Appendix A

Air Quality and Greenhouse Gas Technical Report

Air Quality and Greenhouse Gas Emissions Technical Report

Jericho Road Development Project

City of La Mesa, California

SEPTEMBER 2024

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AB	Assembly Bill
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CalEEMod	California Emissions Estimator Model
CEQA	California Environmental Quality Act
CO	carbon monoxide
DPM	diesel particulate matter
EPA	U.S. Environmental Protection Agency
g/L	grams per liter
HAP	hazardous air pollutant
kWh	kilowatt-hour
LOS	level of service
NAAQS	National Ambient Air Quality Standards
NO	nitric oxide
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
O_3	ozone
$PM_{2.5}$	fine particulate matter
PM_{10}	coarse particulate matter
RAQS	Regional Air Quality Strategy
SANDAG	San Diego Association of Governments
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDG&E	San Diego Gas & Electric Company
SIP	state implementation plan
SO_2	sulfur dioxide
SO_x	sulfur oxides
TAC	toxic air contaminant
VOC	volatile organic compound

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Executive Summary

The purpose of this technical report is to assess the potential air quality and greenhouse gas (GHG) impacts associated with implementation of the Jericho Road Development Project (project). This assessment uses the significance thresholds in Appendix G of the California Environmental Quality Act Guidelines.

Project Overview

The proposed project includes development of up to 73 three story townhomes on the 3.49-acre site. The project would provide a total of 26,074 square feet (sf) of open space area and 5 non-garage parking spaces.

Project Design Features

The proposed project would implement both construction-related and operational project design features (PDFs) intended to reduce emissions of criteria air pollutants and toxic air contaminants (TACs). To ensure that the PDFs are implemented during construction and operation of the project, they will be imposed as enforceable conditions of approval by the City of La Mesa (City). The proposed project would implement **PDF-AQ-1** and **PDF-AQ-2**, as follows:

PDF-AQ-1: All-electric appliances and end uses (including heating, ventilation, air conditioning, and induction cooking) shall be required for project residential development. Residential units would be prohibited from having wood-burning or natural gas fireplaces, stoves, or appliances. Furthermore, the Applicant shall incorporate electric water heaters, spray foam in attics to conserve energy, and EV-ready parking garages into the residential development.

PDF-AQ-2: Standard construction practices that shall be employed to reduce fugitive dust emissions include watering of the active sites two times per day, depending on weather conditions. Construction of project components would be subject to SDAPCD Rule 55 – Fugitive Dust Control. Compliance with Rule 55 would limit fugitive dust that may be generated during grading and construction activities.

Air Quality

The air quality impact analysis evaluated the potential for adverse impacts to air quality due to construction and operational emissions resulting from the project. Impacts were evaluated for their significance based on the San Diego Air Pollution Control District (SDAPCD) mass daily criteria air pollutant thresholds of significance. Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards (criteria) for outdoor concentrations to protect public health. Criteria air pollutants include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$), and lead. Pollutants that are evaluated include volatile organic compounds (VOCs) (also referred to as reactive organic gases), oxides of nitrogen (NO_x), CO, sulfur oxides (SO_x), PM_{10}, and $PM_{2.5}$. VOCs and NO_x are important because they are precursors to O_3.

Air Quality Plan Consistency

If a project proposes development that is greater than that anticipated in the local plan and the growth projections set by the San Diego Association of Governments (SANDAG), the project might be in conflict with the State

Implementation Plan and Regional Air Quality Strategy, and therefore may contribute to a potentially significant cumulative impact on air quality. The proposed project was deemed to be consistent with the current air quality plan, because the anticipated growth associated with the project does not exceed that projected by SANDAG. In addition, 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. Based on these considerations, impacts related to the project's potential to conflict with or obstruct implementation of the applicable air quality plan would be less than significant.

Construction Criteria Air Pollutant Emissions

Construction of the project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). The maximum daily construction emissions would not exceed the SDAPCD significance thresholds for VOCs, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during construction. Therefore, the project would have a less than significant impact.

Operational Criteria Air Pollutant Emissions

The analysis herein assumed an operational year of 2027. Operation of the project would generate operational criteria air pollutants from mobile sources (vehicles), area sources (consumer product use, architectural coatings, and landscape maintenance equipment), and energy (natural gas). Maximum operational emissions would not exceed the SDAPCD operational significance thresholds for VOCs, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$.

Cumulative Impacts

The potential for a project to result in a cumulatively considerable impact, per the SDAPCD guidance and thresholds, is based on the project's potential to exceed the project-specific daily thresholds. Because maximum construction and operational emissions would not exceed the SDAPCD significance thresholds for VOCs, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$, the project would not result in a cumulatively considerable increase in criteria air pollutants.

Exposure of Sensitive Receptors

As mentioned above, construction and operational activities would not generate emissions in excess of the SDAPCD mass daily thresholds; therefore, localized criteria air pollutant impacts during construction and operation of the project would be less than significant. A health risk assessment (HRA) was also conducted to determine the potential impacts of exposure to diesel particulate matter (DPM), which is a toxic air contaminant (TAC), at existing proximate sensitive receptors in the project vicinity. The results of the HRA demonstrate that the TAC exposure from construction diesel exhaust emissions would result in a Chronic Hazard Index below the 1.0 threshold, and a cancer risk above the 10 in 1 million threshold prior to mitigation. Therefore, impacts would be potentially significant prior to mitigation. With the inclusion of the mitigation measure (MM), MM-AQ-1, which requires use of Tier 4 and electric equipment during construction, the cancer risk would fall below the 10 in 1 million threshold. Therefore, impacts to sensitive receptors would be less than significant with mitigation.

Three study intersections were included in the project's Traffic Assessment Letter: Jericho Road & Broadmoor Drive/Cavalry Church Driveway, Jericho Road & Amaya Drive, and Water Street & Amaya Drive. These intersections would be operating at LOS B or better after the implementation of the project (CR Associates 2023). Therefore, the proposed project would not generate traffic that would contribute to potential adverse traffic impacts that may result in the formation of CO hotspots and no hotspot analysis is required.

Other Emissions

Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application, which would disperse rapidly from the project site and generally occur at magnitudes that would not affect substantial numbers of people. Impacts associated with odors during construction would be less than significant. The project is a residential development that would not include land uses with sources that have the potential to generate substantial odors, and impacts associated with odors during operation would be less than significant.

Greenhouse Gas Emissions

Global climate change is primarily considered a cumulative impact but must also be evaluated on a project-level under CEQA. A project contributes to this potential impact through its incremental emissions combined with the cumulative increase of all other sources of GHG emissions. GHGs are gases that absorb infrared radiation in the atmosphere. Principal GHGs regulated under state and federal law and regulations include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). GHG emissions are measured in metric tons of CO_2 equivalent (MT CO_2e), which account for weighted global warming potential (GWP) factors for CH_4 and N_2O.

Project Impacts

Construction of the project would result in GHG emissions primarily associated with the use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. The project would generate operational GHG emissions from area sources (landscape maintenance), energy sources (electricity consumption and natural gas combustion), mobile sources (vehicle trips), water supply and wastewater treatment, solid waste, and refrigerants. Estimated annual project-generated operational GHG emissions at buildout in 2027 plus amortized project construction emissions would be approximately 685 MT CO_2e per year.

The project's consistency with the City's Climate Action Plan (CAP) demonstrates that, with implementation of applicable General Plan objectives and policies, coupled with state and federal actions and execution of CAP measures and actions, the City will reduce GHG emissions in alignment with state goals established by AB 32 and SB 32 and maintain a trajectory to meet its proportional share of the 2050 state target identified in Executive Order S-3-05. As such, the proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purposes of reducing the emissions of GHGs. The proposed project's impact would be less than significant.

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1 Introduction

1.1 Report Purpose and Scope

The purpose of this technical report is to assess the potential air quality and greenhouse gas (GHG) emissions impacts associated with construction and operation of the Jericho Road Development Project (project). This analysis uses the significance thresholds in Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.) and the emissions-based significance thresholds recommended by the San Diego Air Pollution Control District (SDAPCD) and other applicable thresholds of significance.

1.2 Project Location

The project site is located at 9407 Jericho Road in the northeastern area of the City of La Mesa (City), California (Assessor's Parcel Number 4866701800). The site is located roughly one mile east of State Route 125, and a half mile north of Interstate 8. The project site has been previously disturbed and is developed with the Cavalry Chapel, a surface parking lot, turf area, a playground, and associated church facilities/structures. The project site is surrounded by single-family homes to the north and east, and multi-family developments to the south and west.

1.3 Project Description

The proposed project includes a request for approval of a General Plan Amendment, Zone Change, Tentative Tract Map, Site Development Plan, Design Review and Special Permit for a residential development project within a 3.49-acre project site. The General Plan Amendment and Rezone would change the General Plan designation and Zoning from Urban Residential (R1) to Multiple Unit Residential (R3).

The proposed project includes development of up to 73 three story townhomes on the 3.49-acre site. The proposed townhomes would range in size from approximately 1,200-1,800 square feet (sf) and include 2 to 4 bedrooms. The project site is located within one half-mile of a major transit stop; however, the project would include two garage spaces per unit plus approximately 5 guest spaces for a total of 151 parking spaces. Access to the residential area would be provided via two driveways. The first driveway would replace the existing Calvary Church driveway. The second driveway would be aligned with Broadmoor Drive and serve as the west leg of the Jericho Road and Broadmoor Drive intersection.

The project would provide a total of 26,074 sf of open space area, including approximately 11,074 sf of private open space, and approximately 15,000 sf of common open space area. The common open space area amenities would include features such as decorative walkways, gathering spaces, a BBQ area with shaded seating, a tot lot and passive lawn areas for recreation.

The project does not propose any off-site improvements or modifications. Thus, it is assumed that all study area roadway facilities and intersections would remain the same with the implementation of the project.

1.4 Project Design Features

The proposed project would implement both construction-related and operational project design features (PDFs) intended to reduce emissions of criteria air pollutants and toxic air contaminants (TACs). To ensure that the PDFs are implemented during construction and operation of the project, they will be imposed as enforceable conditions of approval by the City of La Mesa (City). The proposed project would implement **PDF-AQ-1** and **PDF-AQ-2**, as follows:

PDF-AQ-1: All-electric appliances and end uses (including heating, ventilation, air conditioning, and induction cooking) shall be required for project residential development. Residential units would be prohibited from having wood-burning or natural gas fireplaces, stoves, or appliances. Furthermore, the Applicant shall incorporate electric heat pumps or electric water heaters into the residential development.

PDF-AQ-2: Standard construction practices that shall be employed to reduce fugitive dust emissions include watering of the active sites two times per day, depending on weather conditions. Construction of project components would be subject to SDAPCD Rule 55 – Fugitive Dust Control. Compliance with Rule 55 would limit fugitive dust that may be generated during grading and construction activities.

SOURCE: SanGIS 2023, Open Street Map 2019

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Jericho Road Residential Project

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2 Air Quality

2.1 Environmental Setting

2.1.1 Climate and Topography

The weather of the San Diego region, as in most of Southern California, is influenced by the Pacific Ocean and its semi-permanent high-pressure systems that result in dry, warm summers and mild, occasionally wet winters. The average temperature ranges (in degrees Fahrenheit) from the mid-40s to the high 90s. Most of the region's precipitation falls from November to April, with infrequent (approximately 10%) precipitation during the summer. The average seasonal precipitation along the coast is approximately 10 inches; the amount increases with elevation as moist air is lifted over the mountains (WRCC 2016).

The topography in the San Diego region varies greatly, from beaches on the west to mountains and desert on the east; along with local meteorology, it influences the dispersal and movement of pollutants in the basin. The mountains to the east prohibit dispersal of pollutants in that direction and help trap them in inversion layers.

The interaction of ocean, land, and the Pacific High Pressure Zone maintains clear skies for much of the year and influences the direction of prevailing winds (westerly to northwesterly). Local terrain is often the dominant factor inland, and winds in inland mountainous areas tend to blow through the valleys during the day and down the hills and valleys at night.

2.1.2 San Diego Air Basin Climatology

The project area is located within the San Diego Air Basin (SDAB) and is subject to the SDAPCD guidelines and regulations. The SDAB is one of 15 air basins that geographically divide the State of California. The SDAB is currently classified as a federal nonattainment area for ozone (O_3) and a state nonattainment area for particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), and O_3.

The SDAB, which lies in the southwest corner of California and comprises the entire San Diego region, covers 4,260 square miles and is an area of high air pollution potential. The SDAB experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

The SDAB experiences frequent temperature inversions. Subsidence inversions occur during the warmer months as descending air associated with the Pacific High Pressure Zone meets cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. The shallow inversion layer formed between these two air masses also can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce O_3, which contributes to the formation of smog. Smog is a combination of smoke and other particulates, O_3, hydrocarbons, oxides of nitrogen (NO_x) and other chemically reactive compounds which, under certain conditions of weather and sunlight, may result in a murky brown haze that causes adverse health effects (CARB 2022a).

Light daytime winds, predominantly from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to carbon monoxide (CO) and NO_x emissions. CO concentrations are generally higher in the morning and late evening. In the morning, CO levels are elevated due to cold temperatures and the large number of motor vehicles traveling. Higher CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Since CO is produced almost entirely from automobiles, the highest CO concentrations in the SDAB are associated with heavy traffic. Nitrogen dioxide (NO_2) levels are also generally higher during fall and winter days.

