soil moisture, wind speed, area disturbed, number of vehicles, and depth of disturbance or excavation).

The California Emissions Estimator Model (CalEEMod) is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. The model quantifies direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The model was developed for the California Air Pollution Officers Association in collaboration with the California Air Districts.

The proposed project’s estimated construction emissions were modeled using CalEEMod Version 2022.1.1.21 to identify maximum daily emissions for each pollutant during project construction. The output report from CalEEMod are included as **Appendix A** to this report.

Maximum daily pollutant emissions from construction activities include emissions from worker trips, hauling trips, construction vehicle emissions and fugitive dust from Site Preparation, Grading, Paving, Building construction, and Architectural Coating phases. Construction emissions were modeled based on the size of the project site, the proposed land use type, the size of the structures, amount of parking and other hardscape, and the amount of landscaping of the site. A conceptual construction equipment fleet list and approximate duration of each construction phase is shown in **Table 6, Conceptual Construction Equipment Fleet**.

Table 6
Conceptual Construction Equipment Fleet

Construction Phase	Duration (Working days)	Equipment Type (Quantity)
Site Preparation (Grubbing and Stump removal)	5	3 Rubber-tired Dozer
		4 Tractor/Loader/Backhoe
Grading (including soil import)	8	1 Grader
		1 Rubber-tired Dozer
		1 Excavator
		3 Tractor/Loader/Backhoe
Building Construction	230	3 Tractor/Loader/Backhoes
		1 Crane
		3 Forklifts
		1 Generator Set
		1 Welder
Paving	18	1 Paver
		2 Cement and Mortar Mixers
		2 Paving equipment
		2 Rollers
Architectural Coating (painting)	18	1 Tractor/Loader/Backhoe
		1 Air Compressor

Source: CalEEMod Report, January 2024 (Appendix A).

The project’s estimated maximum daily construction emissions, as calculated by CalEEMod, are listed in **Table 7, Maximum Daily Construction Emissions (pounds/day)**. All construction grading projects in the SCAB must comply with the requirements of SCAQMD Rule 403, Fugitive Dust, which requires the implementation of Best Available Control Measures for all fugitive dust sources. SCAQMD Rule 403, Control Measure 08-2 states that during earth moving activities, projects are required to “Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction.” Therefore, pursuant to SCAQMD Rule 403, the project would be required to implement adequate watering of exposed surfaces during grading.

Table 7
Maximum Daily Construction Emissions (pounds/day)

	ROG	NO _x	CO	SO ₂	PM-10	PM-2.5
Maximum Daily Construction Emissions	34.5	36.05	34.03	<0.1	9.5	5.5
SCAQMD Thresholds	75	100	550	150	150	55
Significant Impact? Yes/No	No	No	No	No	No	No

Source: CalEEMod Report, January 2024 (Appendix A). Maximum for Summer or Winter, whichever is greater. Estimates based on application of water for dust suppression as required by SCAQMD Rule 403 – Fugitive Dust.

As seen in Table 7, peak daily construction activity emissions of criteria air pollutants are estimated to be far below the SCAQMD thresholds of significance. Therefore, construction period air quality impacts of the project would be less than significant.

Operational Impacts

During operations, the proposed use would result in emissions of criteria pollutants from area sources (i.e., consumer products, architectural coatings, and landscaping equipment), energy sources (electricity and

natural gas usage), and mobile sources (vehicle use). Three electric forklifts, one for each building, were added to the operational profile assuming one or more tenants will utilize such equipment. The SCAQMD thresholds for air quality impacts from operations are shown in Table 4. Operations of the proposed development would not be anticipated to exceed SCAQMD significance thresholds for criteria pollutants, as shown in **Table 8, Maximum Daily Operations Emissions (pounds/day)**.

Table 8
Maximum Daily Operations Emissions (pounds/day)

Project Emissions Sources	ROG	NO_x	CO	SO₂	PM-10	PM-2.5
Mobile	0.6	1.9	7.8	<0.1	2.1	0.5
Area	2.1	<0.1	2.9	< 0.1	< 0.1	< 0.1
Energy	<0.1	0.5	0.4	< 0.1	< 0.1	<0.1
Total	2.7	2.4	11.1	<0.1	2.1	0.6
SCAQMD Thresholds	55	55	550	150	150	55
Significant Impact? Yes/No	No	No	No	No	No	No
Source: CalEEMod Report, January 2024 (Appendix A). Figures are for Summer or Winter season emissions, whichever is greater. Totals may not add due to rounding.						

As seen in Table 8, the project’s total operational emissions would be far below SCAQMD thresholds. Therefore, operational impacts of the project would be less than significant.

Expose sensitive receptors to substantial pollutant concentrations

Sensitive Receptors

Air quality impacts are analyzed relative to those persons with the greatest sensitivity to air pollution exposure. Such persons are called “sensitive receptors.” Sensitive receptors include the elderly, young children, the acutely and chronically ill (e.g., those with cardio-respiratory disease, including asthma), and persons engaged in strenuous work or exercise. As discussed in the Project Setting, surrounding development includes primarily warehouses and some vacant lots. The nearest sensitive receptor is a single-family residence located approximately 0.25 miles southeast from the project site off of Nance Street.

The single-family residence is not close enough to the project site to experience significant air quality impacts from the project either during construction or operation. The SCAQMD developed the localized significance threshold (LST) methodology to determine whether or not a project may generate significant adverse localized air quality impacts. An LST analysis is employed as a screening tool to determine if there is a potential for air quality impacts to nearby sensitive receptors. LSTs are developed based upon the size or total area of the emissions source, the ambient air quality in the subject area, and the distance to the sensitive receptor. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard and are developed based on the ambient concentrations of that pollutant for each source receptor area. When a receptor is close to a project site it’s possible to have an LST impact even though the SCAQMD construction emission thresholds have not been violated. The further the source is from the receptor the greater emissions must be in order to cause an impact, and at 500 meters (approximately 0.31 miles), the furthest distance considered in LSTs, emissions must exceed the standard construction emission thresholds in order to create

an impact.³ As shown in Table 7 the project's construction emissions fall well below the construction emission thresholds and therefore would not approach the level necessary to create an LST impact.

Another potential construction-related impact to sensitive receptors would be DPM, a TAC produced by diesel engines, which includes heavy-duty construction equipment. However, any measurable DPM from the project would occur only for a brief period during construction hours when heavy duty equipment is in use. The dissipation of DPMs into the atmosphere from a piece of equipment traveling to different parts of the site for a few hours in a day, for a period of a few weeks, would not create significant impacts 0.25 miles from the site.

Operations will not result in impacts to sensitive receptors as the project consists of three light industrial buildings, and all activity at such facilities must be conducted within an enclosed building. Any sort of permitted use that might produce emissions would be limited to what can be accommodated within an enclosed building where emissions are filtered through HVAC systems or directed through specialty exhaust systems, subject to health and safety requirements pertaining to the occupancy of the building and the use in question. Truck traffic will increase but would not result in localized impacts as Perris Boulevard is an eight-lane major arterial designed to accommodate industrial truck traffic from a build-out scenario, and the project's contribution of 284 trips per day would not be enough to significantly impair the roadway or intersections to a degree where congestion generates localized air quality issues at the sensitive receptor.

Odor Impacts

Land uses typically associated with objectionable odors that can potentially adversely affect a substantial number of people include certain types of agriculture, sewage treatment plants, landfills, green waste facilities, recycling facilities, petroleum refineries, chemical manufacturing, rendering plants, and certain types of food manufacturing. Within the light industrial zone all activity must occur within an enclosed building, and the sort of uses that might produce objectionable odors are either not allowed or allowed only by a Conditional Use Permit (CUP). The CUP process would address the potential of the proposed use to produce objectionable odors and would apply conditions to address such odors if they were anticipated. However, most commercial or light industrial uses that produce odors, such as commercial food production for example, are already required per the SCAQMD and/or the California Building Code to install specific air handling equipment designed to reduce odors. For instance, if a food manufacturing operation uses solvents the VOC content must remain below a certain ratio, or a VOC emissions control system must be installed (SCAQMD Rule 1131). As most odor-producing uses that might be located in a light industrial facility will be required to contain odors and/or install specific odor-control equipment as a matter of standard regulatory compliance, and any potential outlier uses that may not be captured by such regulation would be captured by the CUP process, potential odor impacts from operations would be less than significant.

