Cypress Grove

Air Quality Impact Analysis

Prepared for
City of Tustin, Planning Division

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1 INTRODUCTION

This Air Quality Impact Analysis evaluates the potential impacts of the proposed Cypress Grove Project (proposed Project). The Project is located within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The proposed site is located in the northeastern portion of the City of Tustin (City), bordered to the west by Prospect Avenue, to the south by 17th Street, to the east by Howland Way, and to the north by Arbolada Way. The Project site, located at 17852 17th Street in Tustin, spans 8.54 acres and consists of five parcels (APNs 401-401-12 through -17) with multiple addresses: 17772, 17862, 17822, 17782, and 17852 17th Street. Regional access to the site is available via State Route 55 (SR 55), approximately 0.5 miles west of the site. Local access to the site is provided via Prospect Avenue and 17th Street. The regional location of the Project site and aerial image are provided in Figure 1 and Figure 2, respectively.

The Project site is developed with five office buildings totaling 193,000 square feet (SF). The four outer buildings are two stories in height, and the central building is four stories. Due to the age of the buildings, these buildings were inspected for and found to have asbestos containing material (AEI Consultants, 2024).

The Project proposes to demolish the existing site for the development of 145 for-sale residential units, consisting of 62 single-family cluster units and 83 townhome-style residential condominium units which would result in an average net density of 17.06 dwelling units per acre (du/ac) across the Project site. The Project would also include construction of one driveway entrance from Prospect Avenue, an internal access drive, one recreational common space area for resident use, and additional stormwater and utility improvements to accommodate proposed residences. A Class I off-street bike path is proposed within the existing public right-of-way along 17th Street. The conceptual site plan is provided in Figure 3.

The Project site has a General Plan land use designation of Planned Community Commercial/Business (PCCB) and a zoning designation of Planned Community Commercial (PC COM). The PCCB land use designation provides opportunities for a variety of miscellaneous retail, professional office, and service-oriented business activities. The PC COM zoning classification is intended to allow diversification of the relationships of various buildings, structures and open spaces in planned building groups while ensuring substantial compliance with the district regulations and other provisions of the Planned Community District zone.

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) 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 $PM_{2.5}$, described in Section 2.1, *[Air Quality] Environmental Setting*) from direct and indirect sources, and to quantify applicable air quality reductions achieved from mitigation. The thresholds of significance used are the adopted thresholds by the SCAQMD.

1.2 Conclusions

The conclusions of this analysis are as follows:

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 (no more than 50 gram/liter (g/L) of VOC). The proposed Project would also comply with Rule 445, which prohibits the installation of wood burning devices, further avoiding the emissions of particulate matter and volatile organic compounds from wood burning devices.

Projects that do not exceed the regional thresholds are assumed to not have a significant impact on a project-level and cumulative level. The proposed Project aligns with SCAQMD'S 2022 Air Quality Management Plan (AQMP), reflecting adherence to regional air quality management goals and standards. Furthermore, odors produced by construction of the proposed Project would be minimal and temporary, and those produced from operation of the Project would be minimal because the proposed Project involves residential land uses that typically do not generate significant odor complaints. Therefore, the proposed Project would have less-than-significant air quality impacts, with no mitigation required.

Figure 1: Project Location

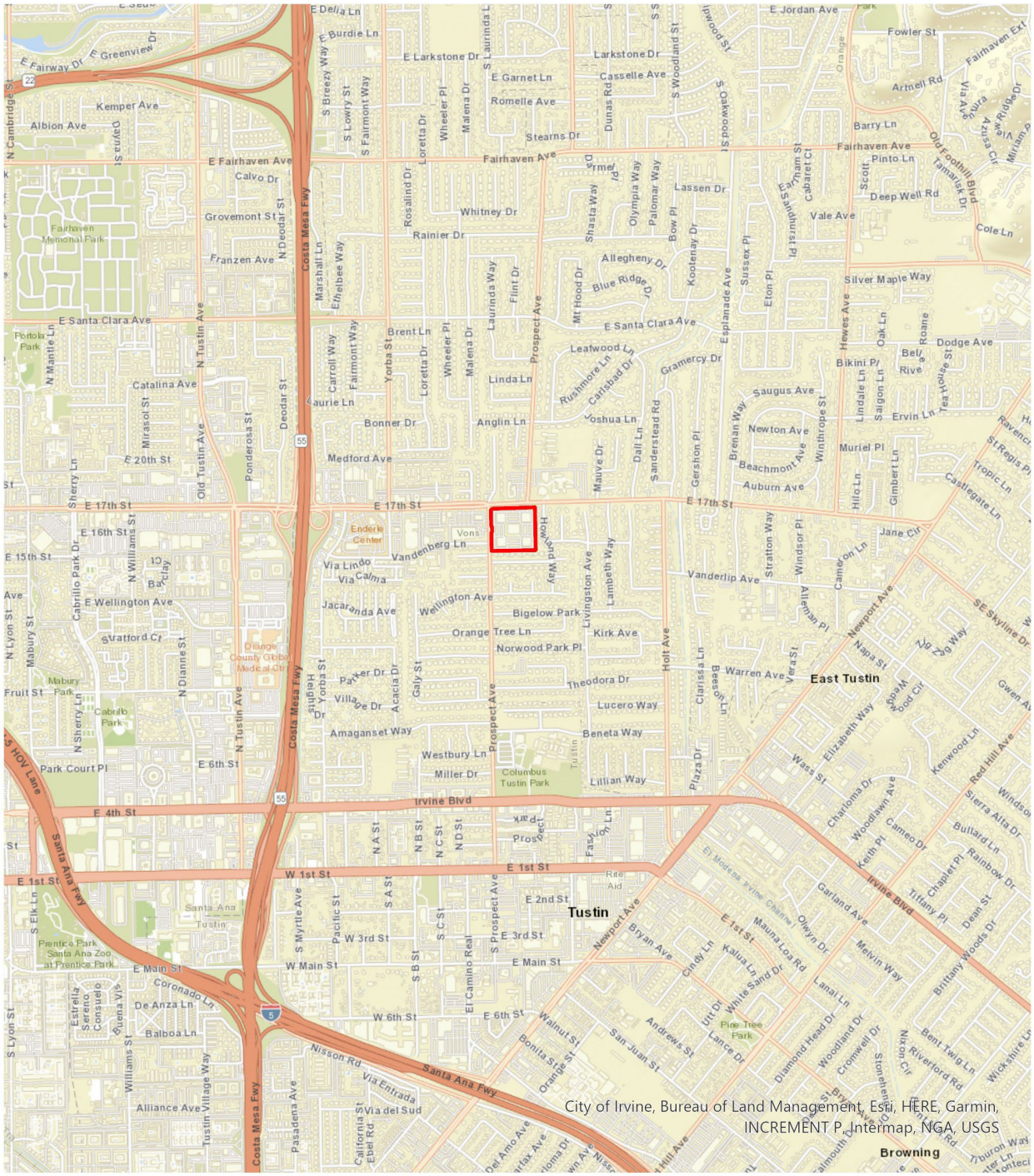

Figure 2: Project Aerial

Legend

Project Site

0 250 500 Feet

N

Figure 3: Conceptual Site Plan

Source: (Kevin L. Crook Architect Inc, 2025)

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2 AIR QUALITY

2.1 Environmental Setting

Local Climate and Meteorology

Climate

The proposed Project is located in the South Coast Air Basin (SCAB), which incorporates all of Orange County and parts of Los Angeles, Riverside, and San Bernardino County. 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 vertical dispersion and strong sunlight create the conditions to form photochemical smog.

Meteorology

Meteorological data for the area is typically obtained from local climate stations. The average annual temperature in Tustin is around 62.9 degrees Fahrenheit (°F). The highest monthly average maximum temperature occurs in August at 83.9°F and the lowest monthly average minimum temperature occurs in December at 42.2°F. The average annual precipitation in the area is approximately 14.3 inches, with most of the rainfall occurring during the winter months (Western Regional Climate Center, n.d.).

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 that may be toxic. Compounds of carbon (also known as organic compounds) are a precursor to ozone (O_3). ROGs often have an odor, some of which 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, cause difficulty breathing and nausea, and damage the central nervous system or cause cancer. The United States Environmental Protection Agency (USEPA) and SCAQMD both use the terms VOC (volatile organic compounds) and ROG interchangeably in their regulatory frameworks (United States Environmental Protection Agency, 2024a). While there are nuanced differences in application, both agencies recognize VOC and ROG as equivalent terms within the scope of air quality management. Thus, the remainder of this report references the pollutant as VOC or ROG interchangeably.

- **Oxides of nitrogen (NO_x).** NO_x consists of nitric oxide (NO), nitrogen dioxide (NO_2), and five other compounds, which are formed when nitrogen combines with oxygen. NO_x is typically created during combustion processes and are major contributors to smog formation and acid deposition. Short-term exposure to NOx may result in an increase in resistance to air flow and airway contraction in healthy subjects. Long-term exposure to NO_x is associated with an increase in acute respiratory illness, including infections and respiratory symptoms in children.
- **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 oxygen (O_2) transport and competing with O_2 to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Therefore, individuals with conditions requiring an increased demand for O_2 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 (O_2 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 a 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 reduced visibility (haze), 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 such as 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 (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 released from power plants and industrial facilities and nitrates that are formed from NO_X released from power plants, automobiles, and other types of combustion sources. $PM_{2.5}$ results in the same type of health effects as PM_{10}.