Under certain conditions, atmospheric oscillation results in the offshore transport of air from the Los Angeles region to San Diego County. This often produces high O_3 concentrations, as measured at air pollutant monitoring stations within San Diego County. The transport of air pollutants from Los Angeles to San Diego has also occurred within the stable layer of the elevated subsidence inversion, where high levels of O_3 are transported.

2.1.3 Sensitive Receptors

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion.

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution, as identified by the California Air Resources Board (CARB), include children, older adults, and people with cardiovascular and chronic respiratory diseases. According to the SDAPCD, sensitive receptors are those who are especially susceptible to adverse health effects from exposure to toxic air contaminants (TACs), such as children, the elderly, and the ill. Sensitive receptors include residences, schools (grades Kindergarten through 12), libraries, day care centers, nursing homes, retirement homes, health clinics, and hospitals within 2 kilometers of the facility (SDAPCD 2022a). The project site is surrounded by single-family homes to the north and east, and multi-family developments to the south and west.

2.1.4 Pollutants and Effects

2.1.4.1 Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O_3, NO_2, CO, sulfur dioxide (SO_2), PM_{10}, $PM_{2.5}$, and lead. These pollutants are discussed in the following paragraphs.[1] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone (O_3). O_3 is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3

[1] The following descriptions of health effects for each of the criteria air pollutants associated with project construction and operations are based on the U.S. Environmental Protection Agency's "Criteria Air Pollutants" (EPA 2024c) and the California Air Resources Board's "Glossary of Air Pollutant Terms" (CARB 2022a) published information.

precursors. These precursors are mainly NO_x and VOCs. The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric O_3) and at the Earth's surface in the troposphere.[2] The O_3 that the U.S. Environmental Protection Agency (EPA) and the CARB regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O_3. Stratospheric, or "good," O_3 occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O_3 layer, plant and animal life would be seriously harmed.

O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2024a). These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

Nitrogen Dioxide (NO_2). NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O_3. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (EPA 2016a).

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

In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide (SO_2). SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have

2 The troposphere is the layer of the Earth's atmosphere nearest to the surface of the Earth. The troposphere extends outward about 5 miles at the poles and about 10 miles at the equator.

been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels.

SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter, SO_2 can injure lung tissue and reduce visibility and the level of sunlight. SO_2 can also yellow plant leaves and erode iron and steel.

Particulate Matter (PM). Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Coarse particulate matter (PM_{10}) consists of particulate matter that is 10 microns or less in diameter and is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter ($PM_{2.5}$) consists of particulate matter that is 2.5 microns or less in diameter and is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs.

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

People with influenza, people with chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in PM_{10} and $PM_{2.5}$ (EPA 2009).

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

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

Volatile Organic Compounds (VOCs). Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O_3 are referred to and regulated as VOCs (also referred to as reactive organic gases). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry-cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of O_3 and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs.

Sulfates. Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO_2 in the atmosphere and can result in respiratory impairment, as well as reduced visibility.

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

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

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

2.1.4.2 Non-Criteria Pollutants

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

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

Diesel Particulate Matter (DPM). DPM is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70th the diameter of a human hair), and thus is a subset of $PM_{2.5}$ (CARB 2022b). DPM is typically composed of carbon particles ("soot," also called black carbon) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2022b). CARB classified "particulate emissions from diesel-fueled engines" (i.e., DPM) as a TAC in August 1998 (17 CCR 93000). DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of $PM_{2.5}$, DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2022b). Those most vulnerable to non-cancer health effects are children whose lungs are still developing and the elderly who often have chronic health problems.

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

Valley Fever. Coccidioidomycosis, more commonly known as "Valley Fever," is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline, sandy soils.

San Diego County (the County) is not considered a highly endemic region for Valley Fever, as the latest report from the County of San Diego Health and Human Services Agency Public Health Services indicated the County has 8.3 cases per 100,000 people (County of San Diego 2019). In the zip code area of the project site, the case rate is reported as between 5.0-7.6 cases per 100,000 people (County of San Diego 2021). In contrast, in 2021 the statewide annual incident rate was 20.1 per 100,000 people. The California counties considered highly endemic for Valley Fever include Kern (306.2 per 100,000), Kings (108.3 per 100,000), Tulare (65.8 per 100,000), San Luis Obispo (61.0 per 100,000), Fresno (39.8 per 100,000), Merced (28.3 per 100,000), and Monterey (27.0 per 100,000), which accounted for 52.1% of the reported cases in 2021 (CDPH 2021).

2.1.5 Federal

2.1.5.1 Criteria Pollutants

The federal Clean Air Act (CAA), passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the CAA, including the setting of National Ambient Air Quality Standards (NAAQS) for major air pollutants, hazardous air pollutant (HAP) standards, approval of state attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O_3 protection, and enforcement provisions.

NAAQS are established by the EPA for "criteria pollutants" under the CAA, which are O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The CAA requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan (SIP) that demonstrates how those areas will attain the standards within mandated time frames.

2.1.5.2 Hazardous Air Pollutants

The 1977 CAA Amendments required the EPA to identify national emission standards for hazardous air pollutants to protect the public health and welfare. HAPs include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 CAA Amendments, which expanded the control program for HAPs, 189 substances and chemical families were identified as HAPs.

2.1.6 State

2.1.6.1 Criteria Pollutants

The California Clean Air Act was adopted in 1988 and establishes the state's air quality goals, planning mechanisms, regulatory strategies, and standards of progress. Under the California Clean Air Act, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB is responsible for ensuring implementation of the California Clean Air Act, responding to the federal CAA, and regulating emissions from motor vehicles and consumer products. Pursuant to the authority granted to it, CARB has established California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS.

The NAAQS and CAAQS are presented in Table 1.

Table 1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	Primary[c,d]	Secondary[c,e]
O_3	1 hour	0.09 ppm (180 μg/m³)	—	Same as primary standard[f]
	8 hours	0.070 ppm (137 μg/m³)	0.070 ppm (137 μg/m³)[f]	
NO_2[g]	1 hour	0.18 ppm (339 μg/m³)	0.100 ppm (188 μg/m³)	Same as primary standard
	Annual arithmetic mean	0.030 ppm (57 μg/m³)	0.053 ppm (100 μg/m³)	
CO	1 hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	None
	8 hours	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	
SO_2[h]	1 hour	0.25 ppm (655 μg/m³)	0.075 ppm (196 μg/m³)	—
	3 hours	—	—	0.5 ppm (1,300 μg/m³)
	24 hours	0.04 ppm (105 μg/m³)	0.14 ppm (for certain areas)[g]	—
	Annual	—	0.030 ppm (for certain areas)[g]	—
PM_{10}[i]	24 hours	50 μg/m³	150 μg/m³	Same as primary standard
	Annual arithmetic mean	20 μg/m³	—	
$PM_{2.5}$[i]	24 hours	—	35 μg/m³	Same as primary standard
	Annual arithmetic mean	12 μg/m³	12.0 μg/m³	15.0 μg/m³
Lead[j, k]	30-day average	1.5 μg/m³	—	—
	Calendar quarter	—	1.5 μg/m³ (for certain areas)[k]	Same as primary standard
	Rolling 3-month average	—	0.15 μg/m³	
Hydrogen sulfide	1 hour	0.03 ppm (42 μg/m³)	—	—
Vinyl chloride[j]	24 hours	0.01 ppm (26 μg/m³)	—	—
Sulfates	24- hours	25 μg/m³	—	—
Visibility reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: CARB 2016.

Notes: O_3 = ozone; ppm = parts per million by volume; µg/m³ = micrograms per cubic meter; NO_2 = nitrogen dioxide; CO = carbon monoxide; mg/m³= milligrams per cubic meter; SO_2 = sulfur dioxide; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns.

[a] California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter (PM_{10}, $PM_{2.5}$), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

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

[f] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[g] To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[h] On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[i] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m³ were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

[j] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until 1 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.

2.1.6.2 Toxic Air Contaminants

The state Air Toxics Program was established in 1983 under AB 1807 (Tanner). The California TAC list identifies more than 200 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) HAPs. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources; however, AB 2588 does not regulate air toxics emissions. TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment (HRA), and if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and

Equipment program. All of these regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel powered equipment. Several Airborne Toxic Control Measures that reduce diesel emissions including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

California Health and Safety Code Section 41700

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

2.1.7 Local

2.1.7.1 San Diego Air Pollution Control District

While CARB is responsible for the regulation of mobile emission sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. The project site is located within the SDAB, which is under the jurisdiction of the SDAPCD, and is therefore, subject to the guidelines and regulations of SDAPCD. Federal and State attainment plans adopted by the SDAPCD are summarized below.

2.1.7.2 Federal Attainment Plans

SDAPCD has prepared the 2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County (2020 Attainment Plan) that demonstrates how the region will further reduce air pollutant emissions in order to attain the current NAAQS for O_3. The 2020 Attainment Plan was approved by the SDAPCD on October 14, 2020. On November 19, 2020, CARB adopted the 2020 Attainment Plan for attaining the Federal 8-hour 75 ppb and 70 ppb O_3 standards and projects attainment for the standards by 2026 and 2032, respectively (SDAPCD 2020). The 2020 Attainment Plan will be submitted to the EPA as a revision to the California SIP for attaining the O_3 NAAQS.

In December 2016, the SDAPCD adopted an update to the Eight-Hour Ozone Attainment Plan for San Diego County (2008 O_3 NAAQS). The 2016 Final Eight-Hour Ozone Attainment Plan for San Diego County indicates that local controls and state programs would allow the region to reach attainment of the federal 8-hour O_3 standard (1997 O_3 NAAQS) by 2018 (SDAPCD 2016a). In this plan, SDAPCD relies on the Regional Air Quality Strategy (RAQS) to demonstrate how the region will comply with the federal O_3 standard. The RAQS details how the region will manage and reduce O_3 precursors (NO_x and VOCs) by identifying measures and regulations intended to reduce these pollutants. The control measures identified in the RAQS generally focus on stationary sources; however, the emissions inventories and projections in the RAQS address all potential sources, including those under the authority of CARB and EPA. Incentive programs for reduction of emissions from heavy-duty diesel vehicles, off-road equipment, and school buses are also established in the RAQS.

Currently, the County is designated as moderate nonattainment for the 2008 O_3 NAAQS and maintenance for the 1997 O_3 NAAQS. As documented in the 2016 Final Eight-Hour Ozone Attainment Plan for San Diego County, the County has a likely chance of obtaining attainment due to the transition to low emission cars, stricter new source review rules, and continuing the requirement of general conformity for military growth and the San Diego International Airport. SDAPCD will also continue emission control measures including ongoing implementation of existing regulations in ozone precursor reduction to stationary and area-wide sources, subsequent inspections of facilities and sources, and the adoption of laws requiring Best Available Retrofit Control Technology for control of emissions (SDAPCD 2016a).

2.1.7.3 State Attainment Plans

SDAPCD and SANDAG are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The RAQS for the SDAB was initially adopted in 1991 and is updated every 3 years. The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for O_3. The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County and the cities in the County, to forecast future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans.

On March 9, 2023, SDAPCD adopted the 2022 RAQS. The RAQS plan demonstrates how the San Diego region will further reduce air pollution emissions to meet state health-based standards for ground-level O_3. The 2022 RAQS guides the SDAPCD in deploying tools, strategies, and resources to continue reducing pollutants that are precursors to ground-level O_3, including NO_x and VOC. The 2022 RAQS emphasizes O_3 control measures but also identifies complementary measures and strategies that can reduce emissions of GHGs and PM. It also includes new analyses exploring O_3 and its relationship to public health, mobile sources, under-resourced communities, and GHGs and climate change. Further, the 2022 RAQS identifies strategies to expand SDAPCD regional partnerships, identify more opportunities to engage the public and communities of concern, and integrate environmental justice and equity across all proposed measures and strategies (SDAPCD 2023).

In regard to particulate matter emissions reduction efforts, in December 2005, SDAPCD prepared a report titled "Measures to Reduce Particulate Matter in San Diego County" to address implementation of Senate Bill 656 in San Diego County (Senate Bill 656 required additional controls to reduce ambient concentrations of PM_{10} and $PM_{2.5}$) (SDAPCD 2005). In the report, SDAPCD evaluated the implementation of source-control measures that would reduce particulate matter emissions associated with residential wood combustion; various construction activities including earthmoving, demolition, and grading; bulk material storage and handling; carryout and trackout removal and cleanup methods; inactive disturbed land; disturbed open areas; unpaved parking lots/staging areas; unpaved roads; and windblown dust (SDAPCD 2005).

2.1.7.4 SDAPCD Rules and Regulations

As stated previously, SDAPCD is responsible for planning, implementing, and enforcing federal and state ambient standards in the SDAB. The following rules and regulations apply to all sources in the jurisdiction of SDAPCD:

- **SDAPCD Regulation IV: Prohibitions; Rule 50: Visible Emissions.** Prohibits any activity causing air contaminant emissions darker than 20% opacity for more than an aggregate of 3 minutes in any consecutive 60-minute time period. In addition, Rule 50 prohibits any diesel pile-driving hammer activity causing air contaminant emissions for a period or periods aggregating more than 4 minutes during the driving of a single pile (SDAPCD 1997).
- **SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance.** Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property (SDAPCD 1976).
- **SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust.** Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site (SDAPCD 2009b).
- **SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings.** Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2021).

