5705 INDUSTRIAL PARKWAY

AIR QUALITY, ENERGY, AND GREENHOUSE GAS IMPACT ANALYSIS

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1 INTRODUCTION

This Air Quality, Energy, and Greenhouse Gas Analysis evaluates the potential impacts of the proposed 5705 Industrial Parkway project (proposed project). The project site is located at 5705 Industrial Parkway in the City of San Bernardino, within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The proposed project would build a 105,500 square foot warehouse on a 6.96-acre site. The project site is currently vacant; however, there is an existing industrial building located on the same parcel. The parcel is proposed to be subdivided, leaving the existing industrial building unchanged. The regional location and site plan can be found in Figure 1 and Figure 2, respectively.

1.1 Purpose of the Report

To support the CEQA document for the proposed project, this report analyzes the proposed project's construction and operational impacts to air quality (emissions of criteria pollutants), energy usage, and greenhouse gas emissions using the California Emissions Estimator Model (CalEEMod) Version 2022.1 land use emission model. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_X, SO_2, CO, PM_{10}, and $PM_{2.5}$) and GHG emissions from direct and indirect sources, and quantify applicable air quality and GHG reductions achieved from mitigation. The thresholds of significance used are the adopted thresholds by the SCAQMD.

1.2 Conclusions

The conclusions for the Air Quality, Energy, and Greenhouse Gas (GHG) analysis are as follows:

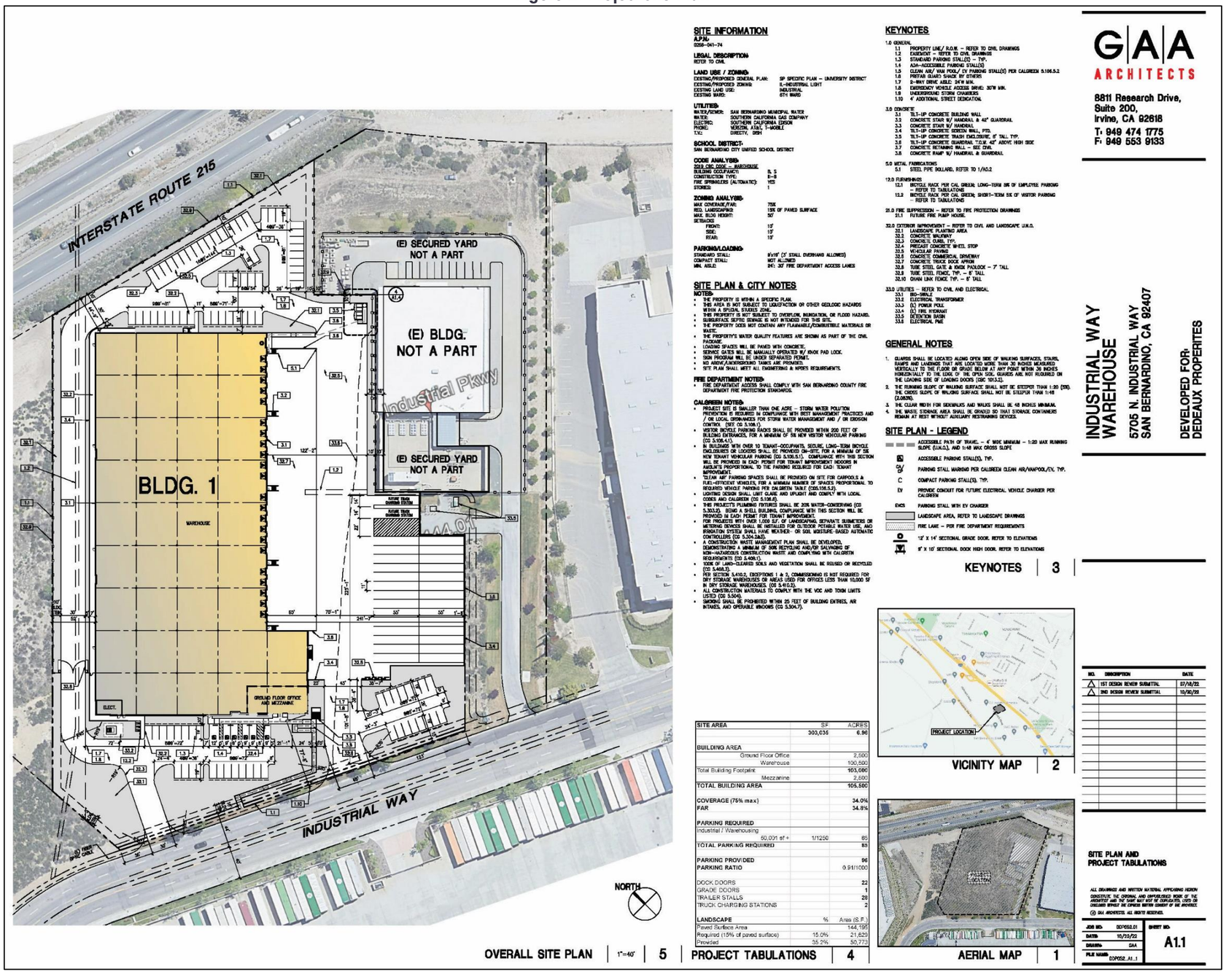
Air Quality: The project's maximum daily regional and local construction and operational emissions would not exceed SCAQMD's regional thresholds of significance. In addition, all construction activities would comply with applicable SCAQMD rules and regulations, including Rule 402 and Rule 403 to minimize odors and fugitive particulate matter (PM) dust emissions, and Rule 1113 regarding "Low-Volatile Organic Compounds (VOC)" paints. Projects that do not exceed the regional thresholds are assumed to not have a significant impact on a project level and cumulative level. Therefore, the proposed project would have less than significant air quality impacts.

Energy: The proposed project has no unusual characteristics that would cause the construction fuel and energy consumption to be less efficient compared to other similar construction sites throughout the state. The construction related energy consumption would be temporary and localized. Operation of the proposed project would comply with all the energy efficiency requirements under Title 24 and all applicable City business and energy regulations, as verified by the City through the permitting processes. Therefore, the construction and operation of the project would not result in inefficient, wasteful, or unnecessary energy use, and impacts would be less than significant.

Greenhouse Gas: The proposed project is consistent with the actions and measures of the 2022 Scoping Plan and City of San Bernardino General Plan respectively and would not interfere with the policies and goals set within those plans. In addition, the proposed project's net GHG emissions of 2,304 $MTCO_2e$ per year are below the SCAQMD Significance threshold of 10,000 $MTCO_2e$ per year. Therefore, the project would less than significant impacts related to GHG emissions.

Figure 1: Project Location

Figure 2: Project Site Plan



2 AIR QUALITY ENVIRONMENTAL SETTING

2.1 Local Climate and Meteorology

Climate

The proposed project is located in the Southern California Air Basin (SCAB), which includes all of Orange County, and parts of Los Angeles, Riverside, and San Bernardino Counties. The SCAB is a coastal plain, bound by the Pacific Ocean to the west and southwest, and high mountains surrounding the plain to the north, east and south. The plain exists in a semi-permanent high-pressure zone, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The vertical dispersion of air pollutants in the SCAB is limited by the semi—permanent high-pressure zone creating persistent temperature inversions. High-pressure systems like the one that exists in the SCAB consist of dry air that warms as it descends and restricts the mobility of the cooler moist marine influenced air near the ground surface. The restriction of the vertical dispersion and strong sunlight create the conditions to form photochemical smog.

Meteorology

The San Bernardino climate station, approximately 9.5 miles southeast of the project site, meteorological data was used for the project baseline. The average maximum temperature is 79.7 degrees Fahrenheit (°F), with August having the highest monthly average maximum temperature and December having the lowest monthly average minimum temperature at 95.6 °F and 41.5 °F respectively. The average annual precipitation for the project area is 15.18 inches (Western Regional Climate Center).

2.2 Criteria Pollutants

Criteria Pollutants are air pollutants with state and national air quality standards that define allowable concentrations of these substances in ambient air. These criteria pollutants include:

- **Reactive Organic Gases (ROGs).** ROGs are hydrocarbon compounds that contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) are a precursor to O_3. ROGs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Not all ROGs have health effects; however, breathing some ROGs can irritate the eyes, nose and throat, can cause difficulty breathing and nausea, and can damage the central nervous system or cause cancer.
- **Oxides of nitrogen (NO_x).** NO_x consists of nitric oxide (NO) and nitrogen dioxide (NO2) and five other compounds, which are formed when nitrogen (N) combines with oxygen. NO_x is typically created during combustion processes and are major contributors to smog formation and acid deposition. Increase in resistance to air flow and airway contraction is occurs after short-term exposure to NO_X in healthy subjects and an increase in acute respiratory illness, including infections and respiratory symptoms in children, is associated with long-term exposure to NO_x.

- **Carbon monoxide (CO).** CO is a colorless, odorless gas produced by sources that burns fuel such as vehicles, construction equipment, and building heating. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Motor vehicles are the primary source of CO in the SCAB and the highest ambient CO concentrations are generally found near congested transportation corridors and intersections. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with O2 transport and competing with O2 to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Conditions with an increased demand for O2 supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (O2 deficiency).
- **Sulfur dioxide (SO_2).** SO_2 is a respiratory irritant generated by burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. Exposure to SO_2 can result in reduction in breathing capacity leading to breathing difficulties.
- **Particulate matter PM_{10} (PM_{10}).** PM_{10} is a major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. PM pollution is a major cause of reduce visibility (haze) which is caused by the scattering of light and consequently the significant reduction air clarity. The size of the particles (10 microns or smaller, about 0.0004 inches or less) allows them to easily enter the lungs where they may be deposited, resulting in adverse health effects that include respiratory infections, asthma, lung cancer.
- **Particulate matter $PM_{2.5}$ ($PM_{2.5}$).** $PM_{2.5}$ consists of tiny solid or liquid particles which are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include SO_4 formed from SO_2 release from power plants and industrial facilities and nitrates that are formed from NO_X release from power plants, automobiles, and other types of combustion sources. $PM_{2.5}$ results in the same type of health effects as $PM_{2.5}$.