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.

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, hospitals, and other similar land uses where an individual can remain for 24 hours. The closest sensitive receptor, a residential site, is located approximately 5 feet (1.5 meters) south of the Project's southern boundary.

Existing Air Quality

Regional Air Quality

The City of Tustin is located within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). As the Project site is within the jurisdiction of SCAQMD, the air quality regulations and guidelines from this district will be applicable to the Project. 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) was drafted by the 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 1-hour and 8-hour ozone, $PM_{2.5}$, and lead, and a State nonattainment area for 1-hour and 8-hour ozone, 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	Nonattainment
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
All others	Attainment/Unclassified	No Standards

Source: (SCAQMD, 2022)

Local Air Quality

The SCAQMD has designated air monitoring areas (referred to as Source Receptor Areas [SRA]) throughout the district in order to provide information regarding air quality conditions. The Project site is located within SRA 17, Central Orange County. The Anaheim monitoring station (Station ID 060590007), located in SRA 17, provides data for O_3, CO, NOx, PM_{10}, and $PM_{2.5}$, and is located approximately 8 miles northwest of the Project site.

The most recent three years of data available are shown in Table 2, *Project Area Air Quality Monitoring Summary 2021-2023*. Table 2 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 O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ for 2021 through 2023 were obtained from the SCAQMD 2021, 2022,

and 2023 Air Quality Data Tables (SCAQMD, n.d.-a). Additionally, data for SO_2 has been omitted as attainment is regularly met in the SCAB and few monitoring stations measure SO_2 concentrations.

Table 2: Project Area Air Quality Monitoring Summary 2021-2023

Pollutant	Standard	Year		
		2021	2022	2023
O_3				
Maximum Federal 1-Hour Concentration (ppm)		0.089	0.102	0.089
Maximum Federal 8-Hour Concentration (ppm)		0.068	0.076	0.076
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	0	1	0
Number of Days Exceeding Federal 8-Hour Standard	> 0.070 ppm	0	1	2
Number of Days Exceeding State 8-Hour Standard	> 0.070 ppm	0	1	2
CO				
Maximum Federal 1-Hour Concentration	> 35 ppm	2.1	2.4	2.5
Maximum Federal 8-Hour Concentration	> 20 ppm	1.5	1.4	1.6
NOx				
Maximum Federal 1-Hour Concentration	> 0.100 ppm	67.1	53.0	50.9
Annual Federal Standard Design Value		12.4	11.8	10.5
PM_{10}				
Maximum Federal 24-Hour Concentration (μg/m^3)	> 150 μg/m^3	115	90	146
Annual Federal Arithmetic Mean (μg/m^3)		22.9	22.3	24.0
Number of Days Exceeding Federal 24-Hour Standard	> 150 μg/m^3	0	0	0
Number of Days Exceeding State 24-Hour Standard	> 50 μg/m^3	12	7	7
$PM_{2.5}$				
Maximum Federal 24-Hour Concentration (μg/m^3)	> 35 μg/m^3	54.5	33.1	33.2
Annual Federal Arithmetic Mean (μg/m^3)	> 12 μg/m^3	11.44	9.87	9.07
Number of Days Exceeding Federal 24-Hour Standard	> 35 μg/m^3	9	0	0

ppm= parts per million, μg/m^3 = microgram per cubic meter
Source: SCAQMD Historical Air Quality Data By Year, Air Quality Data Table for Central Orange County Air Quality Monitoring Stations (SCAQMD, n.d.-a).

2.2 Regulatory Setting

Federal

The 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. As explained previously, the USEPA requires each State with federal nonattainment areas to prepare and submit an 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 NAAQS and Title II provisions are related to mobile source emissions and require use of cleaner burning gasoline and other cleaner burning fuels.

State

California Air Resources Board and California Ambient Air Quality Standards

The 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 included 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 …

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

For more information please call ARB-PIO at (916) 322-2990 **California Air Resources Board (5/4/16)**

California Building Energy Efficiency Standards

Title 24, Part 6, California Energy Code

The 2022 Energy Code was approved by the California Energy Commission on August 11, 2021. Buildings whose permit applications are applied for on or after January 1, 2023 (and prior to future updates), must comply with the 2022 Energy Code. The 2022 Title 24 standards result in less energy use, thereby reducing air pollutant emissions associated with energy consumption. Title 24 standards require solar ready photovoltaic system roofs and encourage demand responsive technologies for new residential and industrial structures.

Title 24, Part 11, California Green Building Standards Code (CALGreen)

Title 24, Part 11 (CALGreen) focuses on promoting sustainable building practices in California. It outlines mandatory measures for energy efficiency, water conservation, material conservation, and indoor environmental quality in both residential and non-residential construction projects. CALGreen aims to reduce the environmental impact of buildings, enhance occupant health and comfort, and encourage resource efficiency throughout the State's building industry. CALGreen was developed in response to continued efforts to reduce GHG emissions associated with energy consumption. The current version of CALGreen is the 2022 California Green Building Standards Code, effective January 1, 2023. The 2022 CALGreen Building Standards Code has been adopted by the City of Tustin by reference as stated in Municipal Code Section 8100.

Regional

The SCAQMD is the air pollution control agency in the SCAB. The role of the SCAQMD is to protect the people and the environment of the SCAB from the effects of air pollution. SCAQMD shares responsibility with CARB for ensuring that air quality standards are achieved and maintained within the SCAB.

SCAQMD has adopted a series of air quality management plans to meet State and federal ambient air quality standards. The *2022 Air Quality Management Plan* (2022 AQMP) is the most recent and was adopted on December 2, 2022 (SCAQMD, 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 parts per billion [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 micrograms per cubic meter (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).
- **SCAQMD Rule 1403** establishes work practice requirements to limit asbestos emissions from building demolition or renovation. These requirements include asbestos surveying, public notification, removal and handling procedures, time schedules, and storage/disposal/landfill requirements. Records of compliance must be maintained and all appropriate warning labels, signs, and marking must be utilized. Since the Project site was found to have asbestos containing material, building demolition would be required to comply with Rule 1403.

Toxic Air Contaminants

The 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. Reductions of cancer risk incidence of 54% 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 (2018) data show that exposure to TACs in the SCAB increased the chances of developing cancer by 455 chances in one million, with DPM comprising 67.3% of the TACs analyzed in the report (SCAQMD, 2021).

Local

The General Plan provides a framework for the City's long-term growth and sustainability. The General Plan provides specific strategies for reducing emissions in the Conservation, Open Space, and Recreation Element of the City of Tustin General Plan. These policies promote planning for sustainable transportation, improving energy efficiency, enhancing air quality, and balancing jobs and housing. The accompanying policies and programs ensure that the City of Tustin moves towards a sustainable, low-carbon future while creating healthier, more resilient communities.

The City's General Plan includes policies related to air quality in the Conservation, Open Space, and Recreation Element that include the following:

Conservation, Open Space, and Recreation Element

Goal 1: **Reduce air pollution through proper land use, transportation and energy use planning.**

Policy 1.1: Cooperate with the South Coast Air Quality Management District and the Southern California Association of Governments in their effort to implement provisions of the region's Air Quality Management Plan, as amended.

Policy 1.2: Design safe and efficient vehicular access to commercial land uses from arterial streets to insure efficient vehicle ingress and egress.

Policy 1.3: Locate multiple family developments close to commercial areas to encourage pedestrian rather than vehicular travel.

Policy 1.3: Create the maximum possible opportunities for bicycles as an alternative transportation mode and recreational use.

Goal 2: **Improve air quality by influencing transportation choices of mode, time of day, or whether to travel and to establish a jobs/housing balance.**

Policy 2.1: Reduce vehicle trips through incentives, regulations and/or Transportation Demand Management (TDM) programs.

Policy 2.2: Reduce total vehicle miles traveled (VMT) through incentives, regulations and/or Transportation Demand Management.

Policy 2.6: Encourage non-motorized transportation through the provision of bicycle and pedestrian pathways.

Policy 2.7: Encourage employer rideshare and transit incentives programs by local businesses.

Policy 2.8: Manage non-residential parking supply to discourage auto use, while ensuring that economic development goals will not be sacrificed.

Goal 3: **Reduce particulate emissions to the greatest extent feasible.**

Policy 3.1: Adopt incentives, regulations, and/or procedures to minimize particulate emissions from paved and unpaved roads, agricultural uses, parking lots, and building construction.

2.3 Thresholds of Significance

Regional Emissions Thresholds

SCAQMD has adopted regional significance thresholds that identified the maximum daily emissions (pounds/day) for the criteria pollutants during construction and operation of a project. While incremental regional air quality impacts of an individual project are generally very small and difficult to measure, SCAQMD's regional maximum emission thresholds set standards to reduce the burden of SCAQMD to attain and maintain ambient air quality standards. 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 off-site 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, 2023)

Localized Significance Thresholds

Localized significance thresholds (LSTs) were also adopted by the SCAQMD to evaluate projects which would not exceed the regional emission significance thresholds but may have the potential to exceed state and national air quality standards within a project's vicinity. 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 (SCAQMD, 2008a). 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 depend on a project's location, size, and emission location relative to the nearest sensitive receptor.