2.2 Regional and Local Air Quality

2.2.1 SDAB Attainment Designation

Pursuant to the 1990 CAA Amendments, EPA classifies air basins (or portions thereof) as “attainment” or “nonattainment” for each criteria air pollutant, based on whether the NAAQS have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as “attainment” for that pollutant. If an area exceeds the standard, the area is classified as “nonattainment” for that pollutant. As previously discussed, these standards are set by EPA or CARB for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as “unclassified” or “unclassifiable.”

The designation of “unclassifiable/attainment” means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are redesignated as maintenance areas and must have approved maintenance plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as “attainment” or “nonattainment,” but based on the CAAQS rather than the NAAQS.

Table 2 summarizes SDAB’s federal and state attainment designations for each of the criteria pollutants.

Table 2. SDAB Attainment Designation

Pollutant	Federal Designation	State Designation
O_3 (8-hour)	**Nonattainment**	**Nonattainment**
O_3 (1-hour)	Attainment[a]	**Nonattainment**
CO	Attainment	Attainment
PM_{10}	Unclassifiable[b]	**Nonattainment**
$PM_{2.5}$	Attainment	**Nonattainment**[c]
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen sulfide	(No federal standard)	Unclassified
Visibility-reducing particles	(No federal standard)	Unclassified
Vinyl chloride	(No federal standard)	No designation

Sources: SDAPCD 2024

Definitions: attainment = meets the standards; nonattainment = does not meet the standards; unclassified or unclassifiable = insufficient data to classify

Notes: SDAB = San Diego; O_3 = ozone; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; NO_2 = nitrogen dioxide; SO_2 = sulfur dioxide.

a The federal 1-hour standard of 0.12 parts per million (ppm) was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in SIPs.

b At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

c CARB has not reclassified the region to attainment yet due to (1) incomplete data, and (2) the use of non-California Approved Samplers (CAS). While data collected does meet the requirements for designation of attainment with federal $PM_{2.5}$ standards, the data completeness requirements for state $PM_{2.5}$ standards substantially exceed federal requirements and mandates, and have historically not been feasible for most air districts to adhere to given local resources. APCD has begun replacing most regional filter-based $PM_{2.5}$ monitors as they reach the end of their useful life with continuous $PM_{2.5}$ air monitors to ensure collected data meets stringent completeness requirements in the future. APCD anticipates these new monitors will be approved as "CAS" monitors once CARB review the list of approved monitors, which has not been updated since 2013.

2.2.2 Air Quality Monitoring Data

SDAPCD operates a network of ambient air monitoring stations throughout the County, which measure ambient concentrations of pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The El Cajon-Lexington Elementary School monitoring station represents the closest monitoring station to the project site for all measured pollutants. Ambient concentrations of pollutants from 2020 through 2022 are presented in Table 3.

Table 3. Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2020	2021	2022	2020	2021	2022
Ozone (O_3)										
El Cajon-Lexington Elementary School	ppm	Maximum 1-hour concentration	State	0.09	0.094	0.088	0.100	0	0	1
	ppm	Maximum 8-hour concentration	State	0.070	0.083	0.077	0.088	14	3	2
			Federal	0.070	0.083	0.076	0.088	14	3	2
Nitrogen Dioxide (NO_2)										
El Cajon-Lexington Elementary School	ppm	Maximum 1-hour concentration	State	0.18	0.044	0.038	0.036	*0*	*0*	*0*
			Federal	0.100	0.044	0038	0.037	*0*	*0*	*0*
	ppm	Annual concentration	State	0.030	0.008	0.006	0.008	0	0	0
			Federal	0.053	0.008	0.006	0.008	0	0	0
Carbon Monoxide (CO)										
El Cajon-Lexington Elementary School	ppm	Maximum 1-hour concentration	State	20	1.9	4.1	3.3	0	0	0
			Federal	35	1.5	1.2	1.4	0	0	0
	ppm	Maximum 8-hour concentration	State	9.0	1.4	2.5	1.7	0	0	0
			Federal	9	1.4	1.1	1.1	0	0	0
Sulfur Dioxide (SO_2)										
El Cajon-Lexington (Federal)	ppm	Maximum 1-hour concentration	Federal	0.075	0.0017	0.0016	0.0008	0	0	0
	ppm	Maximum 24-hour concentration	State	—	—	—	—	—	—	—
			Federal	0.140	0.0004	0.0003	0.0003	0	0	0
	ppm	Annual concentration	Federal	0.030	0.0001	0.0001	0.0001	0	0	0

Table 3. Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2020	2021	2022	2020	2021	2022
Coarse Particulate Matter (PM_{10})[a]										
El Cajon-Lexington Elementary School	μg/m³	Maximum 24-hour concentration	State	50	—	—	—	—	—	—
			Federal	150	55	40	44	0 (0)	—	—
	μg/m³	Annual concentration	State	20	—	—	—	—	—	—
Fine Particulate Matter ($PM_{2.5}$)[a]										
El Cajon-Lexington Elementary School	μg/m³	Maximum 24-hour concentration	Federal	35	38.2	30.2	26.5	2.2 (2)	0 (0)	0 (0)
	μg/m³	Annual concentration	State	12	11. 6	10.4	ND	0 (0)	0 (0)	0 (0)
			Federal	12.0	10.3	9.7	9.4	—0 (0)	0 (0)	0 (0)

Sources: CARB 2023; EPA 2023a.

Notes: ppm = parts per million; — = not available or applicable; μg/m³ = micrograms per cubic meter; ND = insufficient data available to determine the value.
Data taken from CARB iADAM (http://www.arb.ca.gov/adam) and EPA AirData (http://www.epa.gov/airdata/) represent the highest concentrations experienced over a given year.
Exceedances of federal and state standards are only shown for O_3 and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed federal or state standards during the years shown. There is no federal standard for 1-hour O_3, annual PM_{10}, or 24-hour SO_2, nor is there a state 24-hour standard for $PM_{2.5}$.
The El Cajon-Lexington Elementary School monitoring station is located at 533 First Street, El Cajon, California.

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

2.3 Significance Criteria and Methodology

2.3.1 Thresholds of Significance

The State of California has developed guidelines to address the significance of air quality impacts based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), which provides guidance that a project would have a significant environmental impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or pollution control district may be relied upon to determine whether the project would have a significant impact on air quality. The SDAPCD has not developed thresholds of significance for air quality and health risk, however, the SDAPCD has provided emission levels under its permitting authority for new source review for which an Air Quality Impact Assessment (AQIA) is triggered. The County of San Diego has reviewed SDAPCD's trigger levels, as well as EPA rulemaking, and CEQA thresholds adopted by the South Coast Air Quality Management District (SCAQMD) to develop screening-level thresholds (SLTs) to assist lead agencies in determining the significance of project-level air quality impacts within the County. The City has chosen to apply the County of San Diego SLT's for determining mass daily criteria air pollutant thresholds of significance. Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 4 are exceeded.

Table 4. County of San Diego Air Quality Significance Thresholds

Construction Emissions			
Pollutant	Total Emissions (Pounds per Day)		
Coarse particulate matter (PM_{10})	100		
Fine particulate matter ($PM_{2.5}$)	55		
Oxides of nitrogen (NO_x)	250		
Sulfur oxides (SO_x)	250		
Carbon monoxide (CO)	550		
Volatile organic compounds (VOCs)	75[a]		
Operational Emissions			
Pollutant	Total Emissions		
	Pounds per Hour	Pounds per Day	Tons per Year
Coarse particulate matter (PM_{10})	—	100	15
Fine particulate matter ($PM_{2.5}$)	—	55	10
Oxides of nitrogen (NO_x)	25	250	40

Table 4. County of San Diego Air Quality Significance Thresholds

Sulfur oxides (SO_x)	25	250	40
Carbon monoxide (CO)	100	550	100
Lead and lead compounds	—	3.2	0.6
Volatile organic compounds (VOCs)	—	75[a]	13.7

Source: County of San Diego 2007; SDAPCD 2016b.
Notes: SDAPCD = San Diego Air Pollution Control District.
[a] VOC threshold based on the threshold of significance for VOCs from the South Coast Air Quality Management District (SCAQMD) for the Coachella Valley as stated in the San Diego County Guidelines for Determining Significance.

The thresholds listed in Table 4 represent screening-level thresholds that can be used to evaluate whether project-related emissions would cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. In the event that emissions exceed these thresholds, modeling would be required to demonstrate that the project's total air quality impacts result in ground-level concentrations that are below the CAAQS and NAAQS, including appropriate background levels. For non-attainment pollutants, if emissions exceed the thresholds shown in Table 4, the project could have the potential to result in a cumulatively considerable net increase in these pollutants and thus could have a significant impact on the ambient air quality.

SDAPCD Rule 51 (Public Nuisance) prohibits emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person (SDAPCD 1976). A project that proposes a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

2.3.2 Approach and Methodology

2.3.2.1 Construction Mass Emissions

Emissions from the construction phase of project components were estimated using the California Emissions Estimator Model (CalEEMod) Version 2022.1[3]. Per preliminary project details from the project applicant, it is assumed that construction of the project would begin in May 2025 and would last approximately 22 months, matching the following schedule:

- Demolition/Site Preparation: May 2025
- Grading: May 2025—July 2025
- Paving: November 2025—December 2025
- Building Construction: December 2025—February 2027
- Architectural Coating: February 2027—March 2027

Table 5 provides the construction timeline, potential phasing, construction equipment mix, and vehicle trips assumed for estimating project-generated construction emissions. The construction schedule has been developed based on available information provided by the project applicant, typical construction practices, and CalEEMod

[3] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform to calculate construction and operational emissions from land use development projects. The model was developed for the California Air Pollution Control Officers Association in collaboration with multiple air districts across the state. Numerous lead agencies in the state, including SDAPCD, use CalEEMod to estimate greenhouse gas emissions in accordance with CEQA Guidelines Section 15064.4(a)(1).

default assumptions. Construction phasing is intended to represent a schedule of anticipated activities for use in estimating potential project-generated construction emissions.

Table 5. Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Demolition / Site Prep	12	8	20	Tractors/Loaders/ Backhoes	3	8
				Rubber Tired Dozers	1	8
Grading	16	8	72	Graders	1	8
				Scrapers	4	8
				Rubber Tired Dozers	1	8
				Skid Steer Loader	1	8
Paving	16	8	0	Pavers	2	8
				Paving Equipment	2	8
				Rollers	3	8
Building Construction	20	16	0	Forklift	2	8
				Tractors/Loaders/ Backhoes	2	4
				Crane	1	4
				Generator	1	8
				Air Compressors (Gasoline)	2	8
Architectural Coating	12	0	0	Air Compressors (Diesel)	1	6

Note: See Appendix A for additional details.

The equipment mix assumptions were based on CalEEMod default assumptions based on proposed land use and information provided by the applicant and is meant to represent a reasonably conservative estimate of construction activity. For the analysis, it is assumed that heavy construction equipment would be operating at the site for up to 8 hours per day, 5 days per week. Default assumptions provided in CalEEMod were used to determine worker trips and vendor truck trips for each potential construction phase. The default CalEEMod trip distance for construction vehicles was assumed, which was a one-way distance of 11.97 miles for worker trips, 7.63 miles for vendor truck trips, and 20 miles for haul truck trips.

Implementation of the project would generate criteria air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, architectural coatings, and asphalt pavement application. Based on project specific information provided by the applicant, 26,870 cubic yards of material import and 1,784 cubic yards of material export are expected from the construction of the project during the grading phase. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. Construction of project components would be subject to SDAPCD Rule 55 – Fugitive Dust Control, included as PDF-AQ-2. Compliance with Rule 55 would limit fugitive dust (PM_{10} and $PM_{2.5}$) that may be generated during grading and construction activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active sites two times per day, depending on weather conditions. During the demolition phase, haul trucks would remove approximately 1,955 tons of debris would be removed from the project site.

Internal combustion engines used by construction equipment, vendor trucks (i.e., delivery trucks), haul trucks, and worker vehicles would result in emissions of VOCs, NO_x, CO, PM_{10}, and $PM_{2.5}$. The application of architectural coatings, such as exterior application/interior paint and other finishes, and application of asphalt pavement would also produce VOC emissions; however, the contractor is required to procure architectural coatings from a supplier in compliance with the requirements of SDAPCD Rule 67.0.1 for Architectural Coatings.

For additional details see Appendix A, *Air Quality and Greenhouse Gas Emissions CalEEMod Output Files*.

2.3.2.2 Construction Health Risk Analysis

An HRA was performed to assess the impact of construction diesel exhaust on off-site sensitive receptors proximate to the project site. A construction HRA CalEEMod run was performed to estimate on-site emissions of exhaust PM_{10}, which was used as a surrogate for DPM. The predominant source of construction exhaust PM_{10} is operation of off-road diesel construction equipment. However, it was conservatively assumed that emissions from heavy-duty haul and vendor trucks traveling 0.19 miles would occur on site to represent potential on-site travel and nearby local off-site travel.