The emissions of these criteria pollutants were estimated using CalEEMod (Version 2022.1) to identify the construction and net operational emissions that would be generated by the proposed project.

2.3 Sensitive Receptors

A sensitive receptor is defined as an individual who is most susceptible to negative health affects when exposed to air pollutants including children, the elderly, and adults with chronic health issues. Such receptors include residences, schools, elderly care centers, and hospitals where an individual can remain for 24 hours.

The sensitive receptors located near the project site include residences across Interstate 215 to the north and to the east. The closest residence is located approximately 100 meters (330 feet) east of the project boundary.

2.4 Existing Air Quality

Regional Air Quality

The USEPA and the State have established air quality standards for six criteria pollutants and the SCAQMD monitors levels of various criteria pollutants at monitoring stations. The air quality in a region is considered to be in attainment if the measured ambient air pollutant levels do not exceed the air quality standards. Conversely, nonattainment means that an area has monitored air quality that does not meet the USEPA or State standards. In order to improve air quality in nonattainment areas, a State Implementation Plan (SIP) is drafted by the California Air Resources Board (CARB). The SIP outlines the measures that the state will take to improve air quality. Once nonattainment areas meet the standards and additional redesignation requirements, the USEPA designates the area as a maintenance area. As shown in Table 1, the project site is in a federal nonattainment area for Ozone (8 hour) and $PM_{2.5}$, and a state nonattainment area for Ozone (1 and 8 hour), PM_{10} and $PM_{2.5}$.

Table 1. Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
Ozone (1 hour)	Nonattainment	No Standard
Ozone (8 hour)	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Lead	Attainment	Nonattainment[1]
All others	Attainment/Unclassified	No Standards

Source: SCAQMD Air Quality Management Plan (2022)

Local Air Quality

The project site is located within the Source Receptor Area (SRA) 34. Within SRA 34, the SCAQMD Central San Bernardino Valley 2 monitoring station, located 7.4 miles from the site, is the nearest long-term air quality monitoring station. The Central San Bernardino County 2 monitoring station includes data for Ozone (O_3), CO, NOx, PM_{10} and $PM_{2.5}$.

The most recent three years of data available is shown on Table 2 and identifies the number of days ambient air quality standards were exceeded for the study area, which is considered to be representative of the local air quality at the project site. Data for O3, CO, NO_2, PM10, and $PM_{2.5}$ for 2018 through 2020 was obtained from the SCAQMD Air Quality Data Tables. Additionally, data for SO_2 has been omitted as attainment is regularly met in the SCAB and few monitoring stations measure SO_2 concentrations.

[1] Partial Nonattainment designation – Los Angeles County portion of the Basin only for near-source monitors; expect to remain in attainment based on current monitoring data; attainment re-designation request pending. (SCAQMD Air Quality Management Plan, 2022)

Table 2. Project Area Air Quality Monitoring Summary 2019-2021

Pollutant	Standard	Year		
		2019	2020	2021
O_3				
Maximum Federal 1-Hour Concentration (ppm)		0.127	0.162	0.142
Maximum Federal 8-Hour Concentration (ppm)		0.114	0.128	0.112
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	63	89	66
Number of Days Exceeding State/Federal 8-Hour Standard	> 0.070 ppm	96	128	98
CO				
Maximum Federal 1-Hour Concentration	> 35 ppm	1.3	1.9	2.0
Maximum Federal 8-Hour Concentration	> 20 ppm	1.1	1.4	1.6
NOx				
Maximum Federal 1-Hour Concentration	> 0.100 ppm	.0593	.0540	.0563
Annual Federal Standard Design Value		.0143	.0149	.0151
PM_{10}				
Maximum Federal 24-Hour Concentration ($\mu g/m^3$)	> 150 $\mu g/m^3$	112	80	111
Annual Federal Arithmetic Mean ($\mu g/m^3$)		29.9	38.7	39.3
Number of Days Exceeding Federal 24-Hour Standard	> 150 $\mu g/m^3$	0	0	0
Number of Days Exceeding State 24-Hour Standard	> 50 $\mu g/m^3$	36	81	79
$PM_{2.5}$				
Maximum Federal 24-Hour Concentration ($\mu g/m^3$)	> 35 $\mu g/m^3$	34.8	25.7	57.9
Annual Federal Arithmetic Mean ($\mu g/m^3$)	> 12 $\mu g/m^3$	10.06	11.66	11.9
Number of Days Exceeding Federal 24-Hour Standard	> 35 $\mu g/m^3$	0	0	1

ppm= Parts Per Million
$\mu g/m^3$= Micrograms per cubic meter of air
Source: SCAQMD Historical Air Quality Data By Year, Air Quality Data Tables for Central San Bernardino Valley 2 Air Quality Monitoring Station.

3 AIR QUALITY REGULATORY SETTING

Federal

The United States Environmental Protection Agency (USEPA) is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for criteria pollutants. The USEPA standards, along with the California standards, are shown in Table 3: California and National Ambient Air Quality Standards. The USEPA draws primarily from the Clean Air Act (CAA) to create their air quality mandates. The USEPA requires each state with federal nonattainment areas to prepare and submit a SIP as a part of its enforcement responsibilities. The SIP demonstrates the means to attain and maintain the federal standards set by the USEPA, and must integrate federal, state, and local plan components and regulations to reduce pollution within the SIP identified timeframe. The sections of the CAA most directly applicable to the development of the project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions). Title I provisions were established with the goal of attaining the national air quality standards and Title II provisions are related to mobile source emissions and require use of cleaner burning gasoline and other cleaner burning fuels.

State

The California Air Resources Board (CARB), a department of the California Environmental Protection Agency, oversees air quality planning and control throughout California. CARB is responsible for coordination and oversight of state and local air pollution control programs in California and for implementation of the California Clean Air Act (CCAA), which requires CARB to establish the California Ambient Air Quality Standards (CAAQS). CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. Applicable CAAQS are shown in Table 3.

The CCAA requires all local air districts in the state to endeavor to achieve and maintain the CAAQS by the earliest practical date. The act specifies that local air districts shall focus particular attention on reducing the emissions from transportation and area-wide emission sources and provides districts with the authority to regulate indirect sources.

Among CARB's other responsibilities are overseeing compliance by local air districts with California and federal laws, approving local air quality plans, submitting SIPs to the USEPA, monitoring air quality, determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

Table 3. 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 (O_3)[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 (PM2.5)[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 (NO_2)[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 (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; 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 ...

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California Air Resources Board (5/4/16)

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 $\mu g/m^3$ 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 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ 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 $\mu g/m^3$ 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.

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Title 24, Energy Efficiency and Green Building Standards. California Code of Regulations (CCR) Title 24 Part 6: California's Energy Efficiency Standards are updated every three years to incorporate new energy efficient technologies and construction methods. The most recent approved update consisting of the 2022 California Green Building Code Standards which became effective January 1, 2023.

The 2022 Title 24 standards result in less energy use, thereby reducing air pollutant emissions associated with energy consumption.

Regional

The Southern Coast Air Quality Management District (SCAQMD) is the air pollution control agency in the Basin. The role of the local SCAQMD is to protect the people and the environment of the Basin from the effects of air pollution. SCAQMD shares responsibility with CARB for ensuring that air quality standards are achieved and maintained within the Basin.

SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards. The 2022 AQMP is the most recent and was adopted on December 2, 2022. The 2022 AQMP includes a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures, to meet the following NAAQS:

- 1-hour ozone (120 ppb) by 2023
- 8-hour ozone (70 ppb) by 2038
- 8-hour ozone (75 ppb) by 2032
- 8-hour ozone (80 ppb) by 2024
- 24-hour $PM_{2.5}$ (35 µg/m^3) by 2023
- Annual $PM_{2.5}$ (12 µg/m^3) by 2025

The SCAQMD establishes a program of rules and regulations to obtain attainment of the state and federal standards along with the AQMP. The rules and regulations applicable to this project include, but are not limited to, the following:

- **SCAQMD Rule 402** governs emissions of air contaminants or other material which cause injury, determinant, nuisance, or annoyance to any considerable number of persons or to the public. These apply to any odors that would be deemed objectionable to a substantial number of people. This rule does not apply to agricultural operations necessary for the growing of crops or the raising of fowl or animals.
- **SCAQMD Rule 403** governs emissions of fugitive dust during construction and operation activities. Compliance with this rule is achieved through application of standard Best Management Practices, such as application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent ground cover on finished sites.
- **SCAQMD Rule 445** restricts wood burning devices from being installed into any new development and is intended to reduce the emissions of particulate matter for wood burning devices.

- **SCAQMD Rule 1113** allows the use of only Low-Volatile Organic Compounds (VOC)" paints (no more than 50 gram/liter (g/L) of VOC) consistent.

Toxic Air Contaminants

SCAQMD also requires projects to analyze Toxic Air Contaminants (TACs) and the health risks resulting from them. In the SCAB, SCAQMD has prepared a series on in-depth analysis called the Multiple Air Toxics Exposure Studies (MATES). These include MATES I-V. In these reports, Diesel Particulate Matter (DPM) and other air toxics' relation to cancer risk incidence were analyzed (MATES V 2021). Reductions of cancer risk incidence of 54 percent between MATES IV and MATES V can be seen due to the increasingly stringent DPM emission regulations and improved DPM emission control technologies. MATES V Data (2018) shows that exposure to TACs in the SCAB increased the chances of developing cancer by 455 chances in one million, with DPM comprising 67.3 percent of the TACs analyzed in the report.