SCAQMD provides screening look-up tables in Appendix C of the SCAQMD's *Final Localized Significance Threshold Methodology* for projects that disturb less than or equal to 5 acres in size in a day (SCAQMD, 2008a). 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's *Fact Sheet for Applying CalEEMod to Localized Significance Threshold* was used to calculate the appropriate disturbed area (SCAQMD, 2015). 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 (As previously mentioned, the Project site is located within SRA 17, Central Orange County);
- Size of the project; and
- Distance to the nearest sensitive receptor.

The phases of the Project with the most ground disturbance would be the site preparation and grading phases during construction. The *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds*

provides guidance on how to determine the appropriate site acreage to utilize for LST analyses (SCAQMD, 2015). The Fact Sheet details that the maximum number of acres disturbed on the peak day of construction is calculated from the construction equipment list utilized in the CalEEMod model, which identifies that crawler tractors, graders, and rubber-tired dozers disturb 0.5 acres in an 8-hour day and scrapers disturb 1 acre in an 8-hour day. As shown in Table 5, the maximum amount of site disturbance would occur during the site preparation phase, which would grade 3.5 acres per day. The thresholds for 3.5 acres were interpolated from Appendix C of the SCAQMD 2008 Final Localized Significance Threshold Methodology using the thresholds for 2 acres and 5 acres.

Distance to the nearest sensitive receptor also determines the emission thresholds. The closest sensitive receptors are residences, the closest of which is located approximately 5 feet (1.5 meters) south of the Project boundary. This analysis used the threshold for a distance of 25 meters, which is the minimum distance for which thresholds are available in Appendix C of the *Final Localized Significance Threshold Methodology* (SCAQMD, 2008a).

Table 6, *Construction Localized Significance Thresholds*, shows the LST thresholds in SRA 17 for a maximum of 3.5 acres of grading per day.

Table 5: Construction Equipment Modeled in CalEEMod and Acres Disturbed per Day

Activity	Equipment Type	Number of Equipment	Operating Hours per Day	Acres Disturbed per piece of Equipment Per Day	Acres Disturbed per Day
Demolition	Rubber Tired Dozers	2	8	0.5	1
				Total Acres Disturbed Per Day	1
Site Preparation	Rubber Tired Dozers	3	8	0.5	1.5
	Crawler Tractor	4	8	0.5	2
				Total Acres Disturbed Per Day	3.5
Grading	Crawler Tractor	3	8	0.5	1.5
	Rubber Tired Dozers	1	8	0.5	0.5
	Graders	1	8	0.5	0.5
				Total Acres Disturbed Per Day	2.5
				Max Acres Disturbed Per Day	**3.5**

Source: CalEEMod Output Sheets (Appendix A)

Table 6: Construction Localized Significance Thresholds

Air Pollutant	Maximum Daily Emissions (pounds/day)
NOx	176
CO	2,437
PM_{10}	15
$PM_{2.5}$	4

Source: SCAQMD, 2008a

According to the SCAQMD LST methodology, LSTs apply to project stationary mobile sources (SCAQMD, 2008a). Projects that involve mobile sources that spend long periods queuing and idling at a site, such as transfer facilities or warehousing and distribution buildings, have the potential to exceed the operational localized significance thresholds. The proposed Project includes operation of 145 residential units which do not involve vehicles idling or queuing for long periods. Therefore, due to the lack of significant stationary source emissions, impacts related to operational LSTs are presumed to be less than significant.

2.4 Methodology

California Emissions Estimator Model

CalEEMod (Version 2022.1) 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 as Appendix A. In addition, the existing site conditions were modeled to obtain net operational air quality and GHG emissions.

The following non-default model assumptions were incorporated into the analysis for the proposed Project:

- Construction Land Use: The lot acreage and building area was adjusted to fit the conceptual site plans provided for the proposed Project. Landscaping for the entire site was accounted for within the Singe Family Housing land use lot acreage.
- Construction Phases: The demolition phase was extended from 20 days to 75 days per input from the Project Applicant.
- Construction Offroad Equipment: All construction equipment was conservatively assumed to operate for 8 hours a day. Tractors/loaders/backhoes were replaced with crawler tractors to accurately assess site disturbance during the site preparation and grading phases. Diesel-powered crushing equipment was added to the demolition phase to account for onsite crushing. Diesel-powered "Other construction equipment" was also added to the site preparation phase to account for wood chipping onsite due to tree removal.
- Construction Offroad Equipment Emission Factors: Emissions factors for diesel crushing equipment were input using EMFAC OFFROAD2021 values for the Orange County subarea, 2026. However, due to a bug in CalEEMod, emissions resulting from the crushing equipment were hand calculated (included as Appendix B) and added to the total demolition phase emissions.

- Construction Demolition: Demolition waste tonnage was estimated based on the dimensions of all existing hardscape and building material, totaling 37,698 tons (included as Appendix C). In addition, this report conservatively assumes all waste would be and hauled off-site.
- Vehicle trip rates were updated to reflect the Institute of Transportation Engineers (ITE) *Trip Generation Handbook 11th Edition* rates (land use codes 210 and 220).
- Gas and propane fireplaces and woodstoves were removed as the proposed Project does not include these.

The following non-default model assumptions were incorporated into the analysis for the existing use:

- Construction Land Use: The lot acreage and building area was adjusted to fit the site characteristics described in the environmental site assessments for the Project site (AEI Consultants, 2024a; AEI Consultants, 2024b). Landscaping for the entire site was accounted for within the General Office Building land use lot acreage.
- Vehicle trip rates were updated to reflect the Institute of Transportation Engineers (ITE) *Trip Generation Handbook 11th Edition* rates (land use code 710).
- Gas and propane fireplaces and woodstoves were removed as the existing site does not include these.

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, vehicle miles traveled (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 Appendix A.

Demolition Waste Crushing

Demolition debris is proposed to be crushed and reused as infill on-site. Although a portion of demolition waste would be removed pursuant to asbestos disposal procedures required by SCAQMD Rule 1403, it is too speculative to assume the volume of demolition waste containing asbestos. Therefore, this analysis conservatively assumes that all hardscape and building demolition waste would be crushed.

This analysis assumes all crushing would occur during the demolition phase, which had been extended from the default 20 days to 75 days. Fugitive dust emissions comprised of PM10 and PM2.5 were calculated using emission factors provided by AP-42, Section 11.19, *Crushed Stone Processing and Pulverized Mineral Processing*[1]. Pursuant to SCAQMD Rule 403, *Fugitive Dust*, it was assumed that crushing operations would utilize watering for dust suppression. Thus, controlled rates were used to estimate emissions for the proposed Project. In addition, two waterings per 8-hour workday were assumed, pursuant to Rule 403, which would result in a 36 percent reduction of emissions. Detailed calculations have been included as Appendix D.

[1] US EPA. 1998. *AP-42, Section 11.19.2 Crushed Stone Processing and Pulverized Mineral Processing*. Referenced February 2025, from https://www.epa.gov/sites/default/files/2020-10/documents/c11s1902.pdf

2.5 Project Impacts

Construction Emissions

The construction schedule, off-road equipment, and vehicle trips can be found in Table 7, *Construction Schedule*, Table 8, *Construction Equipment Inventory*, and Table 9, *Construction Vehicles and Trucks*, respectively. As shown in Table 7, construction of the Project would occur over an approximate 17-month period. For non-linear land use types (vertical building construction), construction surveys performed by the SCAQMD are used to define the default phases and durations based on the total project acreage. Accounting for an extended demolition phase, the default CalEEMod duration for Project construction is 365 working days. In addition, construction vehicle trips were generated using the defaults from CalEEMod.

The worker and vendor trips were based on the CalEEMod defaults. During the grading phase, 43,000 cubic yards of soil would be exported, so approximately 5,380 total haul truck trips (269 daily one-way trips) are anticipated to occur during the grading phase based on the assumption that a truck can haul 16 cubic yards of material per load.