The HRA is based on the methodologies prescribed in the Office of Environmental Health Hazard Assessment (OEHHA) document, Air Toxics Hot Spots Program Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments (OEHHA Guidelines) (OEHHA 2015). To implement the OEHHA Guidelines based on proposed project information, the SDAPCD has developed a three-tiered approach where each successive tier is progressively more refined, with fewer conservative assumptions. The SDAPCD document, Supplemental Guidelines for Submission of Air Toxics "Hot Spots" Program Health Risk Assessments (SDAPCD 2022a), provides guidance with which to perform HRAs within the SDAB.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SDAPCD recommends a carcinogenic (cancer) risk threshold of 10 in one million, which indicates that a person has an additional risk of 10 chances in a million (0.001%) of developing cancer during their lifetime as a result of the air pollution scenario being evaluated. Additionally, some TACs increase non-cancer health risk due to short-term (acute) and long-term (chronic) exposures. The SDAPCD has also adopted a hazard index less than 1.0, below which indicates that people are not likely to experience any non-cancer health effects. The exhaust from diesel engines is a complex mixture of gases, vapors, and particles, many of which are known human carcinogens. DPM has established cancer risk factors and relative exposure values for long-term chronic health hazard impacts. No short-term, acute relative exposure level has been established for DPM; therefore, acute impacts of DPM are not addressed in this assessment.

Air dispersion modeling was performed using the EPA's American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) modeling system (computer software) with the Lakes Environmental Software implementation/user interface, AERMOD View Version 12.0. The dispersion modeling included the use of standard regulatory default options. AERMOD parameters were selected as representative of the project site and project activities. Principal parameters of this modeling are presented in Table 6.

Table 6. AERMOD Principal Parameters

Parameter	Details
Meteorological Data	The latest three-year meteorological data (2019-2021) for the El Cajon Station were obtained from SDAPCD as the recommended meteorological station and input to AERMOD.
Urban versus Rural Option	Urban areas typically have more surface roughness, as well as structures and low-albedo surfaces that absorb more sunlight—and thus more heat—relative to rural areas. Email correspondence with the SDAPCD confirmed that the project site should be considered urban for modeling projects.
Terrain Characteristics	Digital elevation data were imported into AERMOD and elevations were assigned to receptors and emission sources, as necessary. Digital elevation data were obtained through the AERMOD View in the U.S. Geological Survey's National Elevation Dataset format with a resolution of 1 arc-second resolution.
Source Release Characterizations	The following modeling parameters for emissions sources were incorporated into AERMOD. These parameters were obtained from information published by regulatory agencies and represent the best available information at the time of this writing. ▪ Off-road equipment and trucks were modeled as a line of adjacent volume sources across the project site with a release height of 5 meters, a plume height of 10 meters, and plume width of 10 meters (SCAQMD 2008).
Receptors	To evaluate off-site receptor exposure to DPM from project construction, Cartesian Grids were input with the following parameters: 20-meter spacing from 0 to 200 meters from the construction boundary and 100-meter spacing from 0 to 1,000 meters from the construction boundary.

Source: SCAQMD 2008.
Notes: AERMOD = American Meteorological Society/EPA Regulatory Model; SDAPCD = San Diego Air Pollution Control District; DPM = diesel particulate matter.
See Appendix B for additional information.

For the project, AERMOD was run with all sources emitting unit emissions (one gram per second) to obtain the "X/Q" values. X/Q is a dispersion factor that is the average effluent concentration normalized by source strength and is used as a way to simplify the representation of emissions from many sources. The X/Q values of ground-level concentrations were determined using AERMOD and the maximum concentrations determined for the one-hour and period-averaging options. Dispersion model plot files from AERMOD were then imported into CARB's Hotspots Analysis and Reporting Program Version 2 (Version 22118) to determine health risk. The exposure parameters included in HARP2 are described below:

- Off-Site Maximally Exposed Individual Resident (MEIR): For off-site residential receptors during project construction, DPM exposure was assumed to begin in the 3rd trimester of pregnancy (assumed to be the worst-case scenario for cancer risk) for a duration of 1.83 years (construction).

2.3.2.3 Operation

Operation of the proposed project would generate criteria air pollutant emissions from mobile, area, and energy sources, which are discussed below. It was assumed that the project would be fully operational following the completion of construction, which would occur in 2027.

Mobile Sources (Motor Vehicles)

Following the completion of construction activities, the project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources (vehicular traffic) as a result of the 73 additional residential units. The CalEEMod Version 2022.1 was used to estimate daily emissions from proposed vehicular sources in combination with trip rates provided in the Traffic Assessment Letter prepared for the proposed project (CR Associates 2023). CalEEMod default data, including trip characteristics, variable start information, emissions factors, and trip distances, were used for the model inputs. Emission factors representing the vehicle mix and emissions for 2027 were used to estimate emissions associated with vehicular sources.

Area

The area source category calculates direct sources of air pollutant emissions located at the project site, including consumer product use, architectural coatings, and landscape maintenance equipment. CalEEMod defaults were used to estimate emissions from area sources during operation of the project. The project includes PDF-AQ-1 that prohibits wood-burning, and only allows for natural gas-fired fireplaces in residential units. Consumer products are various solvents used in non-industrial applications which emit VOCs during their product use. These typically include cleaning supplies, kitchen aerosols, cosmetics and toiletries. Consumer product VOC emissions are estimated in CalEEMod based on the floor area of residential and nonresidential buildings and on the default factor of pounds of VOC per building square foot per day. For parking lot land uses, CalEEMod estimates VOC emissions associated with use of parking surface degreasers based on a square footage of parking surface area and pounds of VOC per square foot per day. The CalEEMod default utilization rates and emission factors were assumed.

This VOC emissions associated with the reapplication rate and coating for each building surface type and parking surface was also estimated using CalEEMod. The reapplication rate is the percentage of the total surface area that is repainted each year. A default of 10% is used, meaning that 10% of the surface area is repainted each year (i.e., all surface areas are repainted once every 10 years). Daily emissions divide the annual rate by 365 days per year. It was assumed that the project would comply with SDAPCD Rule 67.0.1 for Architectural Coatings.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers, as well as air compressors, generators, and pumps. The emissions associated from landscape equipment use were estimated using CalEEMod. The emission factors are multiplied by the number of summer days, which represent the number of operational days.

Energy

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth). Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, because criteria pollutant emissions occur at the site of the power plant, which is typically off-site. Therefore, for the purposes of the air quality analysis, the energy source parameters focus on criteria air pollutants generated because of natural gas consumption within the built environment. Natural gas consumption is attributed to systems like heating, ventilation, and air conditioning and water heating. In CalEEMod 2022, the default energy use from nonresidential land uses is based on 2019 consumption estimates from the CEC's 2018-2030 Uncalibrated Commercial Sector Forecast (Commercial Forecast), and the energy use from residential land uses is based on the 2019 Residential Appliance Saturation Survey (RASS). The Commercial Forecast and RASS datasets derive energy intensities of different end use categories for different land use subtypes for electricity demand forecast zones (EDFZ) throughout the state. However, the energy use estimates are based on existing buildings and residences and are not representative of those constructed in compliance with energy efficiency requirements of the latest Title 24 Building Energy Efficiency Standards (e.g., the average residence surveyed in the RASS was constructed in 1974). Therefore, per Appendix D, Technical Source Documentation for Emissions Calculations, of the CalEEMod Version 2022.1 User Guide, "the default energy consumption estimates provided in CalEEMod based on the Commercial Forecast and RASS are very conservative, overestimating expected energy use compared to what would be expected for new buildings subject to the latest Energy Code with more stringent energy efficiency measures" (CAPCOA 2022).

For additional details see Appendix A, *Air Quality and Greenhouse Gas Emissions CalEEMod Output Files*.

2.4 Impact Analysis

2.4.1 Would the Project conflict with or obstruct implementation of the applicable air quality plan?

2.4.1.1 Analysis

As stated in Section 2.2.3, Local, SDAPCD and SANDAG are responsible for developing and implementing the clean air plans for attainment and maintenance of the NAAQS and CAAQS in the SDAB; specifically, the SIP and RAQS.[4] The federal O_3 maintenance plan, which is part of the SIP, was adopted in 2016. The SIP includes a demonstration that current strategies and tactics will maintain acceptable air quality in the SDAB based on the NAAQS. The RAQS was initially adopted in 1991 and is updated every 3 years (most recently in 2022). The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for O_3. The SIP and RAQS rely on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in San Diego County and the cities in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by San Diego County and the cities in the County as part of the development of their general plans.

If a project proposes development that is greater than that anticipated in the local plan and SANDAG's growth projections, the project might be in conflict with the SIP and RAQS and may contribute to a potentially significant cumulative impact on air quality. Implementation of the project would result in an increase in housing of 73 residential units. The General Plan Amendment and Rezone would change the General Plan designation and Zoning from Urban Residential (R1) to Multiple Unit Residential (R3). As of 2023, the City has a persons per household ratio of 2.35 (DOF 2023). The project's 73 residential dwelling units would generate approximately 172 residents. Although not all residents of the project would be new to the City, residential development would be considered unplanned growth Development of multi-family residential uses at the project site was not accounted for in the City's General Plan growth projections. However, the increase of 172 residents would account for a 0.2845%

[4] For the purpose of this discussion, as the 2020 Attainment Plan has not yet been adopted by the EPA as a revision to the California SIP for attaining the O_3 NAAQS, the relevant federal air quality plan is the O_3 maintenance plan (SDAPCD 2016a). The RAQS is the applicable plan for purposes of state air quality planning. Both plans reflect growth projections in the SDAB.

increase in the City's population. Therefore, the new residents would not be considered a substantial increase in the City's population.

The most recent Regional Housing Needs Assessment from SANDAG stated that La Mesa needs to build 3,797 units from 2021 through 2029 (SANDAG 2020). The City has a projected deficit of 859 very-low and 487 low income units, and 577 moderate and 1,874 above-moderate income units (SANDAG 2020). The project is expected to bring 73 units to market in 2027, which would be within SANDAG's growth projection for housing during the 6th Cycle planning horizon (i.e., April 2021 – April 2029). Therefore, the project would not conflict with SANDAG's regional growth forecast for the City.

2.4.1.2 Conclusion

The increase in the housing units and associated vehicle source emissions is not anticipated to result in air quality impacts that were not envisioned in the growth projections and RAQS, and this minor increase in residential units in the region would not obstruct or impede implementation of local air quality plans. Based on the analysis above, implementation of the project would not result in development in excess of that anticipated in local plans or increases in population/housing growth beyond those contemplated by SANDAG. As such, vehicle trip generation and planned development for the project are considered to be anticipated in the SIP and RAQS. Because the proposed land uses and associated vehicle trips are anticipated in local air quality plans, the project would be consistent at a regional level with the underlying growth forecasts in the RAQS. Impacts would be **less than significant.**

2.4.2 Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and SDAPCD develops and implements plans for future attainment of the NAAQS and CAAQS. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether the project's individual emissions would have a cumulatively significant impact on air quality.

2.4.2.1 Construction

Construction of the proposed project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (vendor and haul truck trips, and worker vehicle trips). Construction emissions can vary substantially day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions.

Criteria air pollutant emissions associated with construction activities were quantified using CalEEMod. Default values provided by the program were used where detailed proposed project information was not available. A detailed depiction of the construction schedule—including information regarding phasing, equipment used during each phase, haul trucks, vendor trucks, and worker vehicles—is included above in Section 2.3.2.

Development of the proposed project would generate air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, asphalt pavement application, and architectural coatings. As described previously, fugitive dust would be limited through compliance with SDAPCD Rule 55 as a result of PDF-AQ-2, which requires the restriction of visible emissions of fugitive dust beyond the property line.

Table 7 shows the estimated maximum unmitigated daily construction emissions associated with the conceptual construction phases of the project. Complete details of the emissions calculations are provided in Appendix A, *Air Quality and Greenhouse Gas Emissions CalEEMod Output Files*.

Table 7. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Construction Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Summer						
2025	4.50	47.45	38.65	0.12	7.70	3.55
2026	0.93	7.48	10.16	0.02	0.54	0.32
Winter						
2025	1.01	8.67	11.75	0.02	0.58	0.41
2026	0.93	7.77	10.06	0.02	0.54	0.32
2027	27.09	7.44	9.98	0.02	0.51	0.29
Maximum	***27.09***	***47.45***	***38.65***	***0.12***	***7.70***	***3.55***
SDAPCD threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SDAPCD = San Diego Air Pollution Control District.
See Appendix A for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod and include quantification of PDF-AQ-2.

As shown in Table 7, daily construction emissions for the project would not exceed SDAPCD's significance thresholds. Therefore, the project's impacts related to emissions of criteria air pollutant emissions during construction would be **less than significant.**

2.4.2.2 Operations

Operation of the proposed project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources (vehicle trips), area sources (consumer products, landscape maintenance equipment), and energy sources. As discussed in Section 2.3.2, pollutant emissions associated with long-term operations were quantified using CalEEMod. Project-generated mobile source emissions were estimated in CalEEMod based on project-specific trip rates. CalEEMod default values were used to estimate emissions from the proposed project area and energy sources.

Table 8 presents the unmitigated maximum daily emissions associated with the operation of the project in 2027 after all phases of construction have been completed. Complete details of the emissions calculations are provided in Appendix A, *Air Quality and Greenhouse Gas Emissions CalEEMod Output Files*. Emissions represent maximum of summer and winter. "Summer" emissions are representative of the conditions that may occur during the O_3

season (May 1 to October 31), and "winter" emissions are representative of the conditions that may occur during the balance of the year (November 1 to April 30).