During construction, the application of certain materials (i.e., asphalt, paints, etc.) may generate odors within various portions of the site that would be temporary in nature and are common to construction projects. For operations, the project will include enclosure for trash and recyclable bins, to be emptied on a regular basis. As described above, the project is surrounded by industrial uses and open spaces, and there are no sensitive receptor land uses in the immediate vicinity of the project site. The fact that all activity on site will take place within an enclosed building, any uses that might produce objectionable odors would only be permitted through the CUP process, and there are no sensitive receptors near the facility would result in a less than significant impact regarding the potential to generate objectionable odors that adversely

³ SCAQMD, Final Localized Significance Threshold Methodology, Appendix C - Mass Rate LST Look-up Table, Revised October 21, 2009.

affect a substantial number of people, and odor impacts of the project during construction and operation would be less than significant.

6.0 GREENHOUSE GAS EMISSIONS (GHG) IMPACT

Greenhouse Gasses Overview

Greenhouse gases (GHGs) emitted by human activity are implicated in global climate change. These GHGs contribute to an increase in the temperature of the earth's atmosphere by preventing long wavelength heat radiation in some parts of the infrared spectrum from leaving the atmosphere. For purposes of planning and regulation, Section 15364.5 of the California Code of Regulations defines GHGs as including CO₂, CO, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Carbon dioxide is the primary GHG emitted in California, accounting for 84 percent of total GHG emissions in 2015. Because the warming potential of the identified GHGs differ, GHG emissions are typically expressed in terms of CO₂ equivalents (CO₂e), providing a common expression for the combined volume and warming potential of the GHGs generated by a particular emitter. The total GHG emissions from individual sources are generally reported in metric tons (MT) and are expressed as MT of CO₂ (MTCO₂e).

Fossil fuel combustion in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. The transportation sector, primarily on-road travel, is the single largest source of CO₂ emissions in California. Additionally, about 50 percent of the industrial source emissions of CO₂ are from the refinery and oil and gas sectors. When the industrial source emissions from the oil and gas sectors are attributed to the transportation sector, the emissions associated with transportation amount to approximately half of statewide GHG emissions.

Regulatory Setting

The following includes a discussion of federal, state, and local regulations associated with GHG emissions.

Federal

Federal Clean Air Act

The U.S. Environmental Protection Agency (EPA) is responsible for implementing federal policy to address GHGs. In *Massachusetts v. EPA* (549 US 497 [2007]) the U.S. Supreme Court found that CO₂ and other greenhouse gases (GHGs) are pollutants under the Clean Air Act (CAA) and could be regulated by the EPA. The Court did not require the EPA to regulate GHG emissions, but indicated the agency must decide whether GHGs cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare. On December 7, 2009 the EPA administrator made two findings regarding GHGs under Section 202(a) of the CAA:

Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases (CO₂, methane [CH₄], nitrous oxide [N₂O], hydrofluorocarbons [HFCs], perfluorocarbons [PFCs], and sulfur hexafluoride [SF₆]) in the atmosphere threaten the public health and welfare of current and future generations.

Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution that threatens public health and welfare.

These findings did not impose any requirements; however, the action was a prerequisite for implementing GHG emissions standards for vehicles and other sectors.⁴ Subsequently these findings were used to modify existing Corporate Average Fuel Economy (CAFE) standards.

In March 2020, the U.S. Department of Transportation (USDOT) and the EPA issued the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, which further amended existing CAFE standards and tailpipe CO₂ emissions standards for passenger cars and light trucks and established new standards covering model years 2021 through 2026.

State

Executive Order S-3-05

Former Governor Schwarzenegger's 2005 Executive Order S-3-05 included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several state agencies to cooperate in the development of a CAP. The Secretary of the California Environmental Protection Agency (Cal EPA) leads the Climate Action Team (CAT), whose goal is to implement global warming emission reduction programs identified in the CAP and to report biannually on the progress made toward meeting the emission reduction targets established in the Executive Order.

Assembly Bill 32, The Global Warming Solutions Act of 2006

California Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006, provided authorization to CARB to develop regulations and market mechanisms to reach the GHG emissions goals established by Executive Order S-3-05 in 2005. Pursuant to AB 32, CARB identified 427 million MT CO₂e as the total statewide aggregated 1990 GHG emissions level, which served as the 2020 emissions limit. The state achieved its 2020 GHG emissions reductions target of returning to 1990 levels in 2016.

Executive Order B-30-15

In 2015, Governor Brown issued Executive Order B-30-15, which created an interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030, replacing the 2005 target.

Senate Bill 32, California Global Warming Solutions Act of 2016

California Senate Bill 32 (SB 32), the California Global Warming Solutions Act of 2016: emissions limit, was passed in 2016 as a follow-up to AB 32, authorizing CARB to create regulations in pursuit of the GHG emissions target set in the 2015 executive order.

Executive Order B-55-18

Executive Order B-55-18, issued by Governor Brown in 2018, established a statewide policy goal to achieve carbon neutrality as soon as possible and no later than 2045, and to achieve and maintain net negative emissions thereafter. The Order states that this new goal is in addition to the prior statewide targets for reduction of GHG emissions.

⁴ United States Environmental Protection Agency, Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, Accessed March 13, 2023 at: <https://www.epa.gov/climate-change/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a>.

Assembly Bill 1279, California Climate Crisis Act

Assembly Bill 1279, known as the California Climate Crisis Act, was enacted September 16, 2022. It codifies previous executive orders by requiring California to achieve net zero greenhouse gas emissions as soon as possible, but no later than 2045, and to achieve and maintain net negative GHG emissions thereafter. It also requires that statewide anthropogenic GHG emissions be reduced to at least 85 percent below 1990 levels by 2045.

Climate Change Scoping Plan

As required by AB 32, CARB was tasked with preparing a scoping plan that identified strategies for reducing GHG emissions. The first Climate Change Scoping Plan was adopted in December 2008 and gets updated every 5-years. So far there have been three updates on the Scoping Plan. Each update builds upon the existing strategies and recommendations from the previous plan and identifies opportunities to leverage existing and new funds.

The 2022 Climate Change Scoping Plan was finalized in December 2022 and is focused on the goal of obtaining carbon neutrality by 2045 or earlier. This is the first updated Scoping Plan that has added carbon neutrality as a science-based guide where it identifies technologically feasible, cost effective and equity-focused path to carbon net zero. GHG emission targets set in the Scoping Plan are attained in part through regional sustainable communities strategies developed by the metropolitan planning organizations.

Senate Bill 375, the Sustainable Communities and Climate Protection Act

Senate Bill 375, the Sustainable Communities and Climate Protection Act, passed in 2008, requires CARB to develop and set regional targets for GHG emission reductions from passenger vehicles. Targets are set regionally for each of the 18 metropolitan planning organization (MPO) regions. Each MPO is required to develop a Sustainable Communities Strategy (SCS) that will reduce GHG emissions to achieve the regional targets. The SCS is a component to the Regional Transportation Plan (RTP), which regulates transportation financing in each region. The RTP and SCS must complement each other and accommodate the Regional Housing Needs Allocation (RHNA). The bill modified the RHNA requirements to align with production of the RTP/SCS. The purpose of this coordination is for each MPO to arrive at a mix of transportation and land use strategies that will direct the region's growth in such a way that emissions from car trips meet the GHG reduction targets.

The Southern California Association of Governments (SCAG) is the MPO for the County of Riverside (along with the Counties of Imperial, San Bernardino, Los Angeles, Orange, and Ventura). The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020-2045 RTP/SCS aka Connect SoCal) is the most recent RTP/SC adopted by SCAG. The 2020-2045 RTP/SCS is a long-range visioning plan that examines existing land use and transportation conditions throughout the SCAG region and forecasts how the plan will meet the region's transportation needs between 2020 and 2045, as well as achieve CARB's GHG emissions reduction targets. On September 3, 2020, SCAG's Regional Council adopted the 2020-2045 RTP/SCS. On October 30, 2020, CARB officially determined that the 2020-2045 RTP/SCS would achieve CARB's 2035 GHG emission reduction target of 19 percent below 2005 per capita emissions levels.