Table 7: Construction Schedule

Activity	Start Date	End Date	Total Working Days
Demolition	6/1/2026	9/11/2026	75
Site Preparation	9/12/2026	9/25/2026	10
Grading	9/26/2026	10/23/2026	20
Building Construction	10/24/2026	9/10/2027	230
Paving	9/11/2027	10/8/2027	20
Architectural Coating	10/9/2027	11/12/2027	25

Source: CalEEMod Output Sheets (Appendix A)

Table 8: Construction Equipment Inventory

Activity	Equipment	Number	Hours per day	Horse-power	Load Factor
Demolition	Rubber Tired Dozers	2	8	367	0.40
	Excavators	3	8	36	0.38
	Concrete/Industrial Saws	1	8	33	0.73
	Crushing/Proc. Equipment	1	8	200	0.60
Site Preparation	Rubber Tired Dozers	3	8	367	0.4
	Crawler Tractors	4	8	87	0.43
	Other Construction Equipment	1	8	82	0.42
Grading	Excavators	1	8	36	0.38
	Graders	1	8	148	0.41
	Rubber Tired Dozers	1	8	367	0.40
	Crawler Tractors	3	8	87	0.43
Building Construction	Cranes	1	8	367	0.29
	Forklifts	3	8	82	0.20
	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 (Appendix A)

Table 9: Construction Vehicles and Trucks

Activity	Worker Vehicles[1]	Vendor Trucks[1]	Haul Trucks[2]
Demolition	18	0	314
Site Preparation	20	0	0
Grading	15	0	269
Building Construction	83	16	0
Paving	15	0	0
Architectural Coating	17	0	0

Notes: 1: Daily Vehicles. 2: Total Vehicles.
Source: CalEEMod Output Sheets (Appendix A)

The Project's estimated maximum daily regional and localized construction emissions are shown in Table 10, *Regional Construction Emissions Estimates*, and Table 11, *Localized Construction Emissions Estimates*, respectively. In addition, demolition crushing calculations were added to emissions in the demolition phase. Approximately 503 tons of demolition debris would be crushed per day (37,698 tons/75 days), resulting in 1.6 pounds/day of PM_{10} and 0.1 pounds/day of $PM_{2.5}$, with watering. Estimated emissions were added to the grading phase, shown below in Table 10 and 11. As noted in Table 10 and Table 11, the construction of the Project would not exceed the SCAQMD regional or localized emission significance thresholds. In addition, this analysis is presumed to overstate PM_{10} and $PM_{2.5}$ emissions, since emissions were calculated for both the disposal hauling and crushing of the total demolition tonnage, as it is too speculative to assume the proportion of waste to be disposed or crushed. All CalEEMod output sheets can be found in Appendix A, while crushing calculations can be found in Appendix B.

Table 10: Regional Construction Emissions Estimates

Construction Activity	Maximum Daily Regional Emissions (pounds/day)					
	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
2026						
Demolition (with crushing)	2.8	32.6	27.7	0.1	12.1	2.8
Site Prep	4.1	36.3	34.2	0.1	7.8	4.5
Grading	2.5	41.1	29.6	0.2	8.6	3.5
Building Construction	1.4	11.5	18.6	0.0	1.6	0.7
Maximum Daily Emissions 2026	4.1	48.0	34.5	0.2	24.4	5.4
2027						
Building Construction	1.4	10.2	18.3	0.0	0.4	0.3
Paving	1.2	7.0	10.7	0.0	0.5	0.3
Architectural Coating	69.0	1.2	2.3	0.0	0.2	0.1
Maximum Daily Emissions 2027	69.0	46.4	34.2	0.2	24.4	5.3
Maximum Daily Emission 2026-2027	**69.0**	**48.0**	**34.5**	**0.2**	**24.4**	**5.4**
SCAQMD Significance Thresholds	75	100	550	150	150	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod Output Sheets (Appendix A)

Table 11: Localized Construction Emissions Estimates

Construction Activity	Maximum Daily Localized Emissions (pounds/day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$
2026				
Demolition (with crushing)	20.7	19.0	9.4	2.0
Site Preparation	36.3	33.1	7.5	4.4
Grading	19.1	19.1	3.3	1.9
Building Construction	10.7	28.1	0.8	0.8
Maximum Daily Emissions 2026	36.3	33.1	18.2	4.4
2027				
Building Construction	10.2	14.0	0.4	0.3
Paving	6.9	10.0	0.3	0.3
Architectural Coating	1.1	1.5	<0.1	<0.1
Maximum Daily Emissions 2027	10.2	14.0	0.4	0.3
Maximum Daily Emission 2026-2027	**36.3**	**33.1**	**9.4**	**4.4**
SCAQMD Significance Thresholds	149	984	9.5	5.5
Threshold Exceeded?	**No**	**No**	**No**	**No**

Source: CalEEMod Output Sheets (Appendix A)

Operational Emissions

Long-term operational emissions would be generated from day-to-day operations of the proposed Project, which include:

- Mobile-source emissions from automobiles traveling to and from the Project site;
- Area-source emissions from landscaping maintenance activities and periodic architectural coatings;
- Energy-source emissions from natural gas and electricity consumption.

Based on the Project VMT screening form, the Project is expected to generate 1,114 daily weekday trips (EPD Solutions, 2025). The mix of vehicles includes light duty automobiles, light duty trucks, medium duty trucks, buses, and motorcycles – the types of vehicles that would be associated with a residential project. However, the existing site uses are estimated to generate approximately 2,092 daily trips. For the regional analysis of operational emissions, the default vehicle trip distances provided in the CalEEMod model were applied to the proposed Project trips.

The Project's estimated maximum daily regional operational emissions estimates are provided in Table 12, *Regional Operational Emission Estimates*. As noted from Table 12, the operation of the Project would not exceed the SCAQMD regional emission significance thresholds. All CalEEMod output sheets can be found in Appendix A.

Table 12: Regional Operational Emissions Estimates

Operational Activity	Maximum Daily Regional Emissions (pounds/day)					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Mobile	3.4	2.6	27.6	0.1	7.0	1.8
Area	6.9	0.1	8.2	<0.1	<0.1	<0.1
Energy	0.1	1.1	0.5	<0.1	0.1	0.1
Total Project Operational Emissions	**10.5**	**4.9**	**36.7**	**0.1**	**7.2**	**2.0**
Existing Use Operational Emissions	12.7	7.0	70.6	0.2	16.3	4.3
Net New Emissions	**-2.2**	**-2.1**	**-33.9**	**-0.09**	**-9.2**	**-2.3**
SCAQMD Significance Thresholds	55	55	550	150	150	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod Output Sheets (Appendix A)

Toxic Air Contaminants

The construction of the Project would generate 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. A Health Risk Assessment (HRA) will be prepared to determine the impact of exposure to TACs on sensitive receptors.

Air Quality Management Plan Consistency

SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the State and federal ambient air quality standards. Currently, SCAQMD has adopted the 2022 AQMP. The 2022 AQMP is focused on attaining the 2015 8-hour ozone standard of 70 parts per billion. The 2022 AQMP builds upon measures already in place from previous AQMPs. It also includes a variety of additional strategies such as regulation, accelerated deployment of available cleaner technologies (e.g., zero emissions technologies, when cost-effective and feasible, and low NOx technologies in other applications), best management practices, co-benefits from existing programs (e.g., climate and energy efficiency), incentives, and other Clean Air Act measures to achieve the 2015 8-hour ozone standard.

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

- The project would not generate population and employment growth that would be inconsistent with Southern California Association of Governments' (SCAG) growth forecasts.
- 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 housing growth related to the proposed Project is 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 would redevelop the site to provide 62 single-family cluster units and 83 townhome-style residential condominium units (145 units total). The Project site currently has a General Plan land use designation of Planned Community Commercial/Business (PCCB). While the PCCB land use designation primarily allows a variety of miscellaneous retail, professional office, and service-oriented business activities, the PCCB designation also permits other uses, such as residential uses. Further, the General Plan states that the overall population density range for residential use within the PCCB designation shall be 2 to 54 persons per acre **(City of Tustin, 2018)**. The Project site is approximately 8.5 acres, which would result in a maximum population of 459 people. Based on the average household size of 2.73 persons per household in the City of Tustin **(City of Tustin, 2018)**, the Project would result in the addition of 396 people, which would be below the maximum population of 459 people. As such, the Project would be consistent with the existing PCCB land use. Development consistent with the growth projections in the general plan is considered to be consistent with the AQMP. Therefore, the Project is consistent with the growth assumptions outlined in the RTP/SCS. As a result, under the General Plan, the proposed Project would be consistent with Criterion No. 1.

Consistency Criterion No. 2 refers to the California Ambient Air Quality Standards. 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. As shown in Tables 10 and 12, the air quality emissions of the proposed Project would not exceed any regional air quality standards. Therefore, the proposed Project would be consistent with Criterion No. 2.

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 residents; however, these odors would be expected and not necessarily objectionable. These odors would also dissipate quickly and be temporary. 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's *CEQA Air Quality Handbook* associates the following specific land uses with odor complaints:

- 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.

2.6 Conclusion

As shown in Tables 10-12, 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 odors produced by construction would be minimal and temporary, and the operation of the site would be similar to the surrounding land uses. Therefore, the proposed Project would have a less-than-significant air quality impact and no mitigation is required.