4 AIR QUALITY THRESHOLDS

Regional Emissions Thresholds

SCAQMD has adopted regional significance thresholds that identified the maximum daily emissions[2] (pounds/day) for the criteria pollutants during construction and operation of a project. The regional thresholds are listed in Table 4: SCAQMD Regional Emission Significance Thresholds. These emission thresholds include the project emissions generated both from onsite sources (such as off-road construction equipment and fugitive dust) and offsite sources (vehicle travel leaving and arriving to the site).

Table 4. SCAQMD Regional Emissions Significance Thresholds

Air Pollutant	Maximum Daily Emissions (pounds/day)	
	Construction	Operation
ROGs	75	55
NOx	100	55
CO	550	550
SO_2	150	150
PM_{10}	150	150
$PM_{2.5}$	55	55

Source: SCAQMD 2015

Localized Significance Thresholds

Localized significance thresholds (LSTs) were also adopted by SCAQMD due to the potential of project-related construction or operational air emissions to exceed the state and national air quality standards in the project vicinity, while not exceeding the regional emission significance thresholds adopted by the SCAQMD. These thresholds set the maximum rates of daily construction or operational emissions from a project site that would not exceed a national or State ambient air quality standard[3]. The differences between regional thresholds and LSTs are as follows:

- Regional thresholds include all sources of project construction and operational emissions generated from onsite and offsite emission sources whereas the LSTs only consider the emissions generated from onsite emission sources.
- LSTs only apply to CO, NO_x, PM_{10}, and $PM_{2.5}$, while regional thresholds include both ROG and SO_2.
- Regional thresholds apply to emission sources located anywhere within the SCAQMD whereas the LSTs are location dependent and also depend on the size of the project, and emission location relative to the nearest sensitive receptor.

[2] SCAQMD April 2019. Referenced at http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf

[3] SCAQMD 2008: Final Localized Significance Threshold Methodology. Referenced at http://www.aqmd.gov/docs/defaultsource/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf

SCAQMD provides screening look up tables (Appendix C of the SCAQMD 2008 Final Localized Significance Threshold Methodology)[4] for projects that disturb less than or equal to 5 acres in size in a day. These tables were created to easily determine if the daily emissions of NO_x, CO, PM_{10}, and $PM_{2.5}$ from a project could result in a significant impact to the local air quality. To calculate the area to be disturbed, *The SCAQMD Fact Sheet for Applying CalEEMod to Localized Significance Threshold*[5] was used to calculate the appropriate disturbed area. The thresholds are determined by:

- Source receptor area (SRA), the geographic area within the SCAQMD that can act as both a source of emissions and a receptor of emission impacts (project is located within SRA 34, Central San Bernardino Valley);
- Size of the project; and
- Distance to the nearest sensitive receptor.

Table 5 shows that, based on size of the project site and the default acres of grading derived from the CalEEMod model, the project would grade 1 acres per day. Therefore, the SCAQMD thresholds for a 1-acre site was used.

The LSTs for Operation are determined by the size of the project site and the distance to the nearest sensitive receptor. The proposed project is 6.96 acres; greater than the maximum 5 acres. Therefore, the thresholds for 5 acres from Appendix C were used as it is a conservative threshold to apply to the project since the LSTs for a 6.96-acre project would be higher than the thresholds for a 5-acre project as the thresholds increase with the size of the project. To calculate the localized mobile emissions, a distance of 0.15 miles was used to capture the distance a vehicle would take to exit the site.

As stated earlier, the sensitive receptors located near the project site include residences across Interstate 215 to the north and east and residences along Kendall Drive to the northeast. The closest residence is approximately 100 meters (330 feet) north of the project boundary. Therefore, a distance of 100 meters was used as the appropriate receptor distance.

Table 6 shows the LST thresholds in SRA 34 for construction and operation.

Table 5. Daily Acres Graded

Equipment	#	Total Acres Graded Daily
Graders	1	0.5
Rubber Tired Dozers	1	0.5
Total	**2**	**1**

Source: CalEEMod Output Sheets, LST Fact Sheet

[4] SCAQMD 2008: Final Localized Significance Threshold Methodology Appendix C. http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2

[5] SCAQMD Fact Sheet for Applying CalEEmod to Localized Significance Thresholds. http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf?sfvrsn=2od-guidance.pdf (aqmd.gov)

Table 6. Localized Significance Thresholds

Air Pollutant	Maximum Daily Emissions (pounds/day)	
	Construction	Operation
NOx	211	378
CO	2,141	4,142
PM_{10}	33	16
$PM_{2.5}$	9	5

Source: Localized Significance Threshold Methodology Appendix C

Toxic Air Contaminants Thresholds

The City of San Bernardino has not adopted a numerical significance threshold for cancer risk or non-cancer hazards. Therefore, the SCAQMD recommends that its significance thresholds be adopted for this assessment. For cancer risk, the threshold is ten (10) persons per million population as the maximum acceptable incremental cancer risk due to exposure to (TACs). For non-cancer hazards, a hazard index of 1.0 is the maximum acceptable threshold. The hazard index is a ratio of the predicted concentration of the facility's reported TAC emissions to a concentration and is considered acceptable to public health professionals.

CARB has adopted screening thresholds for projects that are anticipated to result in a less than significant impact to heath risk[6]. Table 7 below shows the source category and advisory recommendations that would result in a project requiring further analysis for health risk.

[6] CARB 2005 *Air Quality and Land Use Handbook: A Community Heath Perspective*

Table 7. Health Risk Assessment Screening Thresholds

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	• Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	• Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	• Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. • Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	• Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks.
Refineries	• Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	• Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloro-ethylene	• Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. • Do not site new sensitive land uses in the same building with perc dry cleaning operations.
Gasoline Dispensing Facilities	• Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

Source: CARB 2005 *Air Quality and Land Use Handbook: A Community Health Perspective*

Cumulative Impacts

The SCAQMD has published a report on addressing cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution*[7]. The SCAQMD considers projects that exceed the project-specific significance thresholds to be cumulatively considerable. The project-specific thresholds for regional, localized, and TACs also act as the cumulative thresholds. Therefore, projects that do not exceed the project-specific thresholds would have an individually and cumulatively less than significant impact to air quality.

[7] SCAQMD 2003: White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution. http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper.pdf

5 AIR QUALITY EMISSIONS MODELING METHODOLOGY

California Emissions Estimator Model

In April 2022, the most recent CalEEMod model Version 2022.1 was released and was used to calculate emissions that would be generated by the proposed project. The purpose of this model is to calculate construction-source and operational-source criteria pollutant emissions and GHG emissions from direct and indirect sources and quantify applicable air quality and GHG reductions achieved from mitigation. The model runs for both construction and operational activity are attached.

Emission Factors Model

In January 2021 the 2021 version of the EMissions FACtor model (EMFAC) web database for use in SIP and transportation conformity analyses was released. EMFAC2021 is a mathematical model that was developed to calculate emission rates, fuel consumption, VMT from motor vehicles that operate on highways, freeways, and local roads in California and is used by the CARB. EMFAC2021 is incorporated into CalEEMod 2022.1, and thus, included in the modeling that is provided in the attached.

6 AIR QUALITY PROJECT IMPACTS

6.1 Construction Emissions

The construction schedule, off-road equipment, and vehicle trips can be found in Table 8, Table 9, and Table 10. Construction Vehicle Trips were generated using the defaults from CalEEMod. As shown in Table 8, construction of the project would occur over an approximate 14-month period. The worker and vendor trips were based on the CalEEMod defaults. During the grading phase, it is estimated that 11,300 cubic yards (cy) would be imported to balance the site. CalEEMod default haul trips were used for the grading phase (20 cy per truck).

Table 8. Construction Schedule

Activity	Start Date	End Date	Total Days
Site Preparation	6/30/2023	7/14/2023	10
Grading	7/15/2023	8/12/2023	20
Building Construction	8/13/2023	6/30/2024	230
Paving	7/1/2024	7/29/2024	20
Architectural Coating	7/30/2024	8/27/2024	20

Source: CalEEmod Output Sheets

Table 9. Construction Equipment Inventory

Activity	Equipment	Number	Hours per day	Horse-power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8	367	0.4
	Tractors/Loaders/Backhoes	4	8	84	0.43
Grading	Excavators	1	8	36	0.38
	Graders	1	8	148	0.41
	Rubber Tired Dozers	1	8	367	0.4
	Tractors/Loaders/Backhoes	3	8	84	0.43
Building Construction	Cranes	1	8	367	0.29
	Forklifts	3	8	82	0.2
	Generator Sets	1	8	14	0.74
	Tractors/Loaders/Backhoes	3	8	84	0.37
	Welders	1	8	46	0.45
Paving	Pavers	2	8	81	0.42
	Paving Equipment	2	8	89	0.36
	Rollers	2	8	36	0.38
Architectural Coating	Air Compressors	1	8	37	0.48

Source: CalEEmod Output Sheets

Table 10. Construction Vehicle Trips

Activity	Construction Trips per Day		Total Trips
	Worker	Vendor	Haul
Site Preparation	18	0	0
Grading	15	0	565
Building Construction	44	17	0
Paving	15	0	0
Architectural Coating	9	0	0

Source: CalEEmod Output Sheets

The proposed project's estimated maximum daily regional and localized construction emissions are shown in Table 11 and Table 12, respectively. As noted from Table 11 and Table 12, the construction of the proposed project would not exceed the SCAQMD regional or localized emission significance thresholds. All CalEEMod output sheets can be found in Appendix A.