Table 8. Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Summer						
Mobile	1.62	1.00	10.47	0.02	2.21	0.57
Area	4.05	1.40	21.08	0.06	2.44	2.35
Energy	0.02	0.38	0.16	0.00	0.03	0.03
Total	**5.69**	**2.77**	**31.72**	**0.09**	**4.68**	**2.96**
Winter						
Mobile	1.59	1.09	10.02	0.02	2.21	0.57
Area	3.68	1.36	16.94	0.06	2.44	2.35
Energy	0.02	0.38	0.16	0.00	0.03	0.03
Total	**5.29**	**2.83**	**27.12**	**0.09**	**4.68**	**2.96**
County threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; <0.01 = reported value is less than 0.01.
See Appendix A for complete results.

As shown in Table 8, daily operational emissions for the project would not exceed SDAPCD's significance thresholds for any criteria air pollutant. Therefore, the project would result in a **less than significant impact** related to emissions of criteria air pollutant emissions during operation.

2.4.2.3 Conclusion

In analyzing cumulative impacts from a project, the analysis must specifically evaluate the project's contribution to the cumulative increase in pollutants for which the SDAB is designated as nonattainment for the CAAQS and NAAQS. If the project does not exceed thresholds and is determined to have less than significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the project components, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, the project would only be considered to have a significant cumulative impact if its contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact).

Additionally, for the SDAB, the RAQS serves as the long-term regional air quality planning document for the purpose of assessing cumulative operational emissions within the basin to ensure the SDAB continues to make progress toward NAAQS and CAAQS attainment status. As such, cumulative projects located in the San Diego region would have the potential to result in a cumulative impact to air quality if, in combination, they would conflict with or obstruct implementation of the RAQS. Similarly, individual projects that are inconsistent with the regional planning documents on which the RAQS is based would have the potential to result in cumulative impacts if they represent development beyond regional projections.

The SDAB has been designated as a federal nonattainment area for O_3 and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. PM_{10} and $PM_{2.5}$ emissions associated with construction generally result in near-field impacts. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the SDAB. As shown in Tables 7 and 8, the emissions of all criteria pollutants from the project's construction and operations would be below the significance levels. As such, the project would result in less than significant impacts to air quality.

Regarding long-term cumulative operational emissions in relation to consistency with local air quality plans, the SIP and RAQS serve as the primary air quality planning documents for the state and SDAB, respectively. The SIP and RAQS rely on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and by the County as part of the development of their general plans. Therefore, projects that propose development that is consistent with the growth anticipated by local plans would be consistent with the SIP and RAQS and would not be considered to result in cumulatively considerable impacts from operational emissions. As discussed in Section 2.4.1 of this report, the project does not conflict with the SANDAG growth projections. Thus, it would be consistent at a regional level with the underlying growth forecasts in the SIP and RAQS.

As a result, the project would not result in a cumulatively considerable contribution to regional O_3 concentrations or other criteria pollutant emissions. Cumulative impacts for construction and operation would be **less than significant** for the project.

2.4.3 Would the project expose sensitive receptors to substantial pollutant concentrations?

2.4.3.1 Carbon Monoxide Hotspots

Mobile-source impacts occur on two basic scales of motion. Regionally, project-related travel will add to regional trip generation and increase the vehicle miles traveled within the local airshed and the SDAB. Locally, project traffic will be added to the City's roadway system. If such traffic occurs during periods of poor atmospheric ventilation, consists of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and operates on roadways already crowded with non-project traffic, there is a potential for the formation of microscale CO "hotspots" in the area immediately around points of congested traffic. Because of continued improvement in mobile emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the basin is steadily decreasing.

Projects contributing to adverse traffic impacts may result in the formation of CO hotspots. To verify that the project would not cause or contribute to a violation of the CO standard, a screening evaluation of the potential for CO hotspots was conducted. The County's CO hotspot screening guidance (County of San Diego 2007) was followed to determine whether the project would require a site-specific hotspot analysis. Per guidance, any project that would place receptors within 500 feet of a signalized intersection operating at or below LOS E (peak-hour trips exceeding 3,000 trips) must conduct a "hotspot" analysis for CO. Likewise, projects that will cause road intersections to operate at or below a LOS E (i.e., with intersection peak-hour trips exceeding 3,000) will also have to conduct a CO "hotspot" analysis. Three study intersections were included in the project's Traffic Assessment Letter: Jericho Road & Broadmoor Drive/Cavalry Church Driveway, Jericho Road & Amaya Drive, and Water Street & Amaya Drive. These intersections would be operating at LOS B or better after the implementation of the project (CR Associates 2023). Therefore, the proposed project would not generate traffic that would contribute to potential adverse traffic impacts that may result in the formation of CO hotspots and no hotspot analysis is required. Based on these considerations, the project would result in a **less than significant** impact to air quality with regard to potential CO hotspots.

2.4.3.2 Toxic Air Contaminants

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the state and federal government as TACs or HAPs. The greatest potential for TAC emissions during construction would be DPM emissions from heavy equipment operations and heavy-duty trucks, and the associated health impacts to sensitive receptors. The closest sensitive receptors to the project site are residences immediately adjacent to the boundary of the site. As such, a construction health risk analysis was performed for the project as discussed below.

Based on results from the HRA, the maximally exposed individual resident offsite would be located at the multi-family residences adjacent to the project site to the south. Table 9 summarizes the results of the HRA for proposed project construction prior to mitigation, and detailed results are provided in Appendix B, *Health Risk Assessment Output Files*.

Table 9. Construction Activity Health Risk Assessment Results Prior to Mitigation

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Offsite				
Cancer Risk	Per Million	59.7	10.0	**Potentially Significant**
HIC	Not Applicable	0.04	1.0	Less than Significant

Source: Appendix B
Notes: CEQA = California Environmental Quality Act; HIC = Chronic Hazard Index.

As shown in Table 9, the results of the HRA demonstrate that the TAC exposure from construction diesel exhaust emissions would result in cancer risk above the 10 in 1 million threshold and Chronic Hazard Index less than 1. Therefore, TAC emissions from construction of the project would result in a potentially significant impact and thus mitigation is required.

2.4.3.3 Mitigation

Mitigation required to minimize potentially significant air quality impacts during construction of the project include the following:

MM-AQ-1: Prior to the commencement of construction activities for the project, the Applicant shall require its construction contractor to demonstrate that all 25-horsepower or greater diesel-powered equipment is powered with California Air Resources Board (CARB)-certified Tier 4 Final engines, and that all construction equipment with engines less than 25 horsepower be electrically powered.

An exemption from this requirement may be granted if (1) the Applicant documents equipment with Tier 4 Final and electric engines are not reasonably available, and (2) the required corresponding reductions in criteria air pollutant emissions can be achieved for the project from other combinations of construction equipment. Before an exemption may be granted, the Applicant's construction contractor shall: (1) demonstrate that at least two construction fleet owners/operators in the City of La Mesa or County of San Diego were contacted and that those owners/operators confirmed Tier 4 Final and electric equipment could not be located within the City of La Mesa or County of San Diego during the desired construction schedule; and (2) the proposed replacement equipment has been evaluated using California Emissions Estimator Model (CalEEMod) or other industry standard emission estimation method and documentation provided to the City to confirm that necessary project-generated emissions reductions are achieved.

2.4.3.4 Level of Significance After Mitigation

Table 10 summarizes the results of the construction HRA after implementation of **MM-AQ-1** for construction of the proposed project.

Table 10. Construction Activity Health Risk Assessment Results After Mitigation

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Offsite				
Cancer Risk	Per Million	6.3	10.0	Less than Significant
HIC	Not Applicable	0.004	1.0	Less than Significant

Source: Appendix B
Notes: CEQA = California Environmental Quality Act; HIC = Chronic Hazard Index.

As shown in Table 10, with the inclusion of MM-AQ-1, TAC exposure from construction diesel exhaust emissions would result in cancer risk below the 10 in 1 million threshold and Chronic Hazard Index would be less than 1. Therefore, the project would result in a **less than significant impact with mitigation** related to exposure to TAC emissions during construction.

2.4.3.5 Health Effects of Criteria Air Pollutants

Construction and operation of the project would not result in emissions that exceed SDAPCD's emission thresholds for any criteria air pollutants. The SDAPCD thresholds are based on the SDAB complying with the NAAQS and CAAQS which are protective of public health; therefore, no adverse effects to human health would result from the project. The following provides a general discussion of criteria air pollutants and their health effects.

Regarding VOCs, some VOCs would be associated with motor vehicles and construction equipment, while others are associated with architectural coatings and asphalt off-gassing, the emissions of which would not result in exceedances of SDAPCD's thresholds. Additionally, SDAPCD Rule 67.0.1 restricts the VOC content of coatings for both construction and operational applications.

In addition, VOCs and NO_x are precursors to O_3, for which the SDAB is designated as nonattainment with respect to the NAAQS and CAAQS (the SDAB is designated by EPA as an attainment area for the 1-hour O_3 NAAQS standard and 1997 8-hour NAAQS standard). The health effects associated with O_3, as discussed in Section 2.1.4, Criteria Air Pollutants, are generally associated with reduced lung function. The contribution of VOCs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the SDAB due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O_3 NAAQS and CAAQS tend to occur between April and October, when solar radiation is highest. The holistic effect of a single project's emissions of O_3 precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, the VOC and NO_x emissions associated with project construction could minimally contribute to regional O_3 concentrations and the associated health impacts. Due to the minimal contribution during construction and operation, as well as the existing air quality in coastal San Diego areas, health impacts would be considered less than significant.

Similar to O_3, construction of the project would not exceed thresholds for PM_{10} or $PM_{2.5}$ and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter. Due to the minimal contribution of particulate matter during construction and operation, health impacts would be considered less than significant.

As described in Section 2.1.4, NO_2 health impacts are associated with respiratory irritation, which may be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, these operations would be relatively short term, and the off-road construction equipment would be operating on various portions of the site and would not be concentrated in one portion of the site at any one time. Construction of the project would not contribute to exceedances of the NAAQS and CAAQS for NO_2 since NO_x emissions (which includes NO_2) would be less than the applicable SDAPCD threshold.

Based on the preceding considerations, health impacts from project-related criteria air pollutant emissions would be considered **less than significant.**

2.4.3.6 Conclusion

The results of the HRA demonstrate that TAC exposure from construction diesel exhaust emissions would be **less than significant** with the inclusion of MM-AQ-1. In addition, health impacts associated with criteria air pollutants would be considered **less than significant.** Based on these considerations, the project would not expose sensitive receptors to substantial pollutant concentrations.

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

2.4.4.1 Construction

Odors would be generated from vehicles and/or equipment exhaust emissions during construction of the project. Odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and architectural coatings. Such odors are temporary and for the types of construction activities anticipated for project components, would generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be considered **less than significant.**

2.4.4.2 Operational

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative or formulaic methodologies to determine if potential odors would have a significant impact. Examples of land uses and industrial operations that are commonly associated with odor complaints include agricultural uses, wastewater treatment plants, food processing facilities, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding facilities. In addition to the odor source, the distance between the sensitive receptor(s) and the odor source, as well as the local meteorological conditions, are considerations in the potential for a project to frequently expose the public to objectionable odors. The project would include a residential development, which is not expected to produce any nuisance odors; therefore, impacts related to odors caused by the project would be **less than significant.**

3 Greenhouse Gas Emissions

3.1 Environmental Setting

3.1.1 Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period (i.e., decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2023e).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: Short-wave radiation emitted by the Sun is absorbed by the Earth, the Earth emits a portion of this energy in the form of long-wave radiation, and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-twentieth century and is the most significant driver of observed climate change (IPCC 2013; EPA 2023e). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system, which is discussed further in Section 3.1.5, Potential Effects of Climate Change.

3.1.2 Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code, Section 38505(g), for purposes of administering many of the state's primary GHG emission reduction programs, GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). (See also CEQA Guidelines, Section 15364.5.) Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted into the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, PFCs, and SF_6, which are associated with certain industrial products and processes. The following paragraphs provide a summary of the most common GHGs and their sources.[5]

Carbon Dioxide. CO_2 is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic (i.e., caused by human activity) GHG that affects the Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 are the combustion of fuels such as coal, oil, natural gas, and wood and changes in land use.

Methane. CH_4 is produced through both natural and human activities. CH_4 is a flammable gas and is the main component of natural gas. CH_4 is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. N_2O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N_2O. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N_2O as a propellant (e.g., rockets, racecars, and aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric O_3-depleting substances (e.g., chlorofluorocarbons [CFCs], hydrochlorofluorocarbons [HCFCs], and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to O_3-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the O_3-depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride:** SF_6 is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF_6 is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- **Nitrogen Trifluoride:** NF_3 is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

5 The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (1995), IPCC Fourth Assessment Report (2007), CARB's "GHG Inventory Glossary" (2024b), and EPA's "Glossary of Climate Change Terms" (2024).

Chlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere) and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O_3.

Hydrochlorofluorocarbons. HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine PM, which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the global warming potential (GWP). DPM emissions are a major source of black carbon and are TACs that have been regulated and controlled in California for several decades to protect public health. In relation to declining DPM from the CARB regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone. Tropospheric O_3, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O_3, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O_2), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O_3, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of PM in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

3.1.3 Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2023f). The Intergovernmental Panel on Climate Change (IPCC) developed the GWP concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons (MT) of CO_2 equivalent (CO_2e).

The current version of CalEEMod (version 2022.1) assumes that the GWP for CH_4 is 25 (so emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the IPCC Fourth Assessment Report (IPCC 2007). The GWP values identified in CalEEMod were applied to the project.