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APPENDIX A – CALEEMOD OUTPUT SHEETS

25-011 Proposed Cypress Grove Project v2 Detailed Report

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Data Field	Value
Project Name	25-011 Proposed Cypress Grove Project v2
Construction Start Date	6/1/2026
Operational Year	2027
Lead Agency	City of Tustin
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	2.20
Location	33.758903885169794, -117.82133906390618
County	Orange
City	Tustin
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5969
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	62.0	Dwelling Unit	3.56	108,732	46,131	—	185	—

Condo/Townhouse	83.0	Dwelling Unit	1.76	159,696	0.00	—	247	—
Other Asphalt Surfaces	2.86	Acre	2.86	0.00	0.00	—	—	—
Parking Lot	40.0	Space	0.36	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Unmit.	4.07	41.1	34.2	0.15	1.86	10.4	4.46	22,701
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Unmit.	69.0	41.9	29.6	0.15	1.28	8.62	3.54	22,661
Average Daily (Max)	—	—	—	—	—	—	—	—
Unmit.	5.46	11.3	10.0	0.03	0.37	3.04	0.95	4,587
Annual (Max)	—	—	—	—	—	—	—	—
Unmit.	1.00	2.07	1.83	0.01	0.07	0.55	0.17	759
Exceeds (Daily Max)	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	150	55.0	—
Unmit.	No	No	No	No	—	No	No	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	150	55.0	—

Unmit.	No	No	No	No	—	No	No	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—
2026	4.07	41.1	34.2	0.15	1.86	10.4	4.46	22,701
2027	1.36	10.9	18.3	0.03	0.37	1.57	0.63	4,203
Daily - Winter (Max)	—	—	—	—	—	—	—	—
2026	2.47	41.9	29.6	0.15	1.28	8.62	3.54	22,661
2027	69.0	10.9	17.8	0.03	0.37	1.57	0.63	4,148
Average Daily	—	—	—	—	—	—	—	—
2026	0.95	11.3	10.0	0.03	0.37	3.04	0.95	4,587
2027	5.46	5.89	9.60	0.02	0.20	0.82	0.33	2,181
Annual	—	—	—	—	—	—	—	—
2026	0.17	2.07	1.83	0.01	0.07	0.55	0.17	759
2027	1.00	1.07	1.75	< 0.005	0.04	0.15	0.06	361

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Unmit.	10.5	3.63	36.4	0.08	0.15	7.09	1.91	9,993
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Unmit.	9.70	3.76	26.3	0.08	0.14	7.09	1.90	9,671
Average Daily (Max)	—	—	—	—	—	—	—	—

Unmit.	9.96	3.62	30.8	0.07	0.14	6.64	1.78	9,315
Annual (Max)	—	—	—	—	—	—	—	—
Unmit.	1.82	0.66	5.63	0.01	0.02	1.21	0.33	1,542
Exceeds (Daily Max)	—	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	—	150	55.0	—
Unmit.	No	No	No	No	—	No	No	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	—	150	55.0	—
Unmit.	No	No	No	No	—	No	No	—
Exceeds (Annual)	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	3,000
Unmit.	—	—	—	—	—	—	—	No

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Mobile	3.43	2.36	27.6	0.07	0.04	6.99	1.80	7,479
Area	6.95	0.08	8.23	< 0.005	< 0.005	< 0.005	< 0.005	22.1
Energy	0.06	1.10	0.47	0.01	0.09	0.09	0.09	2,189
Water	—	—	—	—	—	—	—	83.8
Waste	—	—	—	—	—	—	—	208
Refrig.	—	—	—	—	—	—	—	1.92
Stationary	0.02	0.09	0.10	< 0.005	0.01	0.01	0.01	8.42
Total	10.5	3.63	36.4	0.08	0.15	7.09	1.91	9,993
Daily, Winter (Max)	—	—	—	—	—	—	—	—

Mobile	3.40	2.57	25.7	0.07	0.04	6.99	1.80	7,179
Area	6.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.06	1.10	0.47	0.01	0.09	0.09	0.09	2,189
Water	—	—	—	—	—	—	—	83.8
Waste	—	—	—	—	—	—	—	208
Refrig.	—	—	—	—	—	—	—	1.92
Stationary	0.02	0.09	0.10	< 0.005	0.01	0.01	0.01	8.42
Total	9.70	3.76	26.3	0.08	0.14	7.09	1.90	9,671
Average Daily	—	—	—	—	—	—	—	—
Mobile	3.16	2.43	24.7	0.07	0.04	6.55	1.69	6,814
Area	6.72	0.05	5.64	< 0.005	< 0.005	< 0.005	< 0.005	15.1
Energy	0.06	1.10	0.47	0.01	0.09	0.09	0.09	2,189
Water	—	—	—	—	—	—	—	83.8
Waste	—	—	—	—	—	—	—	208
Refrig.	—	—	—	—	—	—	—	1.92
Stationary	0.01	0.03	0.03	< 0.005	< 0.005	< 0.005	< 0.005	2.88
Total	9.96	3.62	30.8	0.07	0.14	6.64	1.78	9,315
Annual	—	—	—	—	—	—	—	—
Mobile	0.58	0.44	4.51	0.01	0.01	1.19	0.31	1,128
Area	1.23	0.01	1.03	< 0.005	< 0.005	< 0.005	< 0.005	2.50
Energy	0.01	0.20	0.09	< 0.005	0.02	0.02	0.02	362
Water	—	—	—	—	—	—	—	13.9
Waste	—	—	—	—	—	—	—	34.5
Refrig.	—	—	—	—	—	—	—	0.32
Stationary	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	0.48
Total	1.82	0.66	5.63	0.01	0.02	1.21	0.33	1,542

3. Construction Emissions Details

3.1. Demolition (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	2.29	20.7	19.0	0.03	0.84	0.84	0.78	3,438
Demolition	—	—	—	—	—	6.95	1.05	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	4.24	3.91	0.01	0.17	0.17	0.16	707
Demolition	—	—	—	—	—	1.43	0.22	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.77	0.71	< 0.005	0.03	0.03	0.03	117
Demolition	—	—	—	—	—	0.26	0.04	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.92	0.00	0.00	0.23	0.05	231
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	10.3	4.55	0.06	0.11	2.39	0.75	9,052
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.17	0.00	0.00	0.05	0.01	45.8

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	2.21	0.94	0.01	0.02	0.49	0.15	1,858
Annual	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	< 0.005	7.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.40	0.17	< 0.005	< 0.005	0.09	0.03	308

3.3. Site Preparation (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	4.00	36.3	33.1	0.05	1.86	1.86	1.71	5,872
Dust From Material Movement	—	—	—	—	—	5.66	2.69	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.99	0.91	< 0.005	0.05	0.05	0.05	161
Dust From Material Movement	—	—	—	—	—	0.16	0.07	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.18	0.17	< 0.005	0.01	0.01	0.01	26.6
Dust From Material Movement	—	—	—	—	—	0.03	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Worker	0.07	0.06	1.05	0.00	0.00	0.26	0.06	264
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	< 0.005	6.97
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	1.15
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	2.16	19.1	19.1	0.03	1.04	1.04	0.96	3,146
Dust From Material Movement	—	—	—	—	—	2.28	0.94	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	2.16	19.1	19.1	0.03	1.04	1.04	0.96	3,146

Dust From Material Movement	—	—	—	—	—	2.28	0.94	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	1.04	1.05	< 0.005	0.06	0.06	0.05	172
Dust From Material Movement	—	—	—	—	—	0.13	0.05	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.19	0.19	< 0.005	0.01	0.01	0.01	28.5
Dust From Material Movement	—	—	—	—	—	0.02	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.79	0.00	0.00	0.20	0.05	198
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.28	22.0	9.73	0.12	0.24	5.10	1.60	19,358
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.68	0.00	0.00	0.20	0.05	188
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.26	22.8	9.81	0.12	0.24	5.10	1.60	19,328
Average Daily	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	< 0.005	10.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	1.26	0.54	0.01	0.01	0.28	0.09	1,060
Annual	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	1.73

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.23	0.10	< 0.005	< 0.005	0.05	0.02	175

3.7. Building Construction (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	1.16	10.7	14.1	0.03	0.41	0.41	0.38	2,639
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	1.44	1.90	< 0.005	0.06	0.06	0.05	356
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.26	0.35	< 0.005	0.01	0.01	0.01	59.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Worker	0.28	0.29	3.73	0.00	0.00	1.07	0.25	1,029
Vendor	0.01	0.52	0.25	< 0.005	< 0.005	0.14	0.04	507
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.52	0.00	0.00	0.14	0.03	141

Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.01	68.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.10	0.00	0.00	0.03	0.01	23.4
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	11.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	1.11	10.2	14.0	0.03	0.36	0.36	0.34	2,639
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	1.11	10.2	14.0	0.03	0.36	0.36	0.34	2,639
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	5.04	6.95	0.01	0.18	0.18	0.17	1,306
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.92	1.27	< 0.005	0.03	0.03	0.03	216
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—
Worker	0.23	0.25	4.06	0.00	0.00	1.07	0.25	1,066
Vendor	0.01	0.48	0.24	< 0.005	< 0.005	0.14	0.04	498
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Worker	0.23	0.25	3.49	0.00	0.00	1.07	0.25	1,012
Vendor	0.01	0.50	0.24	< 0.005	< 0.005	0.14	0.04	497
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Worker	0.12	0.14	1.80	0.00	0.00	0.53	0.12	509
Vendor	< 0.005	0.25	0.12	< 0.005	< 0.005	0.07	0.02	246
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.33	0.00	0.00	0.10	0.02	84.2
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	< 0.005	40.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	6.94	9.95	0.01	0.30	0.30	0.27	1,516
Paving	0.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—

Off-Road Equipment	0.74	6.94	9.95	0.01	0.30	0.30	0.27	1,516
Paving	0.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.38	0.55	< 0.005	0.02	0.02	0.02	83.1
Paving	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.10	< 0.005	< 0.005	< 0.005	< 0.005	13.8
Paving	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.74	0.00	0.00	0.20	0.05	195
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Worker	0.04	0.05	0.64	0.00	0.00	0.20	0.05	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	< 0.005	10.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	1.70