Senate Bill 743

Senate Bill 743, passed in 2013, established that CEQA transportation impacts would no longer be measured by level of service (LOS), but rather by vehicle miles traveled (VMT). This eliminated vehicle delay as an environmental impact and complemented the purposes of SB 375.

Regional/Local

SCAG Regional Transportation Plan/Sustainable Communities Strategy

The SCAG 2020-2045 RTP/SCS, also referred to as Connect SoCal, demonstrates the region's ability to attain and exceed the state's GHG emission reduction targets. The RTP/SCS is a regional plan for integrating the transportation network and related strategies with an overall land use pattern to accommodate projected growth, housing needs, and transportation demands. The 2020-2045 RTP/SCS has been found to meet the state targets for reducing GHG emissions from cars and light trucks, as it achieves per capita GHG emission reductions relative to 2005 levels of eight percent in 2020, and 19 percent in 2035, which meet the GHG reduction targets that were established by CARB for the SCAG region.⁵ An updated 2024-2050 RTP/SCS has been adopted by SCAG, but as it has not yet been reviewed and certified by CARB the 2020-2040 RTP/SCS remains the proper document for analysis purposes.

Western Riverside Council of Governments (WRCOG)

The Western Riverside Council of Governments (WRCOG) is a member organization representing Riverside County cities and agencies that facilitates cooperative planning, coordination, and technical assistance on issues of mutual concern amongst jurisdictions. In 2014 WRCOG passed a Climate Action Plan, dubbed CAPtivate: A Healthy Western Riverside County, which established subregional GHG emissions targets of 15% below 2010 levels by 2020 and 49% below 2010 levels by 2035. The CAP did not have binding provisions upon member agencies but provided a cooperative framework and context for local action.

City of Perris

The City of Perris Climate Action Plan adopted in February 2016 was modeled on the WRCOG CAP. The CAP was intended to address the 2020 emission targets and included measures for the City to take. As the CAP only addressed 2020 emission targets and included actions for the municipality to take, it would not be applicable to current development.

Thresholds of Significance

Based on the CEQA Appendix G guidelines, a project would have a potentially significant GHG impact if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy or regulation adopted to reduce GHG emissions.

Because individual projects do not generate sufficient GHG emissions that would substantially affect climate change; the issue of climate change typically involves an analysis of whether a project's contribution toward an impact is cumulatively considerable. As defined by the California Environmental Quality Act (CEQA Guidelines) Section 15355, "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects.

The CEQA Guidelines Section 15064.4(a) states that a lead agency shall have discretion to determine, in the context of a particular project, whether to:

⁵ Southern California Association of Governments, 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy, Adopted September 3, 2020.

-
- 1) Quantify greenhouse gas emissions resulting from a project; and/or
 - 2) Rely on a qualitative analysis or performance based standards.

Additionally, the Section 15064.4(b) states that “In determining the significance of a project’s greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project’s emissions to the effects of climate change,” and that the following factors should be considered:

- 1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- 2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- 3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b)).

CEQA Guidelines Section 15064.4 does not establish a threshold of significance for GHG emissions. Lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look to thresholds developed by other public agencies or suggested by other experts (see CEQA Guidelines Section 15064.7(c)). Pursuant to CEQA Guidelines Section 15064.7(b), “Thresholds of significance to be adopted for general use as part of the lead agency’s environmental review process must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process and be supported by substantial evidence.” Neither the City nor the SCAQMD have adopted a numeric threshold for the analysis of GHG impacts. In the absence of any applicable adopted numeric threshold, the significance of the Project’s GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(3) by considering the “extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b)).” Section 15183.5(b) lists what elements a plan must contain in order to be used for the purposes of cumulative impacts analysis. Currently there is no state, regional, or local plan applicable to the project that meets all of the criteria. However, of the various policy and regulatory documents available, SCAG’s 2020-2045 RTP/SCS most closely fulfills the necessary criteria.

Project GHG Emissions

As discussed above, there is no bright-line numeric threshold for determining the potential significance of GHG emissions that would be applicable to the proposed project. However, pursuant to CEQA Guidelines Section 15064.4(a), which states that “A lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a project,” the project’s estimated annual GHG emissions were calculated using CalEEMod 2022.1.1.21, which are presented for discussion purposes. The CalEEMod output data for the proposed project, which also reports input data of project details that were used in the model, is provided in Appendix A. Project-specific details and design features used in CalEEMod to calculate GHG emissions are the same as those used in the analysis of air quality criteria pollutants discussed above.

Construction GHG Emissions Methodology and Analysis

During construction, the project would generate GHG emissions primarily from the use of internal combustion engines to power onsite equipment as well as offsite transportation of workers and materials. The project’s total construction activity emissions were modeled using CalEEMod Version 2022.1.1.21

using the same project-specific data inputs and design features used to model daily emissions of criteria pollutants discussed above. The project’s estimated GHG emissions are shown in the CalEEMod report provided in Appendix A.

As estimated using CalEEMod 2022.1.1.13, the project’s construction activities would generate a total of approximately 375.1 MT CO₂e emissions. As construction emissions occur for a limited period of a project’s lifetime, as a standard practice, GHG emissions from construction are amortized over a presumed project lifetime. A project lifetime of 30 years is recommended by SCAQMD for amortizing construction-related GHG emissions.⁶ The proposed project’s amortized construction-related emissions would therefore be 12.5 MT CO₂e. The amortized construction emissions have been added to the project’s annual operational GHG emissions as shown in the following discussion.

Operational GHG Emissions Methodology and Analysis

During operations, the project would generate GHG emissions from area sources, energy use, mobile, water use, and waste disposal. The project’s estimated GHG emissions are shown in the CalEEMod report provided in Appendix A. Area sources include emissions from consumer product use (such as cleaning supplies), architectural coatings such as paints (averaged on an annual basis assuming all surface areas are repainted once every 10 years), and landscape maintenance equipment (i.e., lawn mowers, leaf blowers, etc.). Energy sources include electricity and natural gas use.

Mobile sources include on-road motor vehicle use by employees, customers, guests, etc. Vehicle emission factors used in CalEEMod are based on EMFAC2021. Linscott, Law & Greenspan produced project trip generation rates for the project which were used to modify the vehicle fleet mix in the CalEEMod program with 83.1 percent of trips from passenger cars, 2.82 percent from two-axle trucks, 3.5 percent from three-axle trucks, and 10.58 percent from four-axle trucks. The calculated trip generation rate matched the default produced by the CalEEMod program, therefore, trip generation was not modified. The combination of trip generation and vehicle fleet mix data is used to estimate the CO₂e emissions associated with on-road motor vehicle use.

Table 9, Annual Greenhouse Gas Emissions, summarizes the estimated operational emissions as well as the amortized construction emissions based on the CalEEMod output files provided in Appendix A of this report.

**Table 9
Annual Greenhouse Gas Emissions**

Generation Source	MT CO ₂ e/year
Project Emissions	
Area Sources	1.4
Energy Utilization	295.0
Mobile Source ^b	420.5
Offroad	0.0
Solid Waste Generation	25.8
Water Consumption	38.1
Construction (Amortized)	12.5
Total Project Operational Emissions	793.3
Source: CalEEMod Report, January 2024 (Appendix A)	
Note: Totals may differ due to rounding.	

⁶ SCAQMD, Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, October 2008.

Plan Consistency

SCAG RTP/SCS

As explained in Regulatory Setting above, SCAG is the MPO for Riverside County, and the SCAG 2020–2045 RTP/SCS is the document that outlines the land use and transportation strategies necessary for the SCAG region to meet GHG emission reduction targets set by CARB in the Scoping Plan. As CARB has determined that the 2020-2045 RTP/SCS would achieve CARB’s 2035 GHG emission reduction target of 19 percent below 2005 per capita emissions levels, consistency with the RTP/SCS demonstrates consistency with the Scoping Plan.