3.1.4 Sources of Greenhouse Gas Emissions

Global Inventory

Anthropogenic GHG emissions worldwide in 2020 (the most recent year for which data is available) totaled approximately 49,800 million metric tons (MMT) of CO_2e, excluding land use change and forestry (PBL 2022). The top six GHG emitters include China, the United States, the Russian Federation, India, Japan, and the European Union, which accounted for approximately 60% of the total global emissions, or approximately 30,270 MMT CO_2e (PBL 2022). Table 1 presents the top GHG-emissions-producing countries.

Table 11. Top Greenhouse-Gas-Producer Countries

Country	2020 GHG Emissions (MMT CO_2e)[a]
China	14,300
United States	5,640
European Union	3,440
India	3,520
Russian Federation	2,210
Japan	1,160
Total	**30,270**

Source: PBL 2022.
Notes: GHG = greenhouse gas; MMT CO_2e = million metric tons of carbon dioxide equivalent.
[a] Column may not add due to rounding.

National Inventory

Per the EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2021, total United States GHG emissions were approximately 6,340.2 million MT CO_2e (MMT CO_2e) in 2021 (EPA 2023g). Total U.S. emissions have decreased by 2.3% from 1990 to 2021, down from a high of 15.8% above 1990 levels in 2007. Emissions increased from 2020 to 2021 by 5.2% (314.3 MMT CO_2e). Net emissions (i.e., including sinks) were 5,586.0 MMT CO_2e in 2021. Overall, net emissions increased 6.4% from 2020 to 2021 and decreased 16.6% from 2005 levels Between 2020 and 2021, the increase in total GHG emissions was driven largely by an increase in CO_2 emissions from fossil fuel combustion due to economic activity rebounding after the height of the COVID-19 pandemic. The CO_2 emissions from fossil fuel combustion increased by 6.8% from 2020 to 2021, including a 11.4% increase in transportation sector emissions and a 7.0% increase in electric power sector emissions. The increase in electric power sector emissions was due in part to an increase in electricity demand of 2.4% since 2020. Overall, there has been a decrease in electric power sector emissions from 1990 through 2021, which reflects the combined impacts of long-term trends in many factors, including population, economic growth, energy markets, technological changes including energy efficiency, and the carbon intensity of energy fuel choices (EPA 2023g).

State Inventory

According to California's 2000–2021 GHG emissions inventory (2023 edition), California emitted approximately 381.3 MMT CO_2e in 2021, including emissions resulting from out-of-state electrical generation (CARB 2023b). The sources of GHG emissions in California include transportation, industry, electric power production from both in-state and out-of-state sources, residential and commercial activities, agriculture, high-GWP substances, and recycling and waste. Table 2 presents California GHG emission source categories and their relative contributions to the emissions inventory in 2021.

Table 12. Greenhouse Gas Emissions Sources in California

Source Category	Annual GHG Emissions (MMT CO_2e)	Percent of Total
Transportation	145.6	38.2%
Industrial uses	73.9	19.4%
Electricity generation[a]	62.4	16.4%
Residential and commercial uses	38.8	10.2%
Agriculture and forestry	30.9	8.1%
High-GWP substances	21.3	5.6%
Recycling and waste	8.4	2.2%
Totals	**381.3**	**100%**

Source: CARB 2023b.
Notes: GHG = greenhouse gas; GWP = global warming potential; MMT CO_2e = million metric tons of carbon dioxide equivalent. Emissions reflect 2020 California GHG inventory. Totals may not sum due to rounding.
[a] Includes emissions associated with imported electricity, which account for 19.82 MMT CO_2e.

Per-capita GHG emissions in California have dropped from a 2001 peak of 13.8 MT per person to 9.7 MT per person in 2021, a 30% decrease. In 2016, statewide GHG emissions dropped below the 2020 GHG limit of 431 MMT CO_2e and have remained below that level since that time (CARB 2023b).

Local Inventories

The 2010 emissions inventory for the City, as detailed in its 2018 Climate Action Plan (CAP), is shown in Table 13 below.

Table 13. City of La Mesa GHG Emissions by Sectors for 2010

Source Category	Annual GHG Emissions (MT CO_2e)	Percent of Total
Transportation	246,015	58.2%
Energy	147,309	34.9%
Solid Waste	19,465	4.6%
Potable Water	7,442	1.8%
Wastewater	2,441	0.6%
Total	**422,672**	**100%**

Source: City of La Mesa 2018.

3.1.5 Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 IPCC Synthesis Report (IPCC 2014) indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, rising sea levels, and ocean acidification (IPCC 2014).

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, frequency of severe weather events, and electricity demand and supply. The primary effect of global climate change has been a rise in average global tropospheric temperature. Global surface temperature in the first two decades of the twenty-first century (2001–2020) was 0.99 [0.84 to 1.10]°C higher than 1850–1900 (IPCC 2023). Global surface temperature has increased faster since 1970 than in any other 50-year period over at least the last 2000 years (IPCC 2023). Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. Human activities, principally through emissions of GHGs, have unequivocally caused global warming, with global surface temperature reaching 1.1°C above 1850-1900 in 2011-2020 (IPCC 2023).

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. OEHHA identified various indicators of climate change in California, which are scientifically based measurements that track trends in various aspects of climate change. Many indicators reveal discernible evidence that climate change is occurring in California and is having significant, measurable impacts in the state. Changes in the state's climate have been observed including an increase in annual average air temperature, more frequent extreme heat events, more extreme drought, a decline in winter chill, an increase in cooling degree days and a decrease in heating degree days, and an increase in variability of statewide precipitation (OEHHA 2022b).

Warming temperatures and changing precipitation patterns have altered California's physical systems—the ocean, lakes, rivers and snowpack—upon which the state depends. Winter snowpack and spring snowmelt runoff from the Sierra Nevada and southern Cascade Mountains provide approximately one-third of the state's annual water supply. Impacts of climate on physical systems have been observed such as high variability of snow-water content (i.e., amount of water stored in snowpack), decrease in spring snowmelt runoff, glacier change (loss in area), rise in sea levels, increase in average lake water temperature and coastal ocean temperature, and a decrease in dissolved oxygen in coastal waters (OEHHA 2022b).

Impacts of climate change on biological systems, including humans, wildlife, and vegetation, have also been observed including climate change impacts on terrestrial, marine, and freshwater ecosystems. As with global observations, species responses include those consistent with warming: elevational or latitudinal shifts in range, changes in the timing of key plant and animal life cycle events, and changes in the abundance of species and in community composition. Humans are better able to adapt to a changing climate than plants and animals in natural ecosystems. Nevertheless, climate change poses a threat to public health as warming temperatures and changes in precipitation can affect vector-borne pathogen transmission and disease patterns in California as well as the variability of heat-related deaths and illnesses. In addition, since 1950, the area burned by wildfires each year has been increasing.

CNRA has released four California Climate Change Assessments (in 2006, 2009, 2012, and 2018), which have addressed the following: acceleration of warming across the state, more intense and frequent heat waves, greater riverine flows, accelerating sea level rise, more intense and frequent drought, more severe and frequent wildfires, more severe storms and extreme weather events, shrinking snowpack and less overall precipitation, and ocean acidification, hypoxia, and warming. To address local and regional governments' need for information to support action in their communities, the Fourth Assessment (CNRA 2018) includes reports for nine regions of the state. Key highlights for the San Diego Region (include the following (CNRA 2018):

- Temperature is projected to increase substantially, along with mean temperature, heat wave frequency will increase, with more intensity and longer duration.
- Precipitation will remain highly variable but will change in character, with wetter winters, drier springs, and more frequent and severe droughts punctuated by more intense individual precipitation events.
- Wildfire risk will increase in the future as climate warms. The risk for large catastrophic wildfires driven by Santa Ana wind events will also likely increase as a result of a drier autumns leading to low antecedent precipitation before the height of the Santa Ana wind season.
- The sea level along San Diego County is expected to rise. High tides combined with elevated shoreline water levels produced by locally and distantly driven wind-driven waves will drive extreme events. Longer-term sea level will increase rapidly in the second half of the century and will be punctuated by short periods of storm-driven extreme sea levels that will imperil existing infrastructure, structures, and ecosystems with increasing frequency.

3.2 Regulatory Setting

3.2.1 International Regulations

In 1988, the United Nations and the World Meteorological Organization established the IPCC to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis for human-induced climate change, its potential impacts, and options for adaptation and mitigation. The most recent reports of the IPCC have emphasized the scientific consensus that real and measurable changes to the climate are occurring, that they are caused by human activity, and that significant adverse impacts on the environment, the economy, and human health and welfare are unavoidable.

On March 21, 1994, the United States joined a number of countries around the world in signing the United Nations Framework Convention on Climate Change. Under the Convention, governments agreed to gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of global climate change.

3.2.2 Federal

Massachusetts v. U.S. Environmental Protection Agency

In Massachusetts v. EPA (April 2007), the U.S. Supreme Court ruled that CO_2 was a pollutant and directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the EPA administrator is required to follow the language of Section 202(a) of the Clean Air Act. On December 7, 2009, the administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The elevated concentrations of GHGs—CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the "endangerment finding."
- **Cause or Contribute Finding:** The combined emissions of GHGs—CO_2, CH_4, N_2O, and hydrofluorocarbons—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is referred to as the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

Energy Independence and Security Act

The Energy Independence and Security Act of 2007 (Public Law 110-140), among other key measures, would do the following in aiding the reduction of national GHG emissions:

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020, and direct National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy-efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards

In 2007, in response to the Massachusetts v. EPA decision, the Bush Administration issued Executive Order (EO) 13432 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011; and, in 2010, the EPA and the NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012 through 2016 (75 FR 25324–25728).

In 2010, President Obama issued a memorandum directing the Department of Transportation, the Department of Energy, the EPA, and the NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and the NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017 through 2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017 through 2021 (77 FR 62624–63200). On January 12, 2017, the EPA finalized its decision to maintain the current GHG emissions standards for model years 2022–2025 cars and light trucks.

In 2011, in addition to the regulations applicable to cars and light-duty trucks described above, the EPA and the NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014 through 2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6% to 23% over the 2010 baselines (76 FR 57106–57513).

In August 2016, the EPA and the NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

On April 2, 2018, the EPA, under administrator Scott Pruitt, reconsidered the final determination for light-duty vehicles and withdrew its previous 2017 determination, stating that the current standards may be too stringent and therefore should be revised as appropriate (83 FR 16077–16087).

In August 2018, the EPA and the NHTSA proposed to amend certain fuel economy and GHG standards for passenger cars and light trucks and to establish new standards for model years 2021 through 2026. Compared to maintaining the post-2020 standards then in place, the 2018 proposal would increase U.S. fuel consumption by about half a million barrels per day (2% to 3% of total daily consumption, according to the Energy Information Administration) and impact the global climate by 3/1000th of 1°C by 2100 (EPA and NHTSA 2018).

In 2019, the EPA and the NHTSA published the Safer Affordable Fuel-Efficient Vehicles Rule Part One: One National Program (SAFE-1) (84 FR 51310), which revoked California's authority to set its own GHG emissions standards and set zero-emission vehicle (ZEV) mandates in California. In March 2020, Part Two was issued, which set CO_2 emissions standards and Corporate Average Fuel Economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026.

In response to Executive Order 13990, on December 21, 2021, the NHTSA finalized the Corporate Average Fuel Economy Preemption rule to withdraw its portions of the Part One Rule. The final rule concluded that the Part One Rule overstepped the agency's legal authority and established overly broad prohibitions that did not account for a variety of important state and local interests.

In March 2022, the NHTSA established new fuel economy standards that would require an industry-wide fleet average of approximately 49 miles per gallon for passenger cars and light trucks in model year 2026, by increasing fuel efficiency by 8% annually for model years 2024 and 2025, and 10% annually for model year 2026.

The Inflation Reduction Act of 2022

The Inflation Reduction Act was signed into law by President Biden in August 2022. The Act includes specific investment in energy and climate reform and is projected to reduce GHG emissions within the United States by 40% as compared to 2005 levels by 2030. The Act allocates funds to boost renewable energy infrastructure (e.g., solar panels and wind turbines), includes tax credits for the purchase of electric vehicles (EVs), and includes measures that will make homes more energy efficient.

The Inflation Reduction Act authorized the EPA to implement the Greenhouse Gas Reduction Fund program, which is a historic, $27 billion investment to mobilize financing and private capital to combat the climate crisis and ensure American economic competitiveness. The Greenhouse Gas Reduction Fund will be designed to achieve the following program objectives: reduce GHG emissions and other air pollutants; deliver the benefits of GHG- and air-pollution-reducing projects to American communities, particularly low-income and disadvantaged communities; and mobilize financing and private capital to stimulate additional deployment of GHG and air pollution reducing projects (EPA 2023h).

The Inflation Reduction Act confirms that reduction of GHGs is a core goal of the Clean Air Act and that the funding provided should allow the EPA to increase the scope of its Clean Air Act rulemakings. The Act also confirms applicability of the Inflation Reduction Act to GHGs in three specific areas: (1) California's ability to regulate GHG emissions from vehicles; (2) the EPA's authority to regulate CH_4 emissions from oil and gas facilities; and (3) the EPA's authority to regulate GHG emissions from power plants.

3.2.3 State Regulations

The statewide GHG emissions regulatory framework is summarized in this subsection by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, water, solid waste, and other state actions. The following text describes EOs, ABs, SBs, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

3.2.3.1 State Climate Change Targets

The state has taken a number of actions to address climate change. These actions are summarized below, and include EOs, legislation, and CARB plans and requirements.