Table 11. Regional Construction Emission Estimates

Construction Activity	Maximum Daily Regional Emissions (pounds/day)					
	ROG	NOx	CO	SO_2	PM10	PM2.5
2023						
Site Prep	4.1	39.8	37.1	0.1	6.9	4.3
Grading	2.2	26.5	24.6	0.1	3.2	2.0
Building Construction	1.6	13.8	18.8	0.0	0.7	0.6
Maximum Daily Emissions	4.1	39.8	37.1	0.1	6.9	4.3
2024						
Building Construction	1.6	13.1	18.3	0.0	0.6	0.5
Paving	1.5	7.9	11.3	0.0	0.4	0.4
Architectural Coating	51.6	0.0	0.8	0.0	0.0	0.0
Maximum Daily Emissions	51.6	13.1	18.3	0.0	0.6	0.5
Maximum Daily Emission 2023-2024	**51.6**	**39.8**	**37.1**	**0.1**	**6.9**	**4.3**
SCAQMD Significance Thresholds	75	100	550	150	150	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEmod Output Sheets

Table 12. Localized Construction Emission Estimates

Construction Activity	Maximum Daily Regional Emissions (pounds/day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$
2023				
Site Preparation	39.7	35.5	6.9	4.3
Grading	20.0	19.7	2.8	1.8
Building Construction	12.8	14.3	0.6	0.6
Maximum Daily Emissions	39.7	35.5	6.9	4.3
2024				
Building Construction	12.2	14.2	0.5	0.5
Paving	7.8	10.0	0.4	0.4
Architectural Coating	1.2	1.5	0.0	0.0
Maximum Daily Emissions	12.2	14.2	0.5	0.5
Maximum Daily Emission 2023-2024	**39.7**	**35.5**	**6.9**	**4.3**
SCAQMD Significance Thresholds	211	2,141	33	9
Threshold Exceeded?	**No**	**No**	**No**	**No**

Source: CalEEmod Output Sheets

6.2 Operational Emissions

Long-term operational emissions are generated resulting from the day-to-day operations, which include:

- Mobile-source emissions: vehicles traveling to and from the project site
- Area-source emissions: landscaping maintenance activities and periodic architectural coatings
- Energy-source emissions: natural gas and electricity consumption

Based on the project's trip generation[8], the proposed project is expected to generate 180 daily weekday trips. The SCAQMD *Warehouse Truck Study* (2014) was used for the mix of vehicles for the proposed project. Table 13 shows the breakdown of project specific details.

[8] EPD Solutions: *5705 Industrial Parkway Traffic Impact Analysis*, 2023

Table 13. Project Data Inputs

Metric	Proposed Truck Terminal
Building Size	105,500 SF
Operational Year	2024
CalEEMod Land Use	Unrefrigerated Warehouse No-Rail
Daily Trip rate	1.71
Fleet Mix	180 Total Vehicles, 124 Passenger Vehicles, 12 2-Axle Trucks, 10 3-Axle Trucks, and 34 4+-Axle Trucks
Trip Distances	Passenger Vehicles and 2-Axle Trucks: (CalEEMod Defaults) 3-Axle, and 4+-Axle Trucks (40 miles, 100 percent primary trips)
Localized Operational Impact Trip Distances	0.15
Operational Equipment	11 Forklifts (CNG)

The project's estimated maximum daily regional emissions are shown in Table 14. Table 15 shows the onsite emissions for the proposed project. As noted from Table 14 and 15, the operation of the project would not exceed the SCAQMD regional or localized emission significance thresholds. Therefore, the project would result in a less than significant impact to air quality. All CalEEMod output sheets can be found in Appendix A.

Table 14. Regional Operational Emission Estimates

Operational Activity	Maximum Daily Regional Emissions (pounds/day)					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Mobile	1.0	7.1	16.1	0.1	2.0	0.5
Area	3.3	7.4	13.5	0.1	2.0	0.5
Energy	2.6	0.5	0.5	0.0	0.0	0.0
Off Road	0.0	9.7	96.8	0.0	0.0	0.0
Total Project Operational Emissions	**6.8**	**24.7**	**126.9**	**0.2**	**4.0**	**1.0**
SCAQMD Significance Thresholds	*55*	*55*	*550*	150	150	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEmod Output Sheets

Table 15. Localized Operational Emission Estimates

Operational Activity	Maximum Daily Regional Emissions (pounds/day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$
Mobile	0.7	1.6	0.0	0.0
Area	0.7	4.6	0.0	0.0
Energy	0.5	0.5	0.1	0.1
Off Road	9.7	96.8	0.0	0.0
Total Project Operational Emissions	**1.9**	**6.7**	**0.1**	**0.1**
SCAQMD Significance Thresholds	378	4,142	16	5
Threshold Exceeded?	**No**	**No**	**No**	**No**

6.3 Toxic Air Contaminants

The construction of the project would have short-term DPM emissions from the use of off-road heavy-duty equipment and medium heavy-duty vendor truck vehicles. DPM is a listed carcinogen and TAC in the State of California. To determine the health risk associated with a project, the two important factors to consider are the dose of the substance and the duration of the exposure. According to the Office of Environmental Health Hazard Assessment (OEHHA), Heath Risk Assessments (HRA's) are used to determine the impact of exposure of TAC emissions on sensitive receptors. The period/duration of the assessment is based on a 70-year exposure.

The impact of construction equipment on sensitive receptors would be minimal due to the limited number of equipment utilized during the construction period and the short duration of construction when analyzed on a 70-year analysis period. Therefore, the construction of the project would be presumed to have a less than significant impact.

In addition, DPM emissions would be the most significant TAC emissions during the long-term operation of the project. As seen in the CARB screening thresholds, a distribution center that meets all the following requirements would require further health risk analysis:

- Within 1,000 of a sensitive receptor
- Accommodates more than 100 trucks per day
- Accommodates 40 trucks with transport refrigeration units (TRUs)
- TRU unit operations that exceed 300 hours per week
- Entry and exit points located near residences and other sensitive land uses

As seen by the proposed project's trip generation, the project would generate 56 trucks daily, less than the 100-trip threshold. Additionally, the proposed project would not include any refrigeration; therefore, no TRUs would be associated with the project. Finally, the project driveways are located on the west side of the project site, over 1,000 feet away from the nearest residence. Therefore, the proposed project would not require further health risk analysis and would result in a less than significant impact to health risk.

6.4 Air Quality Management Plan Consistency

SCAQMD's CEQA Handbook provides the following two criteria to determine whether a project would be consistent or in conflict with the AQMP:

1. The project would not generate population and employment growth that would be inconsistent with Southern California Association of Government's (SCAG) growth forecasts.
2. The project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

Consistency Criterion No. 1 refers to SCAG's growth forecasts and associated assumptions included in the AQMP. The future air quality levels projected in the AQMP are based on SCAG's growth projections, which are based, in part, on the general plans of cities located within the SCAG region. Therefore, if the level of employment related to the proposed project are consistent with the applicable assumptions used in the development of the AQMP, the project would not jeopardize attainment of the air quality levels identified in the AQMP.

The project site has a General Plan Land Use designation of University District Specific Plan (UDSP). Within the UDSP, the Land Use designation is Industrial Light (IL). The project is consistent with the Industrial Light land use and would not require a General Plan Amendment. Thus, implementation of the project would not exceed the growth assumptions for the project site. As a result, the proposed project would be consistent with Consistency Criterion No. 1.

Consistency Criterion No. 2 refers to the CAAQS. An impact would occur if the long-term emissions associated with the proposed project would exceed SCAQMD's regional significance thresholds for operation-phase emissions.

The quantified air quality emissions analysis describes that the proposed project would not exceed any air quality standards. Therefore, the proposed project would be consistent with Criterion No. 2. As the project would be consistent with both Criterion No. 1 and 2, impacts related to consistency with the AQMP would be less than significant.

6.5 Odors

Odors would be produced during the construction of the project due to the operation of heavy-duty off-road equipment. The primary odor emitted would be DPM from the vendor trucks and heavy-duty off-road equipment. This odor may be noticeable by nearby employees; however, these odors would be expected of any construction and not necessarily objectionable. These odors would also dissipate quickly and would be temporary in nature. Therefore, due to the temporary and non-objectionable to a substantial number of people nature of the odor produced during construction, the odor impact would be less than significant.

For operational odor emissions, SCAQMD *CEQA Air Quality Handbook*, land use associated with odor complaints include the following:

- Agricultural Uses
- Chemical Plants
- Composting Activities
- Dairies
- Fiberglass Molding
- Food processing plants
- Landfills
- Refineries
- Wastewater Treatment Plants

The project does not propose any of the above land uses and is required to comply with SCAQMD Rule 402, Nuisance, which states:

> *A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.*

Thus, impacts associated with odor sources produced by the project would be less than significant.

6.6 Conclusion

As shown above in Tables 11, 12, 14, and 15, the project's maximum daily regional and localized construction and operational emissions would not exceed SCAQMD's regional thresholds of significance. In addition, all construction activities would comply with applicable SCAQMD rules and regulations. Given the project land use and size, the exposure to TACs and odors produced by the construction would be minimal and temporary, and operation of the site would be minimal and similar to the surrounding land uses. Therefore, the proposed project would have a less than significant air quality impact and no mitigation is required.

7 ENERGY

7.1 Environmental Setting

The operation of the proposed 5705 Industrial Parkway project would consume three main sources of energy: electricity, natural gas, and transportation energy resources.