The SCAG 2020-2045 RTP/SCS identifies areas within the SCAG region where the strategies of the plan are best realized; these are Priority Growth Areas (PGAs). PGAs include areas suitable for particular strategies and areas identified to already have crucial components for smart growth. These are Job Centers, TPAs (Transit Priority Areas), High Quality Transit Areas (HQTAs), Neighborhood Mobility Areas (NMAs), Livable Corridors, and Spheres of Influence. Per SCAG the project is within a Job Center and a High Quality Transit Area.⁷ PGAs account for just 4 percent of the SCAG region’s total land area, but are intended to accommodate 64 percent of forecasted household growth and 74 percent of forecasted employment growth between 2016 and 2045. Implementation of the SCS, which is determined to achieve CARB’s 2035 GHG emission reduction target of 19 percent below 2005 per capita emissions levels, consists of effecting the Priority Growth Area land use strategies.

Job Centers are Priority Growth Areas that have a significantly higher employment density than surrounding areas. These areas are intended for employment and residential growth as the length of vehicle trips are reduced when growth is concentrated. HQTAs are corridor-focused Priority Growth Areas within one half mile of an existing or planned fixed guideway transit stop or a bus transit corridor where buses pick up passengers at a frequency of every 15 minutes or less during peak commuting hours. Like Job Centers, HQTAs benefit from, and are beneficial to, more employment and residential growth.

The project proposes three light industrial buildings totaling 66,686 square-feet of floor space, creating more business and employment opportunities within a SCAG Job Center. Employment growth within a designated Job Centers realizes the goals of the SCS. In addition, as explained in AQMP Consistency in the Air Quality section above, the project aligns with the employment and population growth estimates of the 2020-2045 RTP/SCS. Therefore, the project does not conflict with the 2020-2045 RTP/SCS, nor by extension with the CARB Scoping Plan, and impacts would be less than significant.

GHG CEQA Conclusion

In the absence of an adopted quantitative threshold for determining the potential significance of GHG emissions that would be applicable to the project, in accordance with CEQA Guidelines Section 15064.4(b)(3), the determination of the significance of the project’s GHG emissions impact is based on a qualitative analysis considering the project’s consistency with applicable statewide, regional, and local plans adopted for the purpose of reducing GHG emissions. The project would be required to comply with applicable regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions as well as energy conservation standards of Title 24 Building Energy Efficiency Standards (Part 6) and Green Building Standards (Part 11). As explained above, the project would be consistent with the 2020-2045 RTP/SCS, the implementation of which CARB has stated would achieve the GHG per capita reduction by 2035, relative to 2005 levels, as established by CARB for

⁷ SCAG Regional Data Platform, Content Library, HQTA (2045) and Job Centers feature layers accessed at: [https://hub.scag.ca.gov/search?collection=Dataset&source=southern%20california%20association%20of%20governments%20\(scag\)&type=feature%20layer](https://hub.scag.ca.gov/search?collection=Dataset&source=southern%20california%20association%20of%20governments%20(scag)&type=feature%20layer), June 15, 2023.

the region.⁸ Therefore, the 2020-2045 RTP/SCS is the best available climate plan for evaluation of project consistency with state climate goals, and as the project’s land use aligns with the patterns established by SCAG in the RTP/SCS, project GHG emission impacts can be determined to be less than significant.

7.0 ENERGY IMPACT

Based on the CEQA Appendix G guidelines, a project would have a potentially significant energy impact if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Energy Usage

Construction

During construction, the project would use heavy-duty equipment associated with site preparation, grading, and paving, and large trucks for delivery of supplies and equipment. Construction equipment used on-site is listed above in Table 6 and the majority of the equipment would likely be diesel-fueled. However, smaller equipment such as welders and pumps may be electric-, gasoline-, or natural gas-fueled, but these are assumed to be diesel in the analysis below in order to produce conservative results.

According to the CARB on-road vehicle emissions factor model EMFAC2021(v1.0.2), Emissions Inventory,⁹ the average fuel economy for light duty vehicles operating in Riverside (SC) Sub-Area¹⁰ for the year 2024 is approximately 24.99 miles per gallon for gasoline-fueled vehicles and approximately 8.19 miles per gallon for all categories of diesel-fueled vehicles. Based on these modeled emissions factors; worker, vendor, and hauling trips; and off-road construction equipment generated by CalEEMod, the project consumption of diesel and gasoline during construction was calculated and is shown below in **Table 10, Fuel Consumption During Construction**. The calculations are provided in the Energy Consumption Worksheet in **Appendix B, Energy Consumption Worksheets**.

As shown below in Table 10, based on the CARB on-road vehicle emissions factor model EMFAC2021(v.1.0.2) and Energy Consumption Worksheet, project construction would consume a total of 45,271 gallons of diesel fuel and 5,263 gallons of gasoline per year. In 2023, 13.6 billion gallons of gasoline and 3.0 billion gallons of diesel, including off-road diesel, was sold in California.¹¹ Construction-related gasoline and diesel fuel use for the project would result in less than 0.01 percent of the fuel consumption in California. As such, the use of construction equipment and the transportation of materials and workers necessary during the temporary construction period would not represent a substantial proportion of annual gasoline or diesel fuel use in California.

⁸ California Air Resources Board, Executive Order G-20-239 Southern California Association of Governments’ (SCAG) 2020 Sustainable Communities Strategy CARB Acceptance of GHG Quantification Determination, October 30, 2020.

⁹ California Air Resources Board, EMFAC, Emissions Inventory, Accessed on September 19, 2024 at: <https://arb.ca.gov/emfac/emissions-inventory/6e2a513cf8ce2127434092f65c4b46f87c3d1ec0>

¹⁰ EMFAC divided Riverside into three sub-areas due to the size of the county. Perris is located Riverside (SC) Sub-Area based on the EMFAC “Region” map.

¹¹ California Department of Tax and Fee Administration, Diesel Fuel Data, Facts, and Statistics, Excel Available at: <https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm>

Table 10
Fuel Consumption During Construction

Energy Source	Quantity Demanded during Construction per Year
Transportation fuels^a	
<i>Gasoline</i>	
On-road Worker Trips	5,263 gallons
Gasoline Total	5,263 gallons
<i>Diesel</i>	
On-Road Haul Trucks ^b	1,146 gallons
On-road Vendor Trucks ^b	3,130 gallons
Off-road Construction Equipment ^c	40,995 gallons
Diesel Total	45,271 gallons
Source: Energy Consumption Worksheet, Appendix B.	
^a On-road mobile source fuel use based on VMT from CalEEMod and fleet-average fuel consumption in gallons per mile from EMFAC2021 web-based data for 2024 (construction year) for Riverside (SC) Sub-Area.	
^b Vendor and haul trucks are assumed to be diesel.	
^c All emissions from off-road construction equipment were assumed to be diesel. Off-road mobile source fuel usage based on a fuel usage rate of 0.05 gallons of diesel per horsepower (HP)-hour, based on the South Coast Air Quality Management District (SCAQMD) CEQA Air Quality Handbook, Table A9-3E.	

Adherence to CCR Section 2485 and CARB anti-idling regulations for off-road diesel-fueled fleets would reduce the potential for wasteful use of energy by construction equipment. Due to the temporary duration of construction and the necessity of fuel consumption inherent in construction projects, fuel consumption would not be excessive or substantial with respect to fuel supplies. The energy demands associated with fuel consumption during construction would be typical of projects of this size and would not necessitate additional energy facilities or distribution infrastructure or cause wasteful, inefficient or unnecessary consumption of energy. Therefore, the project’s potential to result in environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during construction would be less than significant.

Operations

During operations, the project would consume energy for vehicle trips, water conveyance, wastewater treatment, lighting, and to operate electronic equipment and devices and HVAC systems. This will generate demand from utilities; electricity from Southern California Edison (SCE) and natural gas from Southern California Gas (SoCalGas). According to the California Energy Commission, Riverside County consumed 17,780.6 millions of kilowatts (kWh) of electricity in 2022, and 431.1 millions of therms of natural gas.¹² The project’s estimated energy use during operations is summarized below in **Table 11, Project Operations Energy Use**.