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	1.11	1.50	< 0.005	0.03	0.03	0.02	179
Architectural Coatings	68.8	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.10	< 0.005	< 0.005	< 0.005	< 0.005	12.2
Architectural Coatings	4.71	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	< 0.005	2.03
Architectural Coatings	0.86	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—

Worker	0.05	0.05	0.70	0.00	0.00	0.21	0.05	202
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	< 0.005	14.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	2.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Single Family Housing	1.76	1.21	14.1	0.04	0.02	3.58	0.92	3,832
Condo/Townhouse	1.67	1.15	13.4	0.04	0.02	3.41	0.88	3,647
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	3.43	2.36	27.6	0.07	0.04	6.99	1.80	7,479
Daily, Winter (Max)	—	—	—	—	—	—	—	—

Single Family Housing	1.74	1.31	13.2	0.04	0.02	3.58	0.92	3,678
Condo/Townhouse	1.66	1.25	12.5	0.03	0.02	3.41	0.88	3,501
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	3.40	2.57	25.7	0.07	0.04	6.99	1.80	7,179
Annual	—	—	—	—	—	—	—	—
Single Family Housing	0.31	0.24	2.42	0.01	< 0.005	0.64	0.17	605
Condo/Townhouse	0.27	0.21	2.09	0.01	< 0.005	0.55	0.14	523
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.58	0.44	4.51	0.01	0.01	1.19	0.31	1,128

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	408
Condo/Townhouse	—	—	—	—	—	—	—	364
Other Asphalt Surfaces	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	13.1
Total	—	—	—	—	—	—	—	785
Daily, Winter (Max)	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	408
Condo/Townhouse	—	—	—	—	—	—	—	364
Other Asphalt Surfaces	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	13.1
Total	—	—	—	—	—	—	—	785
Annual	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	67.5
Condo/Townhouse	—	—	—	—	—	—	—	60.2
Other Asphalt Surfaces	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	2.17
Total	—	—	—	—	—	—	—	130

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Single Family Housing	0.04	0.60	0.26	< 0.005	0.05	0.05	0.05	764
Condo/Townhouse	0.03	0.50	0.21	< 0.005	0.04	0.04	0.04	641
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.06	1.10	0.47	0.01	0.09	0.09	0.09	1,405
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Single Family Housing	0.04	0.60	0.26	< 0.005	0.05	0.05	0.05	764

Condo/Townhouse	0.03	0.50	0.21	< 0.005	0.04	0.04	0.04	641
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.06	1.10	0.47	0.01	0.09	0.09	0.09	1,405
Annual	—	—	—	—	—	—	—	—
Single Family Housing	0.01	0.11	0.05	< 0.005	0.01	0.01	0.01	126
Condo/Townhouse	0.01	0.09	0.04	< 0.005	0.01	0.01	0.01	106
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.01	0.20	0.09	< 0.005	0.02	0.02	0.02	233

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	5.76	—	—	—	—	—	—	—
Architectural Coatings	0.47	—	—	—	—	—	—	—
Landscape Equipment	0.72	0.08	8.23	< 0.005	< 0.005	< 0.005	< 0.005	22.1
Total	6.95	0.08	8.23	< 0.005	< 0.005	< 0.005	< 0.005	22.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	5.76	—	—	—	—	—	—	—

Architectural Coatings	0.47	—	—	—	—	—	—	—
Total	6.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	1.05	—	—	—	—	—	—	—
Architectural Coatings	0.09	—	—	—	—	—	—	—
Landscape Equipment	0.09	0.01	1.03	< 0.005	< 0.005	< 0.005	< 0.005	2.50
Total	1.23	0.01	1.03	< 0.005	< 0.005	< 0.005	< 0.005	2.50

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	37.9
Condo/Townhouse	—	—	—	—	—	—	—	45.8
Other Asphalt Surfaces	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	83.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	37.9
Condo/Townhouse	—	—	—	—	—	—	—	45.8

Other Asphalt Surfaces	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	83.8
Annual	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	6.28
Condo/Townhouse	—	—	—	—	—	—	—	7.59
Other Asphalt Surfaces	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	13.9

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	92.5
Condo/Townhouse	—	—	—	—	—	—	—	116
Other Asphalt Surfaces	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	208
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	92.5
Condo/Townhouse	—	—	—	—	—	—	—	116

Other Asphalt Surfaces	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	208
Annual	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	15.3
Condo/Townhouse	—	—	—	—	—	—	—	19.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	34.5

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	0.78
Condo/Townhouse	—	—	—	—	—	—	—	1.14
Total	—	—	—	—	—	—	—	1.92
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	0.78
Condo/Townhouse	—	—	—	—	—	—	—	1.14
Total	—	—	—	—	—	—	—	1.92
Annual	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	0.13
Condo/Townhouse	—	—	—	—	—	—	—	0.19
Total	—	—	—	—	—	—	—	0.32

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Emergency Generator	0.01	0.04	0.05	< 0.005	< 0.005	< 0.005	< 0.005	4.21
Fire Pump	0.01	0.04	0.05	< 0.005	< 0.005	< 0.005	< 0.005	4.21
Total	0.02	0.09	0.10	< 0.005	0.01	0.01	0.01	8.42
Daily, Winter (Max)	—	—	—	—	—	—	—	—

Emergency Generator	0.01	0.04	0.05	< 0.005	< 0.005	< 0.005	< 0.005	4.21
Fire Pump	0.01	0.04	0.05	< 0.005	< 0.005	< 0.005	< 0.005	4.21
Total	0.02	0.09	0.10	< 0.005	0.01	0.01	0.01	8.42
Annual	—	—	—	—	—	—	—	—
Emergency Generator	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.38
Fire Pump	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.10
Total	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	0.48

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—

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

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	6/1/2026	9/11/2026	5.00	75.0	—
Site Preparation	Site Preparation	9/12/2026	9/25/2026	5.00	10.0	—
Grading	Grading	9/26/2026	10/23/2026	5.00	20.0	—
Building Construction	Building Construction	10/24/2026	9/10/2027	5.00	230	—
Paving	Paving	9/11/2027	10/8/2027	5.00	20.0	—
Architectural Coating	Architectural Coating	10/9/2027	11/12/2027	5.00	25.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Crushing/Proc. Equipment	Diesel	Average	1.00	8.00	200	0.60
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	0.00	8.00	84.0	0.37
Site Preparation	Crawler Tractors	Diesel	Average	4.00	8.00	87.0	0.43
Site Preparation	Other Construction Equipment	Diesel	Average	1.00	8.00	82.0	0.42
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Back hoes	Diesel	Average	0.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Crawler Tractors	Diesel	Average	3.00	8.00	87.0	0.43
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	3.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36

Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	17.5	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	126	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	269	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	82.1	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	15.5	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—

Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	16.4	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	543,567	181,189	0.00	0.00	8,416

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	37,698	—
Site Preparation	—	—	35.0	0.00	—
Grading	—	43,000	50.0	0.00	—
Paving	0.00	0.00	0.00	0.00	3.90

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	0.68	0%
Condo/Townhouse	—	0%
Other Asphalt Surfaces	2.86	100%
Parking Lot	0.36	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00	346	0.03	< 0.005
2026	0.00	346	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	585	588	526	210,491	5,004	5,031	4,500	1,801,690
Condo/Townhouse	559	378	320	182,246	4,788	3,232	2,742	1,559,926
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	62
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	83
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
543566.7	181,189	0.00	0.00	8,416

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	427,499	346	0.0330	0.0040	2,376,791
Condo/Townhouse	381,150	346	0.0330	0.0040	1,994,520
Other Asphalt Surfaces	0.00	346	0.0330	0.0040	0.00
Parking Lot	13,737	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	2,326,590	730,736
Condo/Townhouse	3,114,629	0.00
Other Asphalt Surfaces	0.00	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	49.1	—
Condo/Townhouse	61.3	—
Other Asphalt Surfaces	0.00	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	1.00	200	5.00	0.73
Fire Pump	Diesel	1.00	1.00	50.0	5.00	0.73

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	10.5	annual days of extreme heat
Extreme Precipitation	4.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A

Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	59.7
AQ-PM	71.2
AQ-DPM	18.7
Drinking Water	42.0
Lead Risk Housing	44.5
Pesticides	0.00
Toxic Releases	87.0
Traffic	31.6
Effect Indicators	—
CleanUp Sites	4.12
Groundwater	42.1
Haz Waste Facilities/Generators	40.1
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	21.7
Cardio-vascular	14.9
Low Birth Weights	4.08
Socioeconomic Factor Indicators	—
Education	24.1
Housing	40.9
Linguistic	12.3
Poverty	12.4
Unemployment	9.72