Electricity
Electricity in the project area is provided by Southern California Edison (SCE). SCE provides electric power to more than 15 million people and around 50,000 square miles. The Power Content Label Mix (SCE 2021)[9] states that SCE derives electricity from the following sources (from in-state and out-of-state suppliers):

- Eligible Renewable (31.4%)
  - Biomass and Waste (0.1%)
  - Geothermal (5.7%)
  - Eligible Hydroelectric (0.5%)
  - Solar (14.9%)
  - Wind (10.2%)
- Large Hydroelectric (2.3%)
- Nuclear (9.2%)
- Natural Gas (22.3%)
- Other (0.2%)
- Unspecified sources of power (34.6%)

The California Independent Service Operator (ISO) is a nonprofit public benefit corporation that is tasked with the operation of California's power grid and is responsible for maintaining grid reliability. They are also responsible for approving improvements and additions to the power grid required to accommodate the State's electrical needs. The ISO works with other western U.S. states to ensure grid reliability in cases of over and under production within the state. The California Energy Commission (CEC) Total System Electric Generation table[10] shows that California In-State Generation is 194,127 GWh and the Total Import amount is 83,636 GWh for a total 277,763 GWh of energy.

Natural Gas
The proposed project and project area is served by Southern California Gas (SoCalGas) which serves 5.67 million customers. The California Public Utilities Commission (CPUC) serves as the regulator of natural gas for SoCalGas, Pacific Gas & Electric, San Diego Gas & Electric (SDG&E), and several smaller and independent utilities and storage operators.

The natural gas consumed in California is provided by both in-state and out-of-state sources, allocated by market supply and demand. The CPUC is tasked with overseeing the purchase and

[9] 2021 Power Content Label for Southern California Edison found at: https://www.energy.ca.gov/programs-and-topics/programs/power-source-disclosure/power-content-label/annual-power-content-2
[10] California Energy Commission 2021 Total System Electric Generation found at: https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2021-total-system-electric-generation

transmission of natural gas, by working with in-state sources and the Federal Energy Regulatory Commission to acquire out-of-state sources through the multiple interstate and international pipelines.

According to the *2022 California Gas Report*[11], the 2021 Gas Supply Taken for SoCalGas in billion cubic feet (Bcf) is as follows:

- Core Residential Customers – demand was 224 Bcf
- Core Commercial Customers – demand was 77 Bcf
- Core Industrial Customers – demand was 20.4 Bcf
- Noncore Commercial Customers – demand was 17.4 Bcf
- Noncore Industrial Customers – demand was 48.6 Bcf
- Refinery Industrial Customers – demand was 91.7 Bcf
- Industrial/Commercial/Cogeneration <20 megawatts (MW) – demand was 25.4 Bcf
- Refinery-Related Cogeneration – demand was 23 Bcf
- Enhanced Oil Recovery-Related Cogeneration – demand was 4.1 Bcf
- Electric Generation, Including Large Cogeneration <20 MW – demand was 191 Bcf
- Wholesale/International – demand was 132.6 Bcf

Transportation Energy Resources
In addition to consuming electricity and natural gas, the construction and operation of the project would consume fuel for transportation, predominately petroleum (gasoline and diesel fuel). As of January 2022, the Department of Motor Vehicles stated that there were 35.6 million registered vehicles in California[12], which would consume an estimated that 17.7 billion gallons of fuel a year (calculated using the EMFAC 2021 projection estimates). Of the 17.7 billion gallons consumed, 14.5 billion gallons were gasoline, and 3.2 billion gallons were diesel fuel.

7.2 Regulatory Setting

Energy use and consumption are regulated by Federal and State Agencies. The Federal Agencies that impact energy policies and programs include the US Department of Transportation, U.S. Department of Energy, and U.S. Environmental Protection Agency. The State Agencies that impact energy policies include the CPUC and California Energy Commission (CEC).

Title 24, Energy Efficiency and Green Building Standards. California Code of Regulations (CCR) Title 24 Part 6: California's Energy Efficiency Standards are updated every three years to incorporate new energy efficient technologies and construction methods. The most recent approved update is the 2022 California Green Building Code Standards which became effective January 1, 2023 and result in less energy use. Title 24 standards require solar photovoltaic systems and encourage demand responsive technologies for new residential structures.

AB 1493 Pavley Fuel Efficiency Regulations. California AB 1493 required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Although

[11] 2022 California Gas Report found at: https://www.socalgas.com/regulatory/cgr
[12] California DMV Statistics 2022 found at: https://www.dmv.ca.gov/portal/news-and-media/dmv-statistics/

aimed at reducing GHG emissions, the Pavley standards implement improvements in fuel efficiency that results in a reduction in fuel consumption.

California Renewable Portfolio Standard. These standards require retail sellers of electric services to provide 33% of total retail sales of electricity from renewable resources by 2020.

Clean Energy and Pollution Reduction Act of 2015. The standards implemented by this Act (SB 350) require:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 25% by 2027.
- Double the energy efficiency in existing buildings by 2030.
- Reorganize the ISO to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

7.3 Assumptions and Thresholds

The State CEQA Guidelines do not have specific thresholds for Energy consumption. Rather, the question in Appendix G: VI Energy (a) asks, "[Does the proposed project] Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?". Therefore, for the purpose of this analysis, a significant impact would occur if:

- The Project design and/or location encourages wasteful, inefficient, and unnecessary consumption of energy, especially fossil fuels such as coal, natural gas, and petroleum, as well as the use of fuel by vehicles anticipated to travel to and from the project.

The following assumptions were used to calculate the energy consumption of the proposed project:

- The project's construction and operational electricity consumption would be provided by SCE.
- Construction equipment fuel consumption derived from ARB Offroad2021 emission model
- Fuel Consumption from vehicle travel derived from ARB EMFAC2021 emission model
- Electrical, natural gas, and fuel usage was derived from the CalEEMod model Version 2022.1

7.4 Construction Consumption

Electricity and Natural Gas Usage
Due to the project size and the fact that construction is temporary, the electricity used would be substantially less than that required for project operation and would have a negligible contribution to the project's overall energy consumption. The electric power used would be for as-necessary lighting and electronic equipment such as computers inside temporary construction trailers. Natural gas is not anticipated to be needed for construction activities. Any consumption of natural gas would be minor and negligible in comparison to the operation of the proposed project.

Petroleum Fuel Usage

Construction equipment (off-road/heavy duty vehicles) would rely on diesel fuel as would vendor and haul trucks involved in delivering building materials and removing the demolition debris from the project site. Construction workers would travel to and from the project site throughout the duration of construction, and for a conservative analysis it is assumed that all construction workers would travel in gasoline-powered passenger vehicles.

Table 16 used the total fuel consumption and horsepower-hour data contained within the ARB OffRoad2021 emission model for specific types of diesel construction equipment. It should be noted that the total fuel consumption is a conservative analysis and would likely overstate the amount of fuel usage, as specific construction equipment is not expected to operate during the duration of the construction activity (i.e., crane). Table 17 summarizes the project's construction vehicle fuel usage based on vehicle miles traveled and fuel usage factors contained in the ARB EMFAC2021. The trips included are worker vehicles, vendor vehicles, and haul vehicles. Table 18 shows the overall fuel consumption for construction of the proposed project. Fuel calculations can be found in Appendix B.

Table 16. Construction Equipment Fuel Usage

Activity	Equipment	Number	Hours per day	Horse-power	Load Factor	Days of Construction	Total Horsepower-hours	Fuel Rate (gal/hp-hr)	Fuel Use (gallons)
Site Preparation	Rubber Tired Dozers	3	8	367	0.4	10	35232	0.020615155	726
	Tractors/Loaders/Backhoes	4	8	84	0.43	10	11558	0.019155948	221
Grading	Excavators	1	8	36	0.38	20	2189	0.019868435	43
	Graders	1	8	148	0.41	20	9709	0.021167864	206
	Rubber Tired Dozers	1	8	367	0.4	20	23488	0.020615155	484
	Tractors/Loaders/Backhoes	3	8	84	0.43	20	17338	0.019155948	332
Building Construction	Cranes	1	8	367	0.29	230	195831	0.014896922	2,917
	Forklifts	3	8	82	0.2	230	90528	0.010444038	945
	Generator Sets	1	8	14	0.74	230	19062	0.081165978	1,547
	Tractors/Loaders/Backhoes	3	8	84	0.37	230	171562	0.019155948	3,286
	Welders	1	8	46	0.45	230	38088	0.032248142	1,228
Paving	Pavers	2	8	81	0.42	20	10886	0.021536901	234
	Paving Equipment	2	8	89	0.36	20	10253	0.01846541	189
	Rollers	2	8	36	0.38	20	4378	0.019837453	87
Architectural Coating	Air Compressors	1	8	37	0.48	20	2842	0.030238803	86
								Total	12,531

Source: CalEEmod Output Sheets, Fuel Calculation Sheet

Table 17. Estimated Project Construction Vehicle Fuel Usage

Construction Source	Number	VMT	Fuel Rate	Gallons of Diesel Fuel	Gallons of Gasoline Fuel
Haul Trucks	565	11,300	5.92	1,907	0
Vendor Trucks	17	52,020	8.96	5,803	0
Worker Vehicles	101	204,980	24.64	0	8,320
Total				7,710	8,320

Source: CalEEmod Output Sheets, Fuel Calculation Sheet

Table 18. Total Construction Fuel Usage

Construction Source	Gallons of Diesel Fuel	Gallons of Gasoline Fuel
Construction Vehicles	7,710	8,320
Off-road Construction Equipment	12,531	0
Total	20,241	8,320

Construction Energy Efficiency

The CARB regulates emissions from construction equipment, and the equipment used for project construction would comply with CARB regulations and California fuel economy/emissions standards, which would be verified through the City's construction permitting process. The project does not include any unusual construction processes that would require a substantial increased need for energy resources. The construction equipment and methods used by the project would not be more energy intensive than typical construction activities throughout the Southern California region.