Executive Order S-3-05

Executive Order S-3-05 (June 2005) identified GHG emissions-reduction targets and laid out responsibilities among the state agencies for implementing the EO and for reporting on progress toward the targets. This EO identified the following targets:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80% below 1990 levels.

EO S-3-05 also directed the California Environmental Protection Agency to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry.

Assembly Bill 32

In furtherance of the goals identified in EO S-3-05, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006 (California Health and Safety Code Sections 38500–38599). AB 32 provided initial direction on creating a comprehensive multiyear program to limit California's GHG emissions at 1990 levels by 2020, and initiate the transformations required to achieve the state's long-range climate objectives.

Executive Order B-30-15

EO B-30-15 (April 2015) identified an interim GHG-reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050, as set forth in S-3-05. To facilitate achieving this goal, EO B-30-15 called for CARB to update the Climate Change Scoping Plan (Scoping Plan) to express the 2030 target in terms of millions of metric tons (MMT) CO_2e. The EO also called for state agencies to continue to develop and implement GHG emission-reduction programs in support of the reduction targets.

Senate Bill 32 and Assembly Bill 197

SB 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions-reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to the Board as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and requires CARB to identify specific information for GHG emissions-reduction measures when updating the Scoping Plan.

Executive Order B-55-18

EO B-55-18 (September 2018) identified a policy for the state to achieve carbon neutrality as soon as possible (no later than 2045) and achieve and maintain net negative emissions thereafter. The goal is in addition to the existing statewide targets of reducing the state's GHG emissions. CARB will work with relevant state agencies to ensure that future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.

Assembly Bill 1279

The Legislature enacted AB 1279, the California Climate Crisis Act, in September 2022. The bill declares the policy of the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter. Additionally, the bill requires that by 2045, statewide anthropogenic GHG emissions be reduced to at least 85% below 1990 levels.

California Air Resources Board's Climate Change Scoping Plan

One specific requirement of AB 32 is for CARB to prepare a scoping plan to help achieve the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (California Health and Safety Code Section 38561[a]), and to update the plan at least once every 5 years. In 2008, CARB approved the first scoping plan: The Climate Change Proposed Scoping Plan: A Framework for Change (Scoping Plan) (CARB 2008). The Scoping Plan included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission-reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the state's long-range climate objectives.

In 2014, CARB approved the first update to the Scoping Plan. The First Update to the Climate Change Scoping Plan: Building on the Framework (2014 Scoping Plan Update) defined the state's GHG emission reduction priorities for the next 5 years and laid the groundwork to start the transition to the post-2020 goals set forth in EO S-3-05 and EO B-16-2012 (CARB 2014). The 2014 Scoping Plan Update concluded that California was on track to meet the 2020 target, but recommended that a 2030 mid-term GHG reduction target be established to ensure a continuum of action to reduce emissions. The 2014 Scoping Plan Update recommended a mix of technologies in key economic sectors to reduce emissions through 2050 including energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

In December 2017, CARB released the 2017 Climate Change Scoping Plan Update (2017 Scoping Plan Update) for public review and comment (CARB 2017a). The 2017 Scoping Plan Update builds on the successful framework established in the initial Scoping Plan and 2014 Scoping Plan Update, while identifying new technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target and define the state's climate change priorities to 2030 and beyond. The strategies' known commitments include implementing renewable energy and energy efficiency (including the mandates of SB 350), increased stringency of the Low Carbon Fuel Standard, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant (SLCP) Plan, and increased stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, the 2017 Scoping Plan Update recommends continuing the Cap-and-Trade Program and a measure to reduce GHGs from refineries by 20%.

CARB adopted the 2022 Scoping Plan Update in December 2022. The 2022 CARB Scoping Plan Update outlines the state's plan to reach carbon neutrality by 2045 or earlier, while also assessing the progress the state is making toward achieving GHG reduction goals by 2030. Per the Legislative Analyst's Office, the 2022 CARB Scoping Plan identifies a more aggressive 2030 GHG goal. As it relates to the 2030 goal, perhaps the most significant change in the 2022 plan (as compared to previous Scoping Plans) is that it identifies a new GHG target of 48% below the 1990 level, compared to the current statutory goal of 40% below. Current law requires the state to reduce GHG emissions by at least 40% below the 1990 level by 2030 but does not specify an alternative goal. According to CARB, a focus on the lower target is needed to put the state on a path to meeting the newly established 2045 goal, consistent with the overall path to 2045 carbon neutrality. The carbon neutrality goal requires CARB to expand proposed actions from only the reduction of anthropogenic sources of GHG emissions to also include those that capture and store carbon (e.g., through natural and working lands, or mechanical technologies). The carbon reduction programs build on and accelerate those currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen (CARB 2022i).

The 2022 CARB Scoping Plan Update also emphasizes that there is no realistic path to carbon neutrality without carbon removal and sequestration, and to achieve the state's carbon neutrality goal, carbon reduction programs must be supplemented by strategies to remove and sequester carbon. Strategies for carbon removal and sequestration include carbon capture and storage from anthropogenic point sources, where CO_2 is captured as it leaves a facility's smokestack and is injected into geologic formations or used in industrial materials (e.g., concrete); and CO_2 removal from ambient air, through mechanical (e.g., direct air capture with sequestration) or nature-based (e.g., management of natural and working lands) applications.

The 2022 CARB Scoping Plan Update details "Local Actions" in Appendix D. The Appendix D Local Actions include recommendations to build momentum for local government actions that align with the state's climate goals, with a focus on local GHG reduction strategies (commonly referred to as climate action planning) and approval of new land use development projects, including through environmental review under CEQA. The recommendations provided in 2022 CARB Scoping Plan Appendix D are non-binding (i.e., not regulatory) and should not be interpreted as a directive to local governments, but rather as evidence-based analytical tools to assist local governments with their role as essential partners in achieving California's climate goals.

2022 CARB Scoping Plan Appendix D recognizes consistency with a CEQA-qualified GHG reduction plan such as a climate action plan (CAP) as a first option for evaluating potential GHG emission impacts under CEQA. Absent a qualified GHG reduction plan, for residential and mixed-use projects, 2022 CARB Scoping Plan Appendix D provides a second option for evaluating project consistency with recommendations for key attributes that projects should achieve that would align with the state's climate goals. These key attributes include EV charging infrastructure, infill location, no loss or conversion of natural and working lands, transit-supportive densities or proximity to transit stops, reducing parking requirements, provision of affordable housing (at least 20% of units), no net loss of existing affordable units, and all-electric appliances with no natural gas connection (CARB 2022i). Projects that achieve all key attributes are considered "clearly consistent" with the state's climate and housing goals, since these attributes address the largest sources of operational emissions for residential and mixed-use projects. According to the 2022 CARB Scoping Plan Update, in general, residential and mixed-use projects that incorporate all these attributes are aligned with the state's priority GHG reduction strategies for local climate action as shown on Table 1 of the 2022 CARB Scoping Plan Update, and with the state's climate and housing goals. Such projects are considered consistent with the Scoping Plan; and therefore, the GHG emissions associated with such projects generally result in a less-than-significant GHG impact under CEQA (CARB 2022i). Additionally, the 2022 CARB Scoping Plan Update states that lead agencies under CEQA "may determine, with adequate additional supporting evidence, that projects that incorporate some, but not all, of the key project attributes are consistent with the State's climate goals" (CARB 2022i).

The above is CARB's recommended approach for evaluating significance of GHG impacts for residential and mixed-use development projects (CARB 2022i). However, alternative approaches to evaluating project-level alignment with state climate goals are also provided in the 2022 CARB Scoping Plan Appendix D. Lead agencies under CEQA can make a significance determination based on whether the project would result in net-zero GHG emissions and whether the project is consistent with a significance determination/threshold recommended by the applicable air district or other lead agencies (CARB 2022i). The 2022 CARB Scoping Plan Appendix D acknowledges, however, that net zero may not be feasible or appropriate for every project (CARB 2022i).

Executive Order B-18-12

EO B-18-12 (April 2012) directed state agencies, departments, and other entities under the Governor's executive authority to take action to reduce entity-wide GHG emissions by at least 10% by 2015 and 20% by 2020, as measured against a 2010 baseline. EO B-18-12 also identified goals for existing state buildings for reducing grid-based energy purchases and water use.

Senate Bill 605 and Senate Bill 1383

SB 605 (2014) requires CARB to complete a comprehensive strategy to reduce emissions of SLCPs in the state (California Health and Safety Code Section 39730) and SB 1383 (2016) requires CARB to approve and implement that strategy by January 1, 2018 (California Public Resources Code Sections 42652–43654). SB 1383 also establishes specific targets for the reduction of SLCPs (40% below 2013 levels by 2030 for CH_4 and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon) and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its SLCP Reduction Strategy in March 2017 (CARB 2017b). The SLCP Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, CH_4, and fluorinated gases (CARB 2017b).

Assembly Bill 1757

AB 1757 (September 2022) requires the CNRA to determine a range of targets for natural carbon sequestration, and for nature-based climate solutions that reduce GHG emissions for future years 2030, 2038, and 2045. These targets are to be determined by no later than January 1, 2024, and are established to support the state's goals to achieve carbon neutrality and foster climate adaptation and resilience.

3.2.3.2 Building Energy

California Code of Regulations, Title 24, Part 6

The California Building Standards Code was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure that new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every 3 years by the Building Standards Commission and the California Energy Commission (CEC) and revised if necessary (California Public Resources Code Section 25402[b][1]). The regulations receive input from members of industry, as well as the public, to "reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (California Public Resources Code Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code Section 25402[d]) and cost effectiveness (California Public Resources Code Section 25402[b][2–3]). As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The current Title 24, Part 6 standards, referred to as the 2022 Title 24 Building Energy Efficiency Standards, became effective on January 1, 2023. The 2022 Energy Code focuses on four key areas in newly constructed homes and businesses (CEC 2021):

- Encouraging electric heat pump technology for space and water heating, which consumes less energy and produces fewer emissions than gas-powered units.
- Establishing electric-ready requirements for single-family homes to position owners to use cleaner electric heating, cooking, and electric vehicle (EV) charging options whenever they choose to adopt those technologies.
- Expanding solar PV system and battery storage standards to make clean energy available on site and complement the state's progress toward a 100% clean electricity grid.
- Strengthening ventilation standards to improve indoor air quality.

California Code of Regulations, Title 24, Part 11

In addition to CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR Part 11), which is commonly referred to as California Green Building Standards (CALGreen), establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The 2022 CALGreen standards are the current applicable standards (24 CCR Part 11).

California Code of Regulations, Title 20

Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency (20 CCR 1401–1410). CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing each type of appliance covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

Senate Bill 1

SB 1 (2006) established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the California Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for PV systems to meet minimum energy-efficiency levels and performance requirements (California Public Resources Code Sections 25780–25784). Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry. The goals included establishing solar energy systems as a viable mainstream option for both homes and businesses within 10 years of adoption and placing solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed "Go Solar California," was previously titled "Million Solar Roofs."

Assembly Bill 1470

This bill established the Solar Water Heating and Efficiency Act of 2007 (California Public Utilities Code Sections 2851–2869). The bill makes findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand.

Assembly Bill 1109

Enacted in 2007, AB 1109 required CEC to adopt minimum energy efficiency standards for general-purpose lighting to reduce electricity consumption by 50% for indoor residential lighting and by 25% for indoor commercial lighting (California Public Resources Code Section 25402.5.4).

3.2.3.3 Renewable Energy and Energy Procurement

Senate Bill 1078, Senate Bill 1368, Executive Order S-14-08, Executive Order S-21-09 and Senate Bill X1-2, and Senate Bill 1020

SB 1078 (2002) (California Public Utilities Code Section 399.11 et seq.) established the Renewables Portfolio Standard (RPS) program, which required an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010 (see SB 107, EO S-14-08, and EO S-21-09).

SB 1368 (2006), required CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities (California Public Utilities Code Section 8340–8341). These standards must be consistent with the standards adopted by the California Public Utilities Commission (CPUC).

EO S-14-08 (2008) focused on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. This EO required that all retail suppliers of electricity in California serve 33% of their load with renewable energy by 2020. Furthermore, the EO directed state agencies to take appropriate actions to facilitate reaching this target. CNRA, in collaboration with CEC and the California Department of Fish and Wildlife, was directed to lead this effort.

EO S-21-09 (2009) directed CARB to adopt a regulation consistent with the goal of EO S-14-08 by July 31, 2010. CARB was further directed to work with CPUC and CEC to ensure that the regulation builds upon the RPS program and was applicable to investor-owned utilities, publicly owned utilities, direct access providers, and community choice providers. Under this order, CARB was to give the highest priority to those renewable resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health, and those that can be developed the most quickly in support of reliable, efficient, cost-effective electricity system operations. On September 23, 2010, CARB initially approved regulations to implement a Renewable Electricity Standard; however, this regulation was not finalized because of subsequent legislation (SB X1-2) signed by Governor Brown in April 2011.

SB X1-2 (April 2011) expanded RPS by establishing a renewable energy target of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, PV, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation (30 megawatts or less), digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location. SB X1-2 applies to all electricity retailers in the state, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All these entities must meet the renewable energy goals listed above.

SB 350 (2015) further expanded the RPS program by establishing a goal of 50% of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 included the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires CPUC, in consultation with CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal.