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	77.05633261
Employed	68.38188118
Median HI	78.01873476
Education	—
Bachelor's or higher	79.13512126
High school enrollment	24.48351084
Preschool enrollment	85.28166303
Transportation	—
Auto Access	49.51879892
Active commuting	8.161170281
Social	—
2-parent households	67.7659438
Voting	73.97664571
Neighborhood	—
Alcohol availability	89.13127165
Park access	61.41408957
Retail density	54.66444245
Supermarket access	60.86231233
Tree canopy	37.84165277
Housing	—
Homeownership	93.09636854
Housing habitability	34.8646221
Low-inc homeowner severe housing cost burden	40.02309765
Low-inc renter severe housing cost burden	13.69177467

Uncrowded housing	78.31387142
Health Outcomes	—
Insured adults	89.3750802
Arthritis	0.0
Asthma ER Admissions	76.9
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	72.0
Cognitively Disabled	8.5
Physically Disabled	43.7
Heart Attack ER Admissions	85.6
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	59.5
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0

Children	78.7
Elderly	8.3
English Speaking	71.4
Foreign-born	11.8
Outdoor Workers	90.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	59.7
Traffic Density	57.4
Traffic Access	23.0
Other Indices	—
Hardship	18.0
Other Decision Support	—
2016 Voting	90.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	8.00
Healthy Places Index Score for Project Location (b)	79.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Adjusted values per site plan.
Construction: Construction Phases	Extended demolition phase to due to extent of demolition required. Extended architectural coating phase due to proposed number of buildings
Construction: Off-Road Equipment	Conservatively assumed all equipment would run 8 hours a day. Replaced tractors/loaders/backhoes with crawler tractor to accurately assess site disturbance. Included 1 diesel crushing equipment to account for crushing during demolition phase. Included 1 "other construction equipment" to account for a woodchipper during the site preparation phase.
Construction: Off-Road Equipment EF	Input emissions factors for diesel crushing equipment using EMFAC OFFROAD2021 values for Orange County subarea, 2026.
Operations: Vehicle Data	Adjusted weekday, Saturday, and Sunday trip rates to ITE 11th edition rates (Land use codes 210 and 220).
Operations: Emergency Generators and Fire Pumps	Included proposed generator and fire pump information from Project Applicant.
Operations: Hearths	No proposed fireplaces.

25-011 Existing Cypress Grove Project Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	25-011 Existing Cypress Grove Project
Operational Year	2027
Lead Agency	City of Tustin
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	2.20
Location	33.758903885169794, -117.82133906390618
County	Orange
City	Tustin
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5969
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Office Building	193	1000sqft	3.39	193,000	41,113	—	185	—

Other Asphalt Surfaces	0.46	Acre	0.46	0.00	0.00	—	—	—
Parking Lot	521	Space	4.69	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Unmit.	12.7	6.52	70.6	0.17	16.3	4.30	23,167
Daily, Winter (Max)	—	—	—	—	—	—	—
Unmit.	11.3	6.89	57.4	0.17	16.3	4.29	22,434
Average Daily (Max)	—	—	—	—	—	—	—
Unmit.	10.6	5.61	50.4	0.13	12.3	3.25	18,510
Annual (Max)	—	—	—	—	—	—	—
Unmit.	1.93	1.02	9.19	0.02	2.25	0.59	3,065
Exceeds (Daily Max)	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	150	55.0	—
Unmit.	No	No	No	No	No	No	—
Exceeds (Average Daily)	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	150	55.0	—
Unmit.	No	No	No	No	No	No	—
Exceeds (Annual)	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	3,000

Unmit.	—	—	—	—	—	—	Yes

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Mobile	6.59	5.13	61.1	0.17	16.2	4.19	17,262
Area	6.03	0.07	8.39	< 0.005	0.01	0.01	34.6
Energy	0.07	1.31	1.10	0.01	0.10	0.10	5,024
Water	—	—	—	—	—	—	507
Waste	—	—	—	—	—	—	338
Refrig.	—	—	—	—	—	—	0.47
Total	12.7	6.52	70.6	0.17	16.3	4.30	23,167
Daily, Winter (Max)	—	—	—	—	—	—	—
Mobile	6.53	5.58	56.3	0.16	16.2	4.19	16,563
Area	4.66	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.07	1.31	1.10	0.01	0.10	0.10	5,024
Water	—	—	—	—	—	—	507
Waste	—	—	—	—	—	—	338
Refrig.	—	—	—	—	—	—	0.47
Total	11.3	6.89	57.4	0.17	16.3	4.29	22,434
Average Daily	—	—	—	—	—	—	—
Mobile	4.88	4.25	43.5	0.12	12.2	3.15	12,616
Area	5.60	0.05	5.75	< 0.005	0.01	0.01	23.7
Energy	0.07	1.31	1.10	0.01	0.10	0.10	5,024
Water	—	—	—	—	—	—	507
Waste	—	—	—	—	—	—	338
Refrig.	—	—	—	—	—	—	0.47

Total	10.6	5.61	50.4	0.13	12.3	3.25	18,510
Annual	—	—	—	—	—	—	—
Mobile	0.89	0.77	7.94	0.02	2.23	0.57	2,089
Area	1.02	0.01	1.05	< 0.005	< 0.005	< 0.005	3.93
Energy	0.01	0.24	0.20	< 0.005	0.02	0.02	832
Water	—	—	—	—	—	—	84.0
Waste	—	—	—	—	—	—	56.0
Refrig.	—	—	—	—	—	—	0.08
Total	1.93	1.02	9.19	0.02	2.25	0.59	3,065

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
General Office Building	6.59	5.13	61.1	0.17	16.2	4.19	17,262
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	6.59	5.13	61.1	0.17	16.2	4.19	17,262
Daily, Winter (Max)	—	—	—	—	—	—	—
General Office Building	6.53	5.58	56.3	0.16	16.2	4.19	16,563
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Total	6.53	5.58	56.3	0.16	16.2	4.19	16,563
Annual	—	—	—	—	—	—	—
General Office Building	0.89	0.77	7.94	0.02	2.23	0.57	2,089
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.89	0.77	7.94	0.02	2.23	0.57	2,089

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	3,281
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	171
Total	—	—	—	—	—	—	3,452
Daily, Winter (Max)	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	3,281
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	171
Total	—	—	—	—	—	—	3,452
Annual	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	543

Other Asphalt Surfaces	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	28.3
Total	—	—	—	—	—	—	571

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
General Office Building	0.07	1.31	1.10	0.01	0.10	0.10	1,572
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.07	1.31	1.10	0.01	0.10	0.10	1,572
Daily, Winter (Max)	—	—	—	—	—	—	—
General Office Building	0.07	1.31	1.10	0.01	0.10	0.10	1,572
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.07	1.31	1.10	0.01	0.10	0.10	1,572
Annual	—	—	—	—	—	—	—
General Office Building	0.01	0.24	0.20	< 0.005	0.02	0.02	260
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.01	0.24	0.20	< 0.005	0.02	0.02	260

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	4.15	—	—	—	—	—	—
Architectural Coatings	0.51	—	—	—	—	—	—
Landscape Equipment	1.38	0.07	8.39	< 0.005	0.01	0.01	34.6
Total	6.03	0.07	8.39	< 0.005	0.01	0.01	34.6
Daily, Winter (Max)	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	4.15	—	—	—	—	—	—
Architectural Coatings	0.51	—	—	—	—	—	—
Total	4.66	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.76	—	—	—	—	—	—
Architectural Coatings	0.09	—	—	—	—	—	—
Landscape Equipment	0.17	0.01	1.05	< 0.005	< 0.005	< 0.005	3.93
Total	1.02	0.01	1.05	< 0.005	< 0.005	< 0.005	3.93

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	507
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	507
Daily, Winter (Max)	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	507
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	507
Annual	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	84.0
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	84.0

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	338

Other Asphalt Surfaces	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	338
Daily, Winter (Max)	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	338
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	338
Annual	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	56.0
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	56.0

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	0.47
Total	—	—	—	—	—	—	0.47
Daily, Winter (Max)	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	0.47

Total	—	—	—	—	—	—	0.47
Annual	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	0.08
Total	—	—	—	—	—	—	0.08

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Office Building	2,092	427	135	574,731	22,802	4,649	1,472	6,264,030
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
General Office Building	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0

No Fireplaces	62
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	289,500	96,500	13,457

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Office Building	3,439,315	346	0.0330	0.0040	4,891,868
Other Asphalt Surfaces	0.00	346	0.0330	0.0040	0.00
Parking Lot	178,925	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Office Building	34,302,613	532,840
Other Asphalt Surfaces	0.00	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Office Building	179	—
Other Asphalt Surfaces	0.00	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	10.5	annual days of extreme heat
Extreme Precipitation	4.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	59.7

AQ-PM	71.2
AQ-DPM	18.7
Drinking Water	42.0
Lead Risk Housing	44.5
Pesticides	0.00
Toxic Releases	87.0
Traffic	31.6
Effect Indicators	—
CleanUp Sites	4.12
Groundwater	42.1
Haz Waste Facilities/Generators	40.1
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	21.7
Cardio-vascular	14.9
Low Birth Weights	4.08
Socioeconomic Factor Indicators	—
Education	24.1
Housing	40.9
Linguistic	12.3
Poverty	12.4
Unemployment	9.72