Construction contractors would be required to comply with applicable CARB regulations regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CCR Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Section 2449(d)(3) requires that "grading plans shall reference the requirement that a sign shall be posted on-site stating that construction workers need to shut off engines at or before five minutes of idling." In this manner, construction equipment operators are required to be informed that engines are to be turned off at or prior to five minutes of idling. Idling restrictions and the use of newer engines and equipment would result in less fuel consumption, and wasteful or unnecessary consumption of energy would not occur. Overall, project construction would not result in inefficient wasteful, or unnecessary consumption of energy.

7.5 Operational Consumption

The operation of the proposed project would consume electricity, natural gas, and petroleum. The energy consumption is provided in Table 19. Electricity and natural gas consumption were determined by the Annual CalEEMod Output Sheets in Appendix A.

The gasoline consumption rates and diesel consumption rates utilize the same assumptions that were used for the worker vehicles and vendor/haul trucks respectively, and can be found in Appendix B.

Table 19. Project Annual Operational Energy Requirements

Operational Source	Energy Usage	
Electricity (Kilowatt-Hours)		
Proposed	522,989	
Natural Gas (Thousands British Thermal Units)[1]		
Project	2,018,297	
Petroleum (gasoline) Consumption		
	Annual VMT	Gallons of Gasoline Fuel
Project	792,940	31,200
Diesel Consumption		
	Annual VMT	Gallons of Diesel Fuel
Project	541,305	86,001

[1] Includes natural gas consumption from Forklifts
Source: CalEEmod Output Sheets, Fule Calculation Sheet

7.6 Conclusion

The proposed project has no unusual characteristics that would make the construction fuel and energy consumption associated with construction of the project less efficient compared to other similar construction projects throughout the state. The energy consumption for construction would also be temporary and localized. Operation of the of 5705 Industrial Parkway project would comply with all the energy efficiency requirements under Title 24 and all applicable City energy codes. Therefore, the construction and operation of the project would result in a less than significant impact related to inefficient, wasteful, or unnecessary energy use, and no mitigation would be required.

8 GREENHOUSE GAS EMISSIONS

8.1 Environmental Setting

Gases that trap heat in the atmosphere are often referred to as greenhouse gases (GHGs). GHGs are released into the atmosphere by both natural and anthropogenic activity. The primary GHGs from development projects are CO_2, CH_4, and N_2O.

- CO_2 is an odorless and colorless GHG that is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: burning of coal, oil, natural gas, and wood.
- CH_4 is reactive with oxidizers, halogens, and other halogen-containing compounds and is released as part of the biological processes such as growing rice, raising cattle, fossil-fuel combustion and biomass burning have added to the atmospheric concentration of CH4.
- N_2O is produced by microbial processes in soil and water, fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions. It is used as an aerosol spray propellant in whipped cream cans, used in potato chip bags to keep chips fresh, and used in rocket engines and in race cars.

The CARB compiles GHG inventories for the State of California. Based upon the 2022 GHG inventory data for the 2000-2020 GHG emissions period, California emitted an average 369.2 million metric tons of CO_2e, CO_2 and other GHG emissions converted into CO_2 by impact on global warming, per year ($MMTCO_2e$) [13]. This accounts for 6.17% of the total United States net emissions (5,981.4 $MMTCO_2e$)[14].

SCAG prepared a report to analyze GHG emissions and project GHG emissions to 2035[15]. The last year of historical emissions data available was 2008, where California Emissions were 480.9 $MMTCO_2e$ and SCAG GHG emissions were 230.2 $MMTCO_2e$, which equates to 48% of California's GHG emissions. The report projected by 2020, SCAG would emit 215.8 $MMTCO_2e$, a reduction of 6.26%, and using the CARB 2020 GHG inventory data, would comprise of 58.5% of California's GHG emissions.

The cumulative effects of GHGs are global climate change, which has the potential to cause adverse effects to human health. Increases in the Earth's ambient temperatures are anticipated to result in shifts in weather patterns such as more intense heat waves, greater droughts and wildfires in areas, and flooding in others. Higher ambient temperatures can cause more heat-related deaths, increase disease survival rates, and result in food shortages from agricultural losses.

[13] Air Resources Board, 2022 GHG Inventory: *California Greenhouse Gas Emission for 2000-2022 Trends of Emissions and Other Indicators*

[14] United States Environmental Protection Agency: Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2020

[15] Final Southern California Association of Governments Regional Greenhouse Gas Emissions Inventory and Reference Case Projections 1990-2035, May 2012

8.2 Regulatory Setting

State

California Assembly Bill 1493 - Pavley

The California Legislature adopted AB 1493, requiring the adoption of regulations to reduce GHG emissions in the transportation sector. CARB, EPA, and the U.S. Department of Transportation's National Highway Traffic and Safety Administration (NHTSA) have coordinated efforts to develop fuel economy and GHG standards for model 2017-2025 vehicles. The GHG standards are incorporated into the "Low Emission Vehicle" (LEV) Regulations.

The regulation reduces GHGs from new cars by 34% from 2016 levels by 2025. The regulation improves emissions and fuel economy of gasoline and diesel-powered cars, and provides for zero-emission technologies, such as full battery electric cars, plug-in hybrid electric vehicles (EV), and hydrogen fuel cell cars.

California Executive Order S-3-05 – Statewide Emission Reduction Targets

Executive Order S-3-05 was signed by Governor Arnold Schwarzenegger in June 2005. Executive Order S-3-05 establishes statewide emission reduction targets through the year 2050:

- 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.

California Assembly Bill 32 (AB 32), Global Warming Solutions Act of 2006 (Chapter 488, Statutes of 2006)

In 2006, the Legislature passed the California Global Warming Solutions Act of 2006 [Assembly Bill 32 (AB 32)], which created a comprehensive, multi-year program to reduce GHG emissions in California. AB 32 required CARB to develop a Scoping Plan that describes the approach California will take to reduce GHGs. The 2017 Scoping Plan identifies how the State will reach the 2030 climate target to reduce GHG emissions by 40 percent from 1990 levels, and substantially advance toward the 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels.

The AB 32 Scoping Plan also anticipates that local government actions will result in reduced GHG emissions because local governments have the primary authority to plan, zone, approve, and permit development to accommodate population growth and the changing needs of their jurisdictions. The Scoping Plan also relies on the requirements of Senate Bill 375 (discussed below) to align local land use and transportation planning for achieving GHG reductions.

SB 375 – Sustainable Communities and Climate Protection Act of 2008.

According to SB 375, the transportation sector is the largest contributor of GHG emissions and emits over 40% of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: it (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

Executive Order B-30-15 – 2030 Statewide Emission Reduction Target

Executive Order B-30-15 established an interim statewide GHG reduction target of 40 percent below 1990 levels by 2030. Under this Executive Order, all state agencies with jurisdiction over sources of GHG emissions are required to continue to develop and implement emissions reduction programs to reach the state's 2050 target. According to the Governor's Office, this Executive Order is in line with the scientifically established levels needed in the United States to limit global warming below 2°C - the warming threshold at which scientists say there will likely be major climate disruptions such as super droughts and rising sea levels.

Senate Bill 32 (Chapter 249, Statutes of 2016)

SB 32 requires the state to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80 percent below 1990 levels by 2050. A related bill that was also approved in 2016, AB 197 (Chapter 250, Statutes of 2016) creates a legislative committee to oversee regulators to ensure that ARB is not only responsive to the Governor, but also the Legislature.

Executive Order B-55-18 and SB 100.

SB 100 raises California's Renewable Portfolio Standards requirement to 50% renewable resources by December 31, 2026, and to achieve 60% by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total amount sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. Executive Order B-55-18 establishes a carbon neutrality goal for the state of California by 2045; and sets a goal to maintain net negative emissions thereafter.

Title 24 Requirement

Title 24 Part 6: The California Energy Code was adopted to reduce California's energy consumption. The measures required by development projects in Title 24: Part 6 that are required, but not limited to, the following:

- Short-term bicycle parking. Provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack.
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility.
- Designated parking for clean air vehicles. Provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Title 24 Part 6 Table 5.106.5.2.
- Electric vehicle charging stations. Facilitate the future installation of electric vehicle supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. Additionally, instillation of raceway conduit and panel pawer requirements for medium and heavy duty electric vehicle supply equipment would be required for warehouses, grocery stores, and retail stores.

- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, uplight and glare ratings per Title 24 Part 6 Table 5.106.8.
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste.
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled.
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals.
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
- Water Closets. The effective flush volume of all water closets shall not exceed
- 1.28 gallons per flush
- Urinals. The effective flush volume of wall-mounted urinals shall not exceed
- 0.125 gallons per flush. The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush.
- Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi. When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi.
- Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi. Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi. Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute. Metering faucets shall not deliver more than 0.20 gallons per cycle. Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle.
- Outdoor portable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient (MWELO), whichever is more stringent.
- Water meters. Separate submeters or metering devices shall be installed for new buildings or where any tenant within a new building or within an addition that is project to consume more than 1,000 gallons per day.
- Outdoor water use in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit.
- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements.

Title 24 Part 11: California Green Building Standards Code (CALGreen) was developed in response to continued efforts to reduce GHG emissions associated with energy consumption. The current version of CALGreen Building Standards is the 2022 California Green Building Standards Code, effective January 1, 2023.