As estimated by CalEEMod and shown in Table 11, the project’s total electricity demand would be approximately 1,163,215 kWh/year which would represent approximately 0.07 percent of the county’s yearly electricity demand, which is a negligible amount of total demand. Therefore, the project would not result in substantial increase in electricity demand. Total project demand for natural gas would be approximately 18,396 therms per year as estimated by CalEEMod outputs which would represent approximately 0.004 percent of the county’s natural gas consumption rate, which is a negligible amount. Therefore, the project would not result in a substantial increase in demand for natural gas. The project will be required to comply with the 2022 California Energy Code and California Green Building Standards Code

¹² California Energy Commission, California Energy Consumption Database, 2022 Electricity Consumption by County and Gas Consumption by County, accessible at: <http://www.ecdms.energy.ca.gov/>

(CALGreen Code), which establish planning and design standards for sustainable development, energy efficiency, water conservation, and material conservation.

Table 11
Project Operations Energy Use

Energy Source	Quantity Demanded during Operations per Year
Electricity	1,163,215 kWh
Natural Gas	1.8 million kBtu / 18,396 therms
Transportation Fuels ^a	
<i>Gasoline</i>	29,462 gallons
<i>Diesel</i>	16,678 gallons
Source: CalEEMod Annual output sheets, included in Appendix A.	
^a Project gasoline and diesel use during operations are calculated based on the VMT estimated by CalEEMod Annual Output. It is assumed that light-duty vehicles use gasoline, while heavy-duty (Gross Vehicle Weight Rating > 8,500 pounds) use diesel. The project calculates light-duty vehicles account for approximately 84.6 percent of project VMT. Calculations shown in Energy Consumption Worksheet, provided in Appendix B. Project gasoline and diesel use are calculated based on fuel consumption factors for calendar year 2025 from EMFAC2021 (25.56 miles per gallon for gasoline-fueled vehicles and 8.22 miles per gallon for diesel-fueled vehicles). kWh = kilowatt-hours kBtu = kilo-British Thermal Units	

According to the CARB on-road vehicle emissions factor model EMFAC2021(v1.0.2) Emissions Inventory, the average fuel economy for light duty vehicles operating in the Riverside (SC) Sub-Area for the year 2025 is approximately 25.56 miles per gallon for gasoline-fueled vehicles and approximately 8.22 miles per gallon for all categories of diesel-fueled vehicles. As shown in the Energy Consumption Worksheet provided in Appendix B, the project would generate approximately 890,041 VMT annually, 84.6 percent of which would comprise light-duty vehicles with a gross vehicle weight rating (GVWR) of up to 8,500 pounds, and approximately 15.4 percent of which would comprise heavy-duty vehicles (GVWR > 8,500 pound). Light-duty vehicles are considered to be gasoline powered and heavy-duty vehicles are considered to be diesel-fueled. As such, during operations the project would generate approximately 752,975 annual VMT with gasoline-fueled vehicles, and approximately 137,066 annual VMT with diesel-fueled vehicles. Based on the projected fleet fuel mileage for the year 2025, during operations the project's demand for transportation fuels would be approximately 29,462 gallons of gasoline, and approximately 16,678 gallons of diesel fuel, annually. According to the California Department of Tax and Fee Administration, 13.8 billion gallons of gasoline and 3.1 billion gallons of diesel fuel were sold in California in 2021, the majority of that being used for medium and heavy-duty commercial vehicles.¹³ The project's contribution to demand would equal .0002 percent of current demand for gasoline, and .0005 percent of the current demand for diesel fuel.

In summary, the project would result in the consumption of energy in the forms of electricity, natural gas, and transportation fuels at rates that represent only a negligible amount of current demand in the county. The project would be required to comply with federal, state, and local regulations aimed to reduce the inefficient, wasteful, and unnecessary consumption of energy. Conformance to these codes will ensure the project's buildings are designed to not require an excessive amount of energy to function and do not unnecessarily waste energy. Therefore, the project's energy requirements and its energy use efficiencies would result in a less-than-significant impact related to the wasteful, inefficient, and unnecessary consumption of energy.

¹³ California Department of Tax and Fee Administration. Fuel Taxes Statistics & Reports. Excel available at: <https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm>

Energy Plan Consistency

The City would review project site plans to verify compliance with the Building and Energy Efficiency Standards in the California Energy Code prior to issuing a building permit. As a regulatory requirement, the project would be reviewed for consistency with applicable State and local plans for renewable energy and efficiency, including CALGreen Code Title 24 standards. CALGreen Code standards require projects to provide energy saving features, establish minimum standards for energy efficient construction practices, and require increased energy efficiency. The project would be built to the codes in effect at the time of construction. In addition, the project would provide the required bicycle parking spaces and EV accommodations (parking spaces that are EV-capable or EV-ready, as well as spaces with EV charging equipment installed) that meet or exceed requirements of CALGreen. As the project would comply with regulatory requirements for building efficiency and incorporate features that encourage a reduction in the use of gasoline-fueled vehicles, the project would not conflict with a state or local plan for renewable energy or energy efficiency.

APPENDIX A

**CalEEMod Version 2022.1.1.21
Detailed Report**

March Plaza Industrial Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	March Plaza Industrial
Construction Start Date	9/3/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	9.00
Location	33.856829832532384, -117.22675813730984
County	Riverside-South Coast
City	Perris
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5580
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
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1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
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Industrial Park	66.7	1000sqft	4.42	66,686	28,880	0.00	—	—
Parking Lot	97.0	1000sqft	0.00	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Unmit.	1.26	10.9	15.3	0.03	0.90	0.51	3,157
Daily, Winter (Max)	—	—	—	—	—	—	—
Unmit.	34.5	36.1	34.0	0.05	9.49	5.47	5,548
Average Daily (Max)	—	—	—	—	—	—	—
Unmit.	2.36	5.78	7.91	0.01	0.47	0.27	1,633
Annual (Max)	—	—	—	—	—	—	—
Unmit.	0.43	1.06	1.44	< 0.005	0.09	0.05	270
Exceeds (Daily Max)	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	150	55.0	—
Unmit.	No	No	No	No	No	No	—
Exceeds (Average Daily)	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	150	55.0	—
Unmit.	No	No	No	No	No	No	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—
2025	1.26	10.9	15.3	0.03	0.90	0.51	3,157
Daily - Winter (Max)	—	—	—	—	—	—	—
2024	3.73	36.1	34.0	0.05	9.49	5.47	5,548
2025	34.5	11.0	14.8	0.03	0.90	0.51	3,123
Average Daily	—	—	—	—	—	—	—
2024	0.28	2.59	3.01	0.01	0.36	0.21	632
2025	2.36	5.78	7.91	0.01	0.47	0.27	1,633
Annual	—	—	—	—	—	—	—
2024	0.05	0.47	0.55	< 0.005	0.07	0.04	105
2025	0.43	1.06	1.44	< 0.005	0.09	0.05	270

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Unmit.	2.68	2.42	11.1	0.03	2.09	0.59	5,252
Daily, Winter (Max)	—	—	—	—	—	—	—
Unmit.	2.56	1.59	8.26	0.02	2.03	0.56	4,471
Average Daily (Max)	—	—	—	—	—	—	—
Unmit.	2.43	2.29	8.05	0.03	1.82	0.51	4,733
Annual (Max)	—	—	—	—	—	—	—
Unmit.	0.44	0.42	1.47	< 0.005	0.33	0.09	784
Exceeds (Daily Max)	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	150	55.0	—

Unmit.	No	No	No	No	No	No	—
Exceeds (Average Daily)	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	150	55.0	—
Unmit.	No	No	No	No	No	No	—

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Mobile	0.58	1.91	7.76	0.03	2.05	0.54	3,026
Area	2.07	0.02	2.90	< 0.005	< 0.005	0.01	12.0
Energy	0.03	0.49	0.42	< 0.005	0.04	0.04	1,812
Water	—	—	—	—	—	—	230
Waste	—	—	—	—	—	—	156
Refrig.	—	—	—	—	—	—	17.4
Off-Road	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.68	2.42	11.1	0.03	2.09	0.59	5,252
Daily, Winter (Max)	—	—	—	—	—	—	—
Mobile	0.93	1.10	7.84	0.02	1.99	0.52	2,256
Area	1.60	—	—	—	—	—	—
Energy	0.03	0.49	0.42	< 0.005	0.04	0.04	1,812
Water	—	—	—	—	—	—	230
Waste	—	—	—	—	—	—	156
Refrig.	—	—	—	—	—	—	17.4
Off-Road	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.56	1.59	8.26	0.02	2.03	0.56	4,471