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—

Above Poverty	77.05633261
Employed	68.38188118
Median HI	78.01873476
Education	—
Bachelor's or higher	79.13512126
High school enrollment	24.48351084
Preschool enrollment	85.28166303
Transportation	—
Auto Access	49.51879892
Active commuting	8.161170281
Social	—
2-parent households	67.7659438
Voting	73.97664571
Neighborhood	—
Alcohol availability	89.13127165
Park access	61.41408957
Retail density	54.66444245
Supermarket access	60.86231233
Tree canopy	37.84165277
Housing	—
Homeownership	93.09636854
Housing habitability	34.8646221
Low-inc homeowner severe housing cost burden	40.02309765
Low-inc renter severe housing cost burden	13.69177467
Uncrowded housing	78.31387142
Health Outcomes	—
Insured adults	89.3750802
Arthritis	0.0

Asthma ER Admissions	76.9
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	72.0
Cognitively Disabled	8.5
Physically Disabled	43.7
Heart Attack ER Admissions	85.6
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	59.5
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	78.7
Elderly	8.3
English Speaking	71.4
Foreign-born	11.8

Outdoor Workers	90.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	59.7
Traffic Density	57.4
Traffic Access	23.0
Other Indices	—
Hardship	18.0
Other Decision Support	—
2016 Voting	90.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	8.00
Healthy Places Index Score for Project Location (b)	79.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Adjusted values per Phase I ESA and client input.
Construction: Construction Phases	Extended demolition phase to per Project Applicant input. Extended architectural coating phase due to proposed number of buildings
Construction: Off-Road Equipment	Conservatively assumed all equipment would run 8 hours a day. Replaced tractors/loaders/backhoes with crawler tractor to accurately assess site disturbance. Included 1 diesel crushing equipment to account for crushing during demolition phase. Included 1 "other construction equipment" to account for a woodchipper during the site preparation phase.
Construction: Off-Road Equipment EF	Input emissions factors for diesel crushing equipment using EMFAC OFFROAD2021 values for Orange County subarea, 2026.
Operations: Vehicle Data	Adjusted weekday, Saturday, and Sunday trip rates to ITE 11th edition rates (Land use code 710).
Operations: Emergency Generators and Fire Pumps	—
Operations: Hearths	No proposed fireplaces.

APPENDIX B – EMISSIONS CALCULATIONS

EMISSION FACTORS COUNT

Model Output: OFFROAD2021 (v1.0.9) Emissions Inventory
Region Type: Sub-Area
Region: Los Angeles (SC)
Calendar Year: 2025
Scenario: All Adopted Rules - Exhaust

	HC	ROG	TOG	CO	NOx	CO2	PM10	PM2.5	SOx	NH3
Vehicle Classification: OFFROAD2021 Equipment Types										

Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Horsepower-hours

Region	Calendar Ye	Vehicle Cat	Model Year	Horsepowe	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2.5_tpd	SOx_tpd	NH3_tpd	Fuel Consur	Total_Activi	Total_Popu	Horsepower_Hours_hhpy	hph/day
Orange (SC	2026	Constructio	Aggregate	Aggregate	Diesel	0.000298	0.00036	0.000429	0.003703	0.001863	1.282979809	7.31511E-05	6.7299E-05	1.21534E-05	0	41690.653	9084.239	15.53035	823251.1643	2255.483

Conversion factors		**HC_gpd**	**ROG_gpd**	**TOG_gpd**	**CO_gpd**	**NOx_gpd**	**CO2_gpd**	**PM10_gpd**	**PM2.5_gpd**	**SOx_gpd**	**NH3_gpd**
907185	grams in 1 ton	270.1292	326.8563	388.9861	3359.018	1689.77	1163900.038	66.3615546	61.05263024	11.02539937	0
0.98632	bhp in 1 HP										

	HC_grams/	**ROG_grams**	**TOG_grams**	**CO_grams/**	**NOx_grams**	**CO2_grams/hph**	**PM10_grams/hph**	**PM2.5_grams/hp**	**SOx_grams/hph**	**NH3_grams/hph**
	0.119766	0.144916	0.172462	1.489268	0.749183	516.0314766	0.02942233	0.027068544	0.004888266	0
FINAL VALUES	**HC_grams/**	**ROG_grams**	**TOG_grams**	**CO_grams/**	**NOx_grams**	**CO2_grams/bhp**	**PM10_grams/bhp-**	**PM2.5_grams/bh**	**SOx_grams/bhp-h**	**NH3_grams/bhp-hr**
	0.121427	0.146926	0.174854	1.509924	0.759574	523.188698	0.02983041	0.027443977	0.004956065	0

	Equipment	Fuel Type	Number/day	hours/day	hp	LF
Equipment	crushing/proc.	diesel	1	8	200	0.6

CONVERSION FACTORS

453.592 grams in 1 lb

Emissions Rates (g/bhp-hr)

TOG	ROG	NOx	CO	SO_2	PM10E	PM2.5E	CO_2	CH_4	N_2O
0.174854456	0.146926	0.759574	1.509924	0.004956	0.02983	0.027444	523.1887	0.022	0.004

Emissions (lb/day)

TOG	ROG	NOx	CO	SO_2	PM10E	PM2.5E	CO_2	CH_4	N_2O
0.370068867	0.310961	1.607593	3.195662	0.010489	0.063134	0.058084	1107.297	0.046562	0.008466

APPENDIX C – DEMOLITION CALCULATIONS

Cypress Grove Project

Estimates of Demolition Debris

Building Demolition

Building	Height(ft)	Area (ft2)	Volume (ft3)	Demo Building Volume (cy)
1	32	19864	635648	7769
2	32	20132	644224	7874
3	30	20477	614310	7508
4	30	20129	603870	7381
5	56	25942	1452752	17756
Total		106544	3950804	48288

Weight of the Building Demolition Debris (ton/cy): 0.5

Total Weight of Building Debris **24144** **tons**

Note 1: FEMA Debris Estimating Field Guide, FEMA 329. September 2010

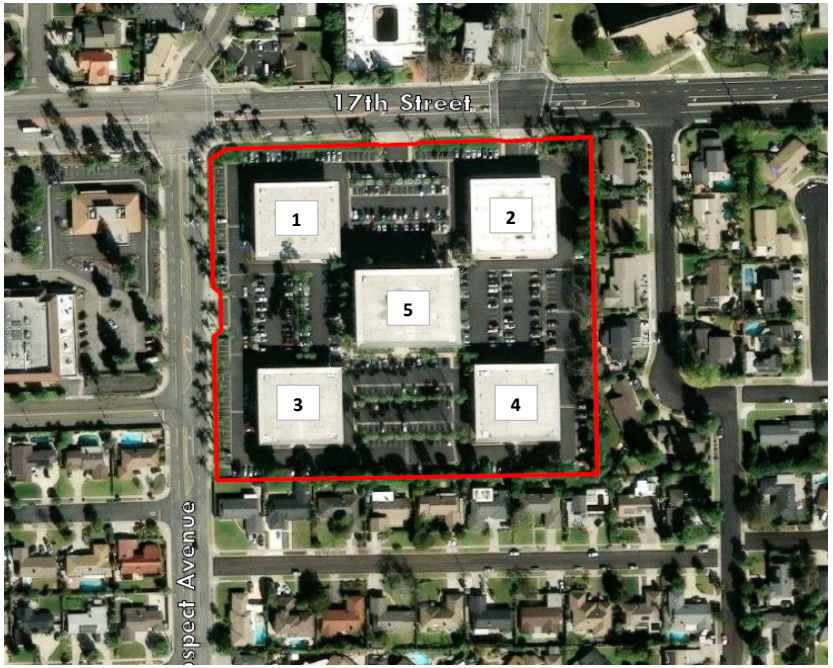
Hardscape Demolition

Weight of Hardscape 145 lb/ft3

Area	Height (ft)	Area (ft2)	Volume (cf)	Weight (lbs)	Weight (tons)
1	0.5	370260	185130	26843850	13422
Total		**370260**	**185130**	**26843850**	**13422**

Total Demolition Weight **37566 tons**

37616 tons total + tree weight



APPENDIX D – CRUSHING PARTICULATE MATTER CALCULATIONS

ROCK CRUSHING CALCULATIONS:

SITE DATA		
Total Rock Weight (tons)	**Grading Duration**	**tons/day**
37698	75	502.64

Source	Total PM-10 Emission Factor	PM-10 Emissions (lbs/day)	Total PM-2.5 Emission Factor	PM-2.5 Emissions (lbs/day)
Tertiary Crushing (controlled)	0.00054	0.2714256	0.0001	0.050264
Fines Crushing (controlled)	0.0012	0.603168	0.00007	0.0351848
Screening (controlled)	0.00074	0.3719536	0.00005	0.025132
Fines Screening (controlled)	0.0022	1.105808	ND	0
Conveyor Transfer Point (controlled)	4.60E-05	0.02312144	1.30E-05	0.0065343
Wet Drilling	8.00E-05	0.0402112	ND	0
Truck Unloading	1.60E-05	0.00804224	ND	0
Truck Loading	1.00E-04	0.050264	ND	0
TOTAL	-	**2.47399408**	-	**0.1171151**
WATERING REDUCTION				36%
WATERING CONTROLLED TOTAL	-	**1.58335621**	-	**0.0749537**