City

City of San Bernardino General Plan

The City of San Bernardino adopted the *City of San Bernardino General Plan* on November 1st 2005. The City of San Bernardino General Plan (SBGP) is the document meant to guide the future development within the City. The Natural Resources and Conservation Element includes policies relating to Air Quality and GHG emissions and are applicable to the proposed project. The goals and policies laid out within the SBGP Natural Resources and Conservation Element include:

- **Goal 12.5: Promote air quality that is compatible with the health, wellbeing, and enjoyment of life.**
- **Policy 12.5.1:** Reduce the emission of pollutants including carbon monoxide, oxides of nitrogen, photochemical smog, and sulfate in accordance with SCAQMD standards.
- **Policy 12.5.2:** Prohibit the development of land uses (e.g., heavy manufacturing) that will contribute significantly to air quality degradation, unless sufficient mitigation measures are undertaken according SCAQMD standards.
- **Policy 12.5.3:** Require dust abatement measures during grading and construction operations.
- **Policy 12.5.4:** Evaluate the air emissions of industrial land uses to ensure that they will not impact adjacent uses.
- **Policy 12.5.5:** Purchase City vehicles that use energy efficient fuel and minimize air pollution.
- **Goal 12.6: Reduce the amount of vehicular emissions in San Bernardino.**
- **Policy 12.6.1:** Promote a pattern of land uses which locates residential uses in close proximity to employment and commercial services and provides, to the fullest extent possible, local job opportunities and commercial service to minimize vehicular travel and associated air emissions.
- **Policy 12.6.2:** Disperse urban service centers (libraries, post offices, social services, etc.) throughout the City to minimize vehicle miles traveled and the concomitant dispersion of air pollutants.
- **Policy 12.6.3:** Install streetscape improvements and other amenities to encourage pedestrian activity in key City areas and reduce vehicular travel and associated air emissions.
- **Policy 12.6.4:** Facilitate the development of centralized parking lots and structures in commercial districts to promote walking between individual businesses in lieu of the use of automobiles.
- **Policy 12.6.5:** Require qualifying development to implement or participate in transportation demand management programs, which provide incentives for car pooling, van pools, and the use of public transit and employ other trip reduction techniques (consistent with the Circulation Element and South Coast Air Quality Management Plan).
- **Policy 12.6.6:** Continue to cooperate with Omnitrans and the Rapid Transit District to expand as necessary the comprehensive mass transit system for the City to reduce vehicular travel.
- **Policy 12.6.7:** Promote the use of public transit and alternative travel modes to reduce air emissions.
- **Goal 12.6: Participate in regional initiatives and programs to improve the South Coast Basin's air quality.**

- **Policy 12.7.1:** Cooperate with the South Coast Air Quality Management District and incorporate pertinent local implementation provisions of the Air Quality Management Plan.
- **Policy 12.7.2:** Work with the South Coast Air Quality Management District to establish controls and monitor uses in the City that could add to the air basin's degradation (e.g. auto repair, manufacturers).
- **Policy 12.7.3:** Coordinate with SCAQMD to ensure that all elements of air quality plans regarding reduction of air pollutant emissions are being enforced.
- **Policy 12.7.4:** Work with the other cities in the South Coast Air Basin to implement regional mechanisms to reduce air emissions and improve air quality.
- **Policy 12.7.5:** Support legislation that promotes cleaner industry, clean fuel vehicles, and more efficient burning engines and fuels.
- **Policy 12.7.6:** Encourage, publicly recognize, and reward innovative approaches to improve air quality.
- **Policy 12.7.7:** Involve environmental groups, the business community, special interests, and the general public in the formulation and implementation of programs that actively reduce airborne pollutants.

8.3 Significance Threshold

The SCAQMD Greenhouse Gas Emissions (GHG) CEQA Significance Threshold Working Group has identified GHG emissions thresholds for land use projects in the *SCAQMD Draft Guidance Document – Interim CEQA GHG Significance Threshold* that could be used by lead agencies.[16] The Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. For industrial land uses, the threshold recommended was 10,000 $MTCO_2e$. The City of San Bernardino utilizes this threshold for industrial projects, therefore the threshold for this analysis is 10,000 $MTCO_2e$ per year.

8.4 Project Emissions

To analyze the GHG impacts of the proposed project, CalEEMod Version 2022.1 was used. The project's construction GHG emissions are shown in Table 17, and the overall construction and operational emissions are shown in Table 18. The CalEEMod outputs are attached in Appendix A. The construction emissions are amortized over 30 years pursuant to SCAQMD methodology.

Table 17 shows that the project would emit a total of 520 Annual $MTCO_2e$ in over the duration of construction, with 2023 having the highest emission (277 $MTCO_2e$). Amortized over 30 years, the project's construction emissions would be 17 $MTCO_2e$ per year.

As shown in Table 18, the amortized construction emissions added to the operational emissions (area, energy, mobile, waste, and water) would add up to a total of 2,961 $MTCO_2e$. With the existing onsite GHG emissions totaling 972 $MTCO_2e$, the proposed projects GHG emissions total

[16] SCAQMD 2010. Minutes of the GHG CEQA Significance Threshold Stakeholder Working Group #15. Referenced at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf

1,989 $MTCO_2e$, which is below the 10,000 $MTCO_2e$ threshold. Therefore, the proposed project would have a less than significant impact related to GHG emissions.

Table 20. Project Construction GHG Emissions

Activity	Annual GHG Emissions ($MTCO_2e$)
2022	277
2023	243
Total Emissions	520
Total Emissions Amortized Over 30 Years	17

Source: CalEEmod Output Sheets

Table 21. Project GHG Emissions

Activity	Annual GHG Emissions ($MTCO_2e$)
Project Operational Emissions	
Mobile	1,285
Area	3
Energy	190
Water	60
Waste	31
Refrigeration (Office Space)	465
Off-Road	253
Total Project Gross Operation Emissions	2,287
Project Construction Emissions	17
Total Project Emissions	**2,304**
Significance Threshold	10,000
Threshold Exceeded?	**No**

Source: CalEEmod Output Sheets

8.5 Project Consistency with SB 32/2022 Scoping Plan and City of San Bernardino General Plan

The 2022 Scoping Plan Update sets the reduction target for 2045 at 85% below 1990 levels, which was codified by SB 32. Table 19 and Table 20 show consistency with both statewide and citywide plans to reduce GHG emissions. As seen in Table 19 and Table 20, the project would be consistent with the 2022 Scoping Plan and City of San Bernardino General Plan actions and goals.

Table 22. 2022 Scoping Plan Consistency Summary

Action	Consistency
GHG Emissions Reductions Relative to the SB 32 Target	
40% Below 1990 levels by 2030.	**Consistent.** The project would comply with the 2022 Title 24, Part 6 building energy requirements, as well as SCAQMD Rule 2305 Warehouse Actions and Investments to Reduce Emissions (WAIRE), along with other local and state initiatives that aim to achieve the 40% below 1990 levels by 2030 goal.
Smart Growth/Vehicle Miles Traveled VMT	
VMT per capita reduced 25% below 2019 levels by 2030, and 30% below 2019 levels by 2045.	**Consistent.** The location of the proposed project encourage alternative modes of transportation as it is located within a High Quality Transit Area. Additionally, the project is consistent with the existing General Plan Land Use, so the project would not interfere with the analysis completed for the Connect SoCal (SCAG, 2020) report outlining VMT reduction targets and measures.
Light-Duty Vehicle (LDV) Zero-Emission Vehicles (ZEVs)	
100% of LDV sales are ZEV by 2035.	**Consistent.** The proposed project would be designed and constructed in accordance with the 2022 Title 24 Part 6 and Part 11 requirements, which includes ZEV designated parking spaces and charging stations.
Truck ZEVs	
100% of medium-duty (MDV)/HDC sales are ZEV by 2040 (AB 74 University of California Institute of Transportation Studies [ITS] report).	**Consistent.** The proposed project would be designed and constructed in accordance with the 2022 Title 24 Part 6 and Part 11 requirements, which includes Truck ZEV charging stations at designated loading docks.
Aviation	
20% of aviation fuel demand is met by electricity (batteries) or hydrogen (fuel cells) in 2045. Sustainable aviation fuel meets most or the rest of the aviation fuel demand that has not already transitioned to hydrogen or batteries.	**Not Applicable.** The proposed project would not utilize aviation fuel.
Ocean-going Vessels (OGV)	
2020 OGV At-Berth regulation fully implemented, with most OGVs utilizing shore power by 2027. 25% of OGVs utilize hydrogen fuel cell electric technology by 2045.	**Not Applicable.** The proposed project would not utilize any OGVs.
Port Operations	
100% of cargo handling equipment is zero-emission by 2037. 100% of drayage trucks are zero emission by 2035.	**Not Applicable.** The proposed project would not impact any operations at any ports.
Freight and Passenger Rail	

100% of passenger and other locomotive sales are ZEV by 2030. 100% of line haul locomotive sales are ZEV by 2035. Line haul and passenger rail rely primarily on hydrogen fuel cell technology, and others primarily utilize electricity.	**Not Applicable.** The proposed project would not involve any freight or passenger rail operations.
Oil and Gas Extraction	
Reduce oil and gas extraction operations in line with petroleum demand by 2045.	**Not Applicable.** The proposed project would not involve any oil or gas extraction.
Petroleum Refining	
CCS on majority of operations by 2030, beginning in 2028. Production reduced in line with petroleum demand.	**Not Applicable.** The proposed project would not involve any petroleum refining.
Electricity Generation	
Sector GHG target of 38 million metric tons of carbon dioxide equivalent (MMTCO2e) in 2030 and 30 MMTCO2e in 2035. Retail sales load coverage134 20 gigawatts (GW) of offshore wind by 2045. Meet increased demand for electrification without new fossil gas-fired resources.	**Consistent.** The project would comply with the 2022 Title 24, Part 6 building energy requirements, including increases in onsite renewable energy generation requirements as well as improved insulation reducing energy consumption.
New Residential and Commercial Buildings	
All electric appliances beginning 2026 (residential) and 2029 (commercial), contributing to 6 million heat pumps installed statewide by 2030.	**Consistent.** The project would comply with the 2022 Title 24, Part 6 building energy requirements, including installing electrical wiring for all built in appliances.
Existing Residential Buildings	
80% of appliance sales are electric by 2030 and 100% of appliance sales are electric by 2035. Appliances are replaced at end of life such that by 2030 there are 3 million all-electric and electric-ready homes—and by 2035, 7 million homes—as well as contributing to 6 million heat pumps installed statewide by 2030.	**Not Applicable.** The proposed project would not involve any existing residential buildings.
Existing Commercial Buildings	
80% of appliance sales are electric by 2030, and 100% of appliance sales are electric by 2045. Appliances are replaced at end of life, contributing to 6 million heat pumps installed statewide by 2030.	**Not Applicable.** The proposed project would not involve any existing commercial buildings.
Food Products	
7.5% of energy demand electrified directly and/or indirectly by 2030; 75% by 2045.	**Consistent.** The proposed project would not include refrigeration; therefore, no perishable food products would be associated with the operation of the proposed warehouse. However, the proposed project could be utilized for nonperishable food products. The proposed project would comply with the 2022 Title 24, Part 6 building energy requirements,