Average Daily	—	—	—	—	—	—	—
Mobile	0.48	1.78	5.65	0.02	1.78	0.47	2,540
Area	1.92	0.02	1.99	< 0.005	< 0.005	< 0.005	8.20
Energy	0.03	0.49	0.42	< 0.005	0.04	0.04	1,782
Water	—	—	—	—	—	—	230
Waste	—	—	—	—	—	—	156
Refrig.	—	—	—	—	—	—	17.4
Off-Road	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.43	2.29	8.05	0.03	1.82	0.51	4,733
Annual	—	—	—	—	—	—	—
Mobile	0.09	0.33	1.03	< 0.005	0.33	0.09	421
Area	0.35	< 0.005	0.36	< 0.005	< 0.005	< 0.005	1.36
Energy	< 0.005	0.09	0.08	< 0.005	0.01	0.01	295
Water	—	—	—	—	—	—	38.1
Waste	—	—	—	—	—	—	25.8
Refrig.	—	—	—	—	—	—	2.87
Off-Road	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.44	0.42	1.47	< 0.005	0.33	0.09	784

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—

Off-Road Equipment	3.65	36.0	32.9	0.05	1.60	1.47	5,314
Dust From Material Movement	—	—	—	—	7.67	3.94	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.49	0.45	< 0.005	0.02	0.02	72.8
Dust From Material Movement	—	—	—	—	0.11	0.05	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.09	0.08	< 0.005	< 0.005	< 0.005	12.1
Dust From Material Movement	—	—	—	—	0.02	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.08	0.10	1.10	0.00	0.23	0.05	234
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	< 0.005	< 0.005	3.26
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.54
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.90	18.2	18.8	0.03	0.84	0.77	2,969
Dust From Material Movement	—	—	—	—	2.77	1.34	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.40	0.41	< 0.005	0.02	0.02	65.1
Dust From Material Movement	—	—	—	—	0.06	0.03	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.08	< 0.005	< 0.005	< 0.005	10.8
Dust From Material Movement	—	—	—	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.07	0.09	0.95	0.00	0.20	0.05	201
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	2.58	0.61	0.01	0.61	0.20	2,296
Average Daily	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	< 0.005	< 0.005	4.47

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.06	0.01	< 0.005	0.01	< 0.005	50.4
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.74
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	8.34

3.5. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.20	11.2	13.1	0.02	0.50	0.46	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.17	1.56	1.82	< 0.005	0.07	0.06	334
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.28	0.33	< 0.005	0.01	0.01	55.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.13	0.16	1.77	0.00	0.37	0.09	375
Vendor	0.01	0.40	0.12	< 0.005	0.10	0.03	355
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—
Worker	0.02	0.02	0.26	0.00	0.05	0.01	52.9
Vendor	< 0.005	0.06	0.02	< 0.005	0.01	< 0.005	49.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.01	< 0.005	8.75
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	8.17
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	0.40	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	0.40	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.56	5.15	6.43	0.01	0.21	0.20	1,186
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.94	1.17	< 0.005	0.04	0.04	196
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—

Worker	0.13	0.12	2.16	0.00	0.37	0.09	401
Vendor	0.01	0.37	0.11	< 0.005	0.10	0.03	351
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.12	0.14	1.63	0.00	0.37	0.09	367
Vendor	0.01	0.38	0.12	< 0.005	0.10	0.03	350
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	0.06	0.07	0.85	0.00	0.18	0.04	184
Vendor	< 0.005	0.19	0.06	< 0.005	0.05	0.02	173
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	0.01	0.01	0.16	0.00	0.03	0.01	30.4
Vendor	< 0.005	0.03	0.01	< 0.005	0.01	< 0.005	28.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	0.71	6.52	8.84	0.01	0.29	0.26	1,355
Paving	0.00	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	0.71	6.52	8.84	0.01	0.29	0.26	1,355
Paving	0.00	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.32	0.44	< 0.005	0.01	0.01	66.8
Paving	0.00	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.08	< 0.005	< 0.005	< 0.005	11.1
Paving	0.00	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	0.09	0.09	1.54	0.00	0.26	0.06	286
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.08	0.10	1.17	0.00	0.26	0.06	262
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.06	0.00	0.01	< 0.005	13.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	< 0.005	< 0.005	2.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	1.14	< 0.005	0.03	0.03	134
Architectural Coatings	34.4	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.04	0.06	< 0.005	< 0.005	< 0.005	6.61
Architectural Coatings	1.69	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	1.09
Architectural Coatings	0.31	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.02	0.03	0.33	0.00	0.07	0.02	73.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	< 0.005	< 0.005	3.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.61
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Industrial Park	0.58	1.91	7.76	0.03	2.05	0.54	3,026
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.58	1.91	7.76	0.03	2.05	0.54	3,026
Daily, Winter (Max)	—	—	—	—	—	—	—
Industrial Park	0.93	1.10	7.84	0.02	1.99	0.52	2,256
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.93	1.10	7.84	0.02	1.99	0.52	2,256
Annual	—	—	—	—	—	—	—
Industrial Park	0.09	0.33	1.03	< 0.005	0.33	0.09	421
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.09	0.33	1.03	< 0.005	0.33	0.09	421

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	1,117
Parking Lot	—	—	—	—	—	—	0.00
undefined	—	—	—	—	—	—	103
Total	—	—	—	—	—	—	1,220
Daily, Winter (Max)	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	1,117
Parking Lot	—	—	—	—	—	—	0.00
undefined	—	—	—	—	—	—	103
Total	—	—	—	—	—	—	1,220
Annual	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	185
Parking Lot	—	—	—	—	—	—	0.00
undefined	—	—	—	—	—	—	12.1
Total	—	—	—	—	—	—	197

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Industrial Park	0.03	0.49	0.42	< 0.005	0.04	0.04	591
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.03	0.49	0.42	< 0.005	0.04	0.04	591
Daily, Winter (Max)	—	—	—	—	—	—	—

Industrial Park	0.03	0.49	0.42	< 0.005	0.04	0.04	591
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.03	0.49	0.42	< 0.005	0.04	0.04	591
Annual	—	—	—	—	—	—	—
Industrial Park	< 0.005	0.09	0.08	< 0.005	0.01	0.01	97.9
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	< 0.005	0.09	0.08	< 0.005	0.01	0.01	97.9

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Consumer Products	1.43	—	—	—	—	—	—
Architectural Coatings	0.17	—	—	—	—	—	—
Landscape Equipment	0.48	0.02	2.90	< 0.005	< 0.005	0.01	12.0
Total	2.07	0.02	2.90	< 0.005	< 0.005	0.01	12.0
Daily, Winter (Max)	—	—	—	—	—	—	—
Consumer Products	1.43	—	—	—	—	—	—
Architectural Coatings	0.17	—	—	—	—	—	—
Total	1.60	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Consumer Products	0.26	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—
Landscape Equipment	0.06	< 0.005	0.36	< 0.005	< 0.005	< 0.005	1.36
Total	0.35	< 0.005	0.36	< 0.005	< 0.005	< 0.005	1.36

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	230
Parking Lot	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	230
Daily, Winter (Max)	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	230
Parking Lot	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	230
Annual	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	38.1
Parking Lot	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	38.1

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	156
Parking Lot	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	156

Daily, Winter (Max)	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	156
Parking Lot	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	156
Annual	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	25.8
Parking Lot	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	25.8

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	17.4
Total	—	—	—	—	—	—	17.4
Daily, Winter (Max)	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	17.4
Total	—	—	—	—	—	—	17.4
Annual	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	2.87
Total	—	—	—	—	—	—	2.87

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	10/2/2024	10/9/2024	5.00	5.00	—
Grading	Grading	10/10/2024	10/21/2024	5.00	8.00	—
Building Construction	Building Construction	10/22/2024	9/9/2025	5.00	230	—
Paving	Paving	9/10/2025	10/5/2025	5.00	18.0	—
Architectural Coating	Architectural Coating	10/6/2025	10/31/2025	5.00	18.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29

Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	31.3	20.0	HHDT
Grading	Onsite truck	—	—	HHDT

Building Construction	—	—	—	—
Building Construction	Worker	28.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	10.9	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	5.60	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	100,029	33,343	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	7.50	0.00	—
Grading	2,000	0.00	8.00	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Industrial Park	0.00	0%
Parking Lot	0.00	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	349	0.03	< 0.005
2025	0.00	349	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMt/Weekday	VMt/Saturday	VMt/Sunday	VMt/Year
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Industrial Park	225	169	82.7	71,735	2,788	2,102	1,026	890,041
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	100,029	33,343	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Industrial Park	1,163,215	349	0.0330	0.0040	1,839,644
Parking Lot	0.00	349	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Industrial Park	15,421,138	457,913
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Industrial Park	82.7	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Industrial Park	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Forklifts	Electric	Average	3.00	8.00	82.0	0.20

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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5.17. User Defined

Equipment Type	Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	29.1	annual days of extreme heat
Extreme Precipitation	1.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	6.36	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	N/A	N/A	N/A	N/A
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The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—

AQ-Ozone	97.6
AQ-PM	53.3
AQ-DPM	47.8
Drinking Water	10.2
Lead Risk Housing	22.0
Pesticides	58.8
Toxic Releases	37.7
Traffic	81.9
Effect Indicators	—
CleanUp Sites	69.4
Groundwater	0.00
Haz Waste Facilities/Generators	53.5
Impaired Water Bodies	0.00
Solid Waste	40.1
Sensitive Population	—
Asthma	65.6
Cardio-vascular	90.6
Low Birth Weights	62.9
Socioeconomic Factor Indicators	—
Education	74.7
Housing	57.9
Linguistic	53.4
Poverty	64.5
Unemployment	15.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	36.04516874
Employed	38.00846914
Median HI	53.00911074
Education	—
Bachelor's or higher	28.6154241
High school enrollment	100
Preschool enrollment	5.440780187
Transportation	—
Auto Access	94.58488387
Active commuting	6.723983062
Social	—
2-parent households	87.71974849
Voting	9.636853587
Neighborhood	—
Alcohol availability	84.04978827
Park access	11.88245862
Retail density	29.21852945
Supermarket access	12.06210702
Tree canopy	0.590273322
Housing	—
Homeownership	79.23777749
Housing habitability	40.67753112
Low-inc homeowner severe housing cost burden	12.19042731
Low-inc renter severe housing cost burden	27.61452586
Uncrowded housing	47.8121391

Health Outcomes	—
Insured adults	26.49813936
Arthritis	79.8
Asthma ER Admissions	42.9
High Blood Pressure	64.8
Cancer (excluding skin)	87.6
Asthma	27.9
Coronary Heart Disease	81.5
Chronic Obstructive Pulmonary Disease	59.8
Diagnosed Diabetes	52.6
Life Expectancy at Birth	37.8
Cognitively Disabled	88.7
Physically Disabled	83.0
Heart Attack ER Admissions	7.5
Mental Health Not Good	28.5
Chronic Kidney Disease	64.9
Obesity	17.5
Pedestrian Injuries	92.5
Physical Health Not Good	37.9
Stroke	70.4
Health Risk Behaviors	—
Binge Drinking	30.9
Current Smoker	25.4
No Leisure Time for Physical Activity	29.5
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0

Children	35.2
Elderly	90.4
English Speaking	42.3
Foreign-born	59.5
Outdoor Workers	11.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	72.4
Traffic Density	65.3
Traffic Access	23.0
Other Indices	—
Hardship	70.6
Other Decision Support	—
2016 Voting	23.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	69.0
Healthy Places Index Score for Project Location (b)	30.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Three LI buildings with warehouse and office in each. Grouped together with a total of 66,616sf of structures and 4.42 acre lot area. Landscaping for all 3 is 28,880. Bldg 1: 23,881sf, 1.17ac lot; Bldg 2: 20,340sf, 1.01ac lot; Bldg 3: 22,465sf, 1.0ac lot. Parking for all included as square-footage to capture all paving on site including driveways 96,969sf
Construction: Construction Phases	No demolition necessary
Operations: Fleet Mix	Vehicle mix changed to match trip generation forecast.

APPENDIX B

ENERGY CONSUMPTION WORKSHEETS

March Plaza Project: Energy Calculations

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: Sub-Area

Region: Riverside (SC)

Calendar Year: 2024

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	Trips	Fuel Consumption
Riverside (SC)	2024	HHDT	Aggregate	Aggregate	Gasoline	7.5894759	347.969447	151.850234	0.09218082
Riverside (SC)	2024	LDA	Aggregate	Aggregate	Gasoline	469145.382	20418129.5	2185259.08	688.48366
Riverside (SC)	2024	LDT1	Aggregate	Aggregate	Gasoline	40643.2462	1523061.25	176144.612	62.0462469
Riverside (SC)	2024	LDT2	Aggregate	Aggregate	Gasoline	196761.157	8732860.79	923046.601	359.674683
Riverside (SC)	2024	LHDT1	Aggregate	Aggregate	Gasoline	17828.7373	656766.012	265621.621	48.3624755
Riverside (SC)	2024	LHDT2	Aggregate	Aggregate	Gasoline	2494.67918	89754.8185	37167.0027	7.38743171
Riverside (SC)	2024	MCY	Aggregate	Aggregate	Gasoline	24077.0623	140258.08	48154.1246	3.35921786
Riverside (SC)	2024	MDV	Aggregate	Aggregate	Gasoline	158529.759	6468418.76	725977.244	332.073691
Riverside (SC)	2024	MH	Aggregate	Aggregate	Gasoline	4781.77795	41623.5359	478.369066	8.51892641
Riverside (SC)	2024	MHDT	Aggregate	Aggregate	Gasoline	1238.0029	49965.9555	24769.962	9.58866664
Riverside (SC)	2024	OBUS	Aggregate	Aggregate	Gasoline	374.615309	12781.812	7495.3031	2.49660138
Riverside (SC)	2024	SBUS	Aggregate	Aggregate	Gasoline	423.581744	16753.4675	1694.32697	1.91482177
Riverside (SC)	2024	UBUS	Aggregate	Aggregate	Gasoline	146.21272	18511.1132	584.85088	3.28263308
							38169233.1		1527.28124

24.99 MPG

March Plaza Project: Energy Calculations

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: Sub-Area

Region: Riverside (SC)

Calendar Year: 2024

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	Trips	Fuel Consumption		
Riverside (SC)	2024	HHDT	Aggregate	Aggregate	Diesel	14792.0234	1911347.78	229293.292	313.043976		
Riverside (SC)	2024	LDA	Aggregate	Aggregate	Diesel	1473.04922	54327.453	6435.36311	1.26718876		
Riverside (SC)	2024	LDT1	Aggregate	Aggregate	Diesel	18.1692718	339.697964	52.253666	0.0138311		
Riverside (SC)	2024	LDT2	Aggregate	Aggregate	Diesel	611.214063	29007.7472	2948.95288	0.88042307		
Riverside (SC)	2024	LHDT1	Aggregate	Aggregate	Diesel	15247.6056	560367.921	191795.698	27.1917305		
Riverside (SC)	2024	LHDT2	Aggregate	Aggregate	Diesel	6844.92819	254103.358	86100.5858	14.8369793		
Riverside (SC)	2024	MDV	Aggregate	Aggregate	Diesel	2456.21958	102039.643	11374.8773	4.30663303		
Riverside (SC)	2024	MH	Aggregate	Aggregate	Diesel	2046.06373	17552.6108	204.606373	1.69404828		
Riverside (SC)	2024	MHDT	Aggregate	Aggregate	Diesel	12954.3675	564761.475	153141.805	63.0641452		
Riverside (SC)	2024	OBUS	Aggregate	Aggregate	Diesel	219.278917	15140.9127	2476.28675	1.95118161		
Riverside (SC)	2024	SBUS	Aggregate	Aggregate	Diesel	491.806399	10225.9918	7121.35666	1.39492564		
Riverside (SC)	2024	UBUS	Aggregate	Aggregate	Diesel	0.3117338	30.109711	1.2469352	0.00267512		
							3519244.7		429.647738		
									8.19 MPG		All Diesel
									6.11 MPG		Hauling (HHDT)