	including increases in onsite renewable energy generation requirements as well as improved insulation reducing energy consumption.
Construction Equipment	
25% of energy demand electrified by 2030 and 75% electrified by 2045.	**Consistent.** The proposed project would be required to use construction equipment that are registered by CARB and meet CARB's standards. CARB set's its standards to be inline with the goal of reducing energy demand by 25% in 2030 and 75 m% in 2045.
Chemicals and Allied Products; Pulp and Paper	
Electrify 0% of boilers by 2030 and 100% of boilers by 2045. Hydrogen for 25% of process heat by 2035 and 100% by 2045. Electrify 100% of other energy demand by 2045.	**Consistent.** The proposed project could be utilized for pulp and/or paper products food products. The proposed project would comply with the 2022 Title 24, Part 6 building energy requirements, , including installing electrical wiring for all built in appliances.
Stone, Clay, Glass, and Cement	
CCS on 40% of operations by 2035 and on all facilities by 2045. Process emissions reduced through alternative materials and CCS.	**Consistent**. The proposed project could be utilized for stone, clay, glass, and/or cement storage. The proposed project does not include manufacturing operations; however, all necessary and applicable air permits associated with the storage of stone, clay, glass, and/or cement would be obtained before operations commence.
Other Industrial Manufacturing	
0% energy demand electrified by 2030 and 50% by 2045.	**Not Applicable.** The project site does not involve manufacturing operations.
Combined Heat and Power	
Facilities retire by 2040.	**Not Applicable.** The proposed project would not involve any existing combined heat and power facilities.
Agriculture Energy Use	
25% energy demand electrified by 2030 and 75% by 2045.	**Not Applicable.** The proposed project would not involve any agricultural uses.
Low Carbon Fuels for Transportation	
Biomass supply is used to produce conventional and advanced biofuels, as well as hydrogen.	**Not Applicable.** The proposed project would not involve any production of biofuels.
Low Carbon Fuels for Buildings and Industry	
In 2030s, biomethane135 blended in pipeline Renewable hydrogen blended in fossil gas pipeline at 7% energy (~20% by volume), ramping up between 2030 and 2040. In 2030s, dedicated hydrogen pipelines constructed to serve certain industrial clusters	**Not Applicable.** The proposed project would not involve any production of fuels for buildings and industry.
Non-combustion Methane Emissions	
Increase landfill and dairy digester methane capture. Some alternative manure management deployed for smaller dairies.	**Not Applicable.** The proposed project would not involve any landfill and/or dairy uses.

Moderate adoption of enteric strategies by 2030. Divert 75% of organic waste from landfills by 2025. Oil and gas fugitive methane emissions reduced 50% by 2030 and further reductions as infrastructure components retire in line with reduced fossil gas demand	
High GWP Potential Emissions	
Low GWP refrigerants introduced as building electrification increases, mitigating HFC emissions.	**Not Applicable.** The proposed project does not include refrigeration uses nor would the include any manufacturing operations.

Source: California's 2022 Climate Change Scoping Plan Table 2-1: Actions for the Scoping Plan Scenario: AB 32 GHG Inventory Sectors

Table 23. City of San Bernardino General Plan Consistency Summary

Measure	Consistency
Goal 12.5: Promote air quality that is compatible with the health, wellbeing, and enjoyment of life.	
P 12.5.1: Reduce the emission of pollutants including carbon monoxide, oxides of nitrogen, photochemical smog, and sulfate in accordance with SCAQMD standards.	**Consistent.** The proposed project's criteria pollutant emissions are below the SCAQMD regional thresholds and would be consistent with SCAQMD rules and regulations for industrial uses.
P 12.5.2: Prohibit the development of land uses (e.g. heavy manufacturing) that will contribute significantly to air quality degradation, unless sufficient mitigation measures are undertaken according SCAQMD standards.	**Consistent.** The proposed project would not contribute to air quality degradation and would be consistent with the Advanced Clean Truck Guidance.
P 12.5.3: Require dust abatement measures during grading and construction operations.	**Consistent**. The construction of the proposed project would comply with SCAQMD Rule 403 and would not have a significant regional or localized impact for PM 10 or PM 2.5 emissions.
P 12.5.4: Evaluate the air emissions of industrial land uses to ensure that they will not impact adjacent uses.	**Consistent.** The proposed project would not have significant impact on regional or localized emissions.
P 12.5.5: Purchase City vehicles that use energy efficient fuel and minimize air pollution.	**Not Applicable.** The proposed project would not interfere with this policy.
Goal 12.6: Reduce the amount of vehicular emissions in San Bernardino.	
P 12.6.1: Promote a pattern of land uses which locates residential uses in close proximity to employment and commercial services and provides, to the fullest extent possible, local job opportunities and commercial services to minimize vehicular travel and associated air emissions.	**Consistent.** The proposed project is located within a high-quality transit area, which encourages alternative modes of transportation.
P 12.6.2: Disperse urban Service centers (libraries, post offices, social services, etc.) throughout the City to minimize vehicle miles traveled and the concomitant dispersion of air pollutants.	**Not Applicable.** The proposed project would not interfere with service centers being developed in a way to minimize vehicle miles traveled.
P 12.6.3: Install streetscape improvements and other amenities to encourage pedestrian activity in key City areas and reduce vehicular travel and associated air emissions.	**Consistent.** The proposed project would construct sidewalks along the project boundary, adding pedestrian facilities that will improve sidewalk connectivity.
P 12.6.4: Facilitate the development of centralized parking lots and structures in commercial districts to promote walking between individual businesses in lieu of the use of automobiles.	**Not Applicable.** The proposed project is not a commercial district and would not interfere with the development of centralized parking lots in commercial districts.
P 12.6.5: Require qualifying development to implement or participate in transportation demand management programs, which provide incentives for car pooling, van pools, and the use of public transit and employ other trip	**Not Applicable.** The proposed project would not interfere with the implementation or participation in transportation demand management programs.

reduction techniques (consistent with the Circulation Element and South Coast Air Quality Management Plan).	
P 12.6.6: Continue to cooperate with Omnitrans and the Rapid Transit District to expand as necessary the comprehensive mass transit system for the City to reduce vehicular travel.	**Not Applicable.** The proposed project would not interfere in the cooperation with Omnitrans and the Rapid Transit District.
P 12.6.7: Promote the use of public transit and alternative travel modes to reduce air emissions.	**Consistent.** The proposed project is located within a high-quality transit area, which encourages alternative modes of transportation.
Goal 12.7: Participate in regional initiatives and programs to improve the South Coast Basin's air quality.	
P 12.7.1: Cooperate with the South Coast Air Quality Management District and incorporate pertinent local implementation provisions of the Air Quality Management Plan.	**Consistent.** The proposed project would comply with all SCAQMD provisions and would not interfere in the cooperation with SCAQMD.
P 12.7.2: Work with the South Coast Air Quality Management District to establish controls and monitor uses in the City that could add to the air basin's degradation (e.g. auto repair, manufacturers).	**Not Applicable.** The proposed project would not interfere in the cooperation with SCAQMD to establish controls and monitor uses in the City.
P 12.7.3: Coordinate with SCAQMD to ensure that all elements of air quality plans regarding reduction of air pollutant emissions are being enforced.	**Consistent.** The proposed project would comply with all SCAQMD provisions interfere in the coordination with SCAQMD to enforce air quality plans.
P 12.7.4: Work with the other cities in the South Coast Air Basin to implement regional mechanisms to reduce air emissions and improve air quality.	**Not Applicable.** The proposed project would not interfere in the cooperation with other cities within the SCAB region to implement reginal mechanisms to reduce air emissions and improve air quality.
P 12.7.5: Support legislation that promotes cleaner industry, clean fuel vehicles, and more efficient burning engines and fuels.	**Not Applicable.** The proposed project does not interfere with the support of legislation that promotes cleaner industry, clean fuel vehicles, and more efficient burning engines and fuels.
P 12.7.6: Encourage, publicly recognize, and reward innovative approaches to improve air quality.	**Not Applicable.** The proposed project does not interfere with the promotion of innovative approaches to improve air quality.
P 12.7.7: Involve environmental groups, the business community, special interests, and the general public in the formulation and implementation of programs that actively reduce airborne pollutants.	**Not Applicable.** The proposed project does not interfere in the involvement of environmental groups, business community, special interests, and the general public to actively reduce airborne pollutants

Source: City of San Bernardino General Plan Natural Resources and Conservation Element

8.6 Conclusion

The project is consistent with the actions and measures of the 2022 Scoping Plan and SBGP respectively and would not interfere with the policies and goals set within those plans. In addition, the proposed project's GHG emissions of 2,304 $MTCO_2e$ per year is below the SCAQMD Significance threshold of 10,000 $MTCO_2e$ per year. Therefore, the project would have a less than significant impact related to GHG emissions.

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APPENDIX A – CALEEMOD OUTPUT SHEETS

APPENDIX B – FUEL CALCULATIONS