March Plaza Project: Energy Calculations

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: Sub-Area

Region: Riverside (SC)

Calendar Year: 2025

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	Trips	Fuel Consumption
Riverside (SC)	2025	HHDT	Aggregate	Aggregate	Gasoline	6.23225252	303.889871	124.694909	0.0788755
Riverside (SC)	2025	LDA	Aggregate	Aggregate	Gasoline	469318.534	20373765.8	2183259.55	673.316539
Riverside (SC)	2025	LDT1	Aggregate	Aggregate	Gasoline	39844.4289	1499609.57	172787.758	59.9207824
Riverside (SC)	2025	LDT2	Aggregate	Aggregate	Gasoline	201900.777	8973973.95	947238.813	360.016564
Riverside (SC)	2025	LHDT1	Aggregate	Aggregate	Gasoline	17598.3624	652458.21	262189.379	46.8273287
Riverside (SC)	2025	LHDT2	Aggregate	Aggregate	Gasoline	2462.30357	88408.9018	36684.6544	7.13320074
Riverside (SC)	2025	MCY	Aggregate	Aggregate	Gasoline	24005.4638	138549.793	48010.9277	3.30754962
Riverside (SC)	2025	MDV	Aggregate	Aggregate	Gasoline	157992.57	6448292.68	723018.644	323.49382
Riverside (SC)	2025	MH	Aggregate	Aggregate	Gasoline	4508.46753	38795.2921	451.027092	7.93917554
Riverside (SC)	2025	MHDT	Aggregate	Aggregate	Gasoline	1219.56756	49718.9829	24401.1077	9.41801699
Riverside (SC)	2025	OBUS	Aggregate	Aggregate	Gasoline	362.510285	12151.2828	7253.10578	2.34795066
Riverside (SC)	2025	SBUS	Aggregate	Aggregate	Gasoline	426.206731	16859.595	1704.82692	1.92304347
Riverside (SC)	2025	UBUS	Aggregate	Aggregate	Gasoline	146.495979	18545.8586	585.983915	3.28854319
							38311433.8		1499.01139

25.56 MPG

March Plaza Project: Energy Calculations

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: Sub-Area

Region: Riverside (SC)

Calendar Year: 2025

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	Trips	Fuel Consumption		
Riverside (SC)	2025	HHDT	Aggregate	Aggregate	Diesel	15281.499	1950611.48	237189.489	315.518254		
Riverside (SC)	2025	LDA	Aggregate	Aggregate	Diesel	1383.80924	49996.0206	6008.50207	1.15720491		
Riverside (SC)	2025	LDT1	Aggregate	Aggregate	Diesel	16.2603283	298.172886	45.8957608	0.0121319		
Riverside (SC)	2025	LDT2	Aggregate	Aggregate	Diesel	648.082482	30519.4279	3118.25857	0.90608704		
Riverside (SC)	2025	LHDT1	Aggregate	Aggregate	Diesel	15075.5928	549831.827	189631.993	26.5764701		
Riverside (SC)	2025	LHDT2	Aggregate	Aggregate	Diesel	6820.44582	250292.83	85792.6283	14.5281539		
Riverside (SC)	2025	MDV	Aggregate	Aggregate	Diesel	2427.25375	99526.1256	11179.0703	4.13775235		
Riverside (SC)	2025	MH	Aggregate	Aggregate	Diesel	2015.08125	17019.8742	201.508125	1.64309314		
Riverside (SC)	2025	MHDT	Aggregate	Aggregate	Diesel	13275.7425	571359.102	157106.462	63.5327127		
Riverside (SC)	2025	OBUS	Aggregate	Aggregate	Diesel	224.932191	15183.6796	2552.22768	1.94076972		
Riverside (SC)	2025	SBUS	Aggregate	Aggregate	Diesel	483.896414	9931.13903	7006.82007	1.35239443		
Riverside (SC)	2025	UBUS	Aggregate	Aggregate	Diesel	0.3117338	30.109711	1.2469352	0.00267512		
							3544599.78		431.307699		
									8.22 MPG		All Diesel
									6.18 MPG		Hauling (HHDT)

March Plaza Project: Energy Calculations

Construction Phase	Worker Trips/day	Worker Miles/trip	Days	Worker Miles
Site Preparation	17.5	18.5	5	1,619
Grading	15.0	18.5	8	2,220
Construction	28.0	18.5	230	119,175
Paving	20.0	18.5	18	6,660
Painting	5.6	18.5	18	1,865
Total Worker Miles				131,539

	EMFAC 2025	Gasoline	Avg. miles/gal	24.99
Worker Fuel Use			Total gallons	5,263

Construction Phase	Vendor Trips/day	Vendor Miles/trip	Days	Vendor Miles
Site Preparation	0	10.2	5	-
Grading	0	10.2	8	-
Construction	10.9298354	10.2	230	25,641
Paving	0	10.2	18	-
Painting	0	10.2	18	-
Total Vendor Miles				25,641

	EMFAC 2025	Diesel	Avg. miles/gal	8.19
Vendor Fuel Use			Total gallons	3,130

Construction Phase	Haul Trips/day	Haul Miles/trip	Days	Haul Miles
Site Preparation	0	20.0	5	-
Grading	31.3	28.0	8	7,000
Total Hauling Miles				7,000

	EMFAC 2025	Diesel HHDT Only	Avg. miles/gal	6.11
Hauling Fuel Use			Total gallons	1,146

March Plaza Project: Energy Calculations

Construction Phase	Equipment	Qty	Hrs/day	HP	Load Factor	#Days	HP hr
Site Preparation	Rubber Tired Dozer	3	8	367	0.4	60	211392
Site Preparation	Tractors/Loaders/E	4	8	84	0.37	60	59673.6
Grading	Graders	1	8	148	0.41	60	29126.4
Grading	Excavators	1	8	36	0.38	60	6566.4
Grading	Tractors/Loaders/E	3	8	84	0.37	30	22377.6
Grading	Rubber Tired Dozer	1	8	367	0.4	30	35232
Building Constructio	Cranes	1	7	367	0.29	30	22350.3
Building Constructio	Forklifts	3	8	82	0.2	60	23616
Building Constructio	Generator Sets	1	8	14	0.74	60	4972.8
Building Constructio	Welders	1	8	46	0.45	60	9936
Building Constructio	Tractors/Loaders/E	3	7	84	0.37	60	39160.8
Paving	Tractors/Loaders/E	1	8	84	0.37	365	90753.6
Paving	Cement and Morta	2	6	10	0.56	365	24528
Paving	Pavers	1	8	81	0.42	365	99338.4
Paving	Paving Equipment	2	6	89	0.36	365	140335.2
Paving	Rollers	2	6	36	0.38	2	328.32
Architectural Coatin	Air Compressors	1	6	37	0.48	2	213.12

Total HP 819,901

HP = horsepower
gallons of diesel fuel per HP----hour= 0.05

Gallons 40,995

March Plaza Project: Energy Calculations

Light-duty (up to 8,500 lb GVWR)	% VMT	Heavy-duty (> 8,500 lb GVWR)	% VMT
LDA	49.60000000	LHD1	1.40000000
LDT1	13.40000000	LHD2	1.42000000
LDT2	20.10000000	MH	0.00000000
MDV	1.50000000	MHD	2.00000000
MCY	0.00000000	HHD	10.58000000
		OBUS	0.00000000
		SBUS	0.00000000
		UBUS	0.00000000
% of VMT			
	84.6%		15.4%

Vehicle Class	% VMT	Annual VMT	EMFAC 2027 M Gal/year	Fuel
All		890,041		
light duty	84.6%	752,975	25.56	29,462 gasoline
heavy-duty	15.4%	137,066	8.22	16,678 diesel