SB 100 (2018) increased the standards set forth in SB 350, establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024; 52% by December 31, 2027; and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

SB 1020 (September 2022) revises the standards from SB 100, requiring the following percentage of retail sales of electricity to California end-use customers to come from eligible renewable energy resources and zero-carbon resources: 90% by December 31, 2035; 95% by December 31, 2040; and 100% by December 31, 2045.

3.2.3.4 Mobile Sources

State Vehicle Standards (Assembly Bill 1493 and Executive Order B-16-12)

AB 1493 (July 2002) was enacted in response to the transportation sector accounting for a large share of California's CO_2 emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by CARB to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. EO B-16-12 (March 2012) required that state entities under the governor's direction and control support and facilitate the rapid commercialization of ZEVs. It ordered CARB, CEC, CPUC, and other relevant agencies to work with the Plug-In Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve benchmark goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 identified a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050. This directive did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare. As explained under the "Federal Vehicle Standards" description in Section 3.2.2, Federal Regulations, EPA and NHTSA approved the SAFE Vehicles Rule Part One and Two, which revoked California's authority to set its own GHG emissions standards and set ZEV mandates in California.

As also explained in Section 3.2.2, in March 2022, EPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards and ZEV sales mandate. EPA's action concludes its reconsideration of the 2019 SAFE-1 rule by finding that the actions taken under the previous administration as a part of SAFE-1 were decided in error and are now entirely rescinded.

Heavy-Duty Diesel

CARB adopted the final Heavy-Duty Truck and Bus Regulation on December 31, 2014, to reduce DPM, a major source of black carbon, and NO_x emissions from heavy-duty diesel vehicles (13 CCR 2025). The rule requires that

DPM filters be applied to newer heavier trucks and buses by January 1, 2012, with older vehicles required to comply by January 1, 2015. The rule will require nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an Airborne Toxics Control Measure to limit idling of diesel-fueled commercial vehicles on December 12, 2013. This rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than 5 minutes at any location (13 CCR 2485).

Executive Order S-1-07

EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020 (17 CCR 95480 et seq.). The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel—including extraction/feedstock production, processing, transportation, and final consumption—per unit of energy delivered.

Senate Bill 375

SB 375 (California Government Code Section 65080) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG-reduction targets for the automobile and light-truck sector for 2020 and 2035, and to update those targets every 8 years. SB 375 requires the state’s 18 regional metropolitan planning organizations (MPOs) to prepare an SCS as part of their RTP that will achieve the GHG-reduction targets set by CARB. If an MPO is unable to devise an SCS to achieve the GHG-reduction target, the MPO must prepare an alternative planning strategy demonstrating how the GHG-reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

An SCS does not (1) regulate the use of land; (2) supersede the land use authority of cities and counties; or (3) require that a city’s or county’s land use policies and regulations, including those in a general plan, be consistent with it (California Government Code Section 65080[b][2][K]). Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

Advanced Clean Cars Program and Zero-Emissions Vehicle Program

The Advanced Clean Cars (ACC) I program (January 2012) is an emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package of regulations: the Low-Emission Vehicle (LEV) regulation for criteria air pollutant and GHG emissions and a technology forcing regulation for ZEVs that contributes to both types of emission reductions (CARB 2024a). The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars. To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold in 2015. The ZEV program will act as the focused technology of the ACC I program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid EVs in the 2018 to 2025 model years.

The ACC II program, which was adopted in August 2022, established the next set of LEV and ZEV requirements for model years after 2025 to contribute to meeting federal ambient air quality O_3 standards and California's carbon neutrality standards (CARB 2024a). The main objectives of ACC II are as follows:

- Maximize criteria and GHG emission reductions through increased stringency and real-world reductions.
- Accelerate the transition to ZEVs through both increased stringency of requirements and associated actions to support wide-scale adoption and use.

The ACC II rulemaking package also considers technological feasibility, environmental impacts, equity, economic impacts, and consumer impacts.

Executive Order N-79-20

EO N-79-20 (September 2020) requires CARB to develop regulations as follows: (1) Passenger vehicle and truck regulations requiring increasing volumes of new ZEVs sold in the state towards the target of 100% of in-state sales by 2035; (2) medium- and heavy-duty vehicle regulations requiring increasing volumes of new zero-emission trucks and buses sold and operated in the state towards the target of 100% of the fleet transitioning to ZEVs by 2045 everywhere feasible and for all drayage trucks to be zero emission by 2035; and (3) strategies, in coordination with other state agencies, the EPA, and local air districts, to achieve 100% zero emissions from off-road vehicles and equipment operations in the state by 2035. EO N-79-20 called for the development of a ZEV Market Development Strategy, which was released February 2021, to be updated every 3 years, that ensures coordination and implementation of the EO and outlines actions to support new and used ZEV markets. In addition, the EO specifies identification of near-term actions, and investment strategies, to improve clean transportation, sustainable freight, and transit options; and calls for development of strategies, recommendations, and actions by July 15, 2021, to manage and expedite the responsible closure and remediation of former oil extraction sites as the state transitions to a carbon-neutral economy.

Advanced Clean Trucks Regulation

The Advanced Clean Trucks Regulation was also approved by CARB in 2020. The purpose of the Advanced Clean Trucks Regulation is to accelerate the market for ZEVs in the medium- and heavy-duty truck sector and to reduce air pollutant emissions generated from on-road mobile sources (CARB 2024b). The regulation has two components, (1) a manufacturer sales requirement and (2) a reporting requirement:

- **Zero-emission truck sales:** Manufacturers who certify Class 2b–8 chassis or complete vehicles with combustion engines will be required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55% of Class 2b–3 truck sales, 75% of Class 4–8 straight truck sales, and 40% of truck tractor sales.
- **Company and fleet reporting:** Large employers including retailers, manufacturers, brokers, and others will be required to report information about shipments and shuttle services. Fleet owners with 50 or more trucks will be required to report about their existing fleet operations. This information will help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.

3.2.3.5 Water

Senate Bill X7-7

SB X7-7, or the Water Conservation Act of 2009, required that all water suppliers increase their water use efficiency with an overall goal of reducing per capita urban water use by 20% by December 31, 2020. Each urban water supplier was required to develop water use targets to meet this goal.

Executive Order B-29-15

In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

Executive Order N-10-21

In response to a state of emergency due to severe drought conditions, EO N-10-21 (July 2021) called on all Californians to voluntarily reduce their water use by 15% from their 2020 levels. Actions suggested in EO N-10-21 include reducing landscape irrigation, running dishwashers and washing machines only when full, finding and fixing leaks, installing water-efficient showerheads, taking shorter showers, using a shut-off nozzle on hoses, and taking cars to commercial car washes that use recycled water.

3.2.3.6 Solid Waste

Assembly Bill 939, Assembly Bill 341, Assembly Bill 1826, and Senate Bill 1383

In 1989, AB 939, known as the Integrated Waste Management Act (California Public Resources Code Section 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board (replaced in 2010 by the California Department of Resources Recycling and Recovery, or CalRecycle), which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000.

AB 341 (2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required CalRecycle to develop strategies to achieve the state's policy goal. CalRecycle has conducted multiple workshops and published documents that identify priority strategies that it believes would assist the state in reaching the 75% goal by 2020.

AB 1826 (Chapter 727, Statutes of 2014, effective 2016) requires businesses to recycle their organic waste (i.e., food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) depending on the amount of waste they generate per week. This law also requires local jurisdictions across the state to implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. The minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

SB 1383 (2016) requires a 50% reduction in organic waste disposal from 2014 levels by 2020 and a 75% reduction by 2025—essentially requiring the diversion of up to 27 million tons of organic waste—to reduce GHG emissions. SB 1383 also requires that not less than 20% of edible food that is currently disposed be recovered for human consumption by 2025.

3.2.3.7 Other State Actions

Senate Bill 97

SB 97 (2007) directed the Governor's Office of Planning and Research and CNRA to develop guidelines under CEQA for the mitigation of GHG emissions. CNRA adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4[a]). The CEQA Guidelines require a lead agency to consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures (14 CCR 15126.4[c]). The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. CNRA also acknowledged that a lead agency could consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009).

With respect to GHG emissions, CEQA Guidelines Section 15064.4(a), as subsequently amended in 2018, states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines now note that an agency "shall have discretion to determine, in the context of a particular project, whether to: (1) Quantify greenhouse gas emissions resulting from a project; and/or (2) Rely on a qualitative analysis or performance-based standards" (14 CCR 15064.4[a]). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]).

Executive Order S-13-08

EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs state agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009, and an update, Safeguarding California: Reducing Climate Risk, followed in July 2014. To assess the state's vulnerability, the report summarizes key climate change impacts to the state for the following areas: agriculture, biodiversity and habitat, emergency management, energy, forestry, ocean and coastal ecosystems and resources, public health, transportation, and water. Issuance of Safeguarding California: Implementation Action Plans followed in March 2016. In January 2018, CNRA released the Safeguarding California Plan: 2018 Update, which communicates current and needed actions that state government should take to build climate change resiliency.

3.2.4 Local

City of La Mesa General Plan

The City of La Mesa's General Plan includes various policies related to reducing GHGs (both directly and indirectly) in the Land Use & Urban Design and Conservation & Sustainability Elements. Applicable policies are listed below.

Objective UD-3.1. Development that is architecturally and environmentally sensitive and is compatible with neighboring design and scale.

Objective CS-1.1. Create compact, mixed-used projects with amenities to enhance the City's natural setting.

Objective CS-1.4. Collaborate with partner agencies, utilities and businesses to support a range of energy efficiency and conservation measures.

Objective CS-2.1. Facilitate solid waste reduction measures.

Objective CS-2.2. Reduce the level of pollutants entering the air.

Objective CS-3.1. Facilitate a reduction of automobile dependency in favor of affordable alternative, sustainable modes of travel.

City of La Mesa Climate Action Plan

There is no numeric emissions-based threshold by which the City could evaluate whether project emissions would exceed a threshold of significance as indicated in CEQA Guidelines Section 15064.4(b)(2). However, the City adopted a CAP on March 13, 2018. The purpose of the City's CAP is to guide development, enhancement, and implementation of actions that would reduce the City's GHG emissions by 15% below 2010 baseline emission levels by 2020, and 53% below 2010 baseline emission levels by 2035.

3.3 Significance Criteria and Methodology

3.3.1 Thresholds of Significance

California has developed guidelines to address the significance of GHG emissions impacts that are contained in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). Appendix G provides that a project would have a significant environmental impact if it would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The Appendix G thresholds for GHGs do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009a). Additional guidance regarding assessment of GHGs is discussed below.

CEQA Guidelines

With respect to GHG emissions, the CEQA Guidelines Section 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's GHG emissions or rely on a "qualitative analysis or performance-based standards" (14 CCR 15064.4[a]). A lead agency may use a "model or methodology" to estimate greenhouse gas emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change" (14 CCR 15064.4[c]). The CEQA Guidelines provide that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment (14 CCR 15064.4[b]):

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

In addition, the CEQA Guidelines specify that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7[c]).

Governor's Office of Planning and Research Guidance

The Governor's Office of Planning and Research technical advisory titled, CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review, states that "public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact" (OPR 2007). Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice" (OPR 2007).

Approaches to Determining Significance

As stated in Section 3.2.4, the City adopted a CAP, which outlines actions that the City will undertake to achieve its proportional share of state GHG emissions reductions (City of La Mesa 2018). The CAP is a plan for the reduction of GHG emissions in accordance with CEQA Guidelines, Section 15183.5.

The City's CAP contains a baseline inventory of GHG emissions for 2010, a projection of emissions to 2020 and 2035, emissions reduction targets with implementation of the CAP, and 2050 emissions planning. The City emitted a total of 422,672 MT CO_2e in 2010. Transportation was the largest contributor of GHG emissions in the City (58%), with energy use contributing the majority of the remainder (35%). Accounting for future population and economic growth, the City projected GHG emissions of 376,142 MT CO_2e in 2020 and 341,047 MT CO_2e in 2035 (City of La Mesa 2018). The 2020 reduction target was selected to implement the City's General Plan Environmental Impact Report mitigation measure 4.5-5, GHG-1, which calls for a CAP and a 15% GHG reduction (City of La Mesa 2013a). The CAP also includes a reduction target to reduce emissions below the 2010 baseline by 53% by 2035, consistent with state targets. Therefore, the City must implement strategies that reduce emissions to 359,271 MT CO_2e in 2020 and 237,640 MT CO_2e in 2035. By meeting the 2020 and 2035 targets, the City will meet the 2030 state goal identified in SB 32 and maintain a trajectory to meet its proportional share of the 2050 state target identified in Executive Order S-3-05 (City of La Mesa 2018).

The City has not established a significance threshold under the City's CAP, but the CAP includes reduction measures, strategies, and actions that the City will implement to reduce GHG emissions. In addition, the City's General Plan includes various objectives and policies to facilitate alternative modes of transportation, reduce waste, conserve water, and promote the efficient and sustainable use of energy. The proposed project was assessed for consistency with the City's General Plan and CAP (see Tables 14 and 15). Construction and operational GHG emissions were provided for informational purposes.

3.3.2 Approach and Methodology

3.3.2.1 Construction

Construction of the proposed project would result in emissions of GHG emissions primarily associated with use of off-road construction equipment, on-road haul and vendor (material delivery) truck trips, and worker vehicle trips. As discussed previously in Section 2.3.2, emissions from the construction phase of project components were estimated using the CalEEMod Version 2022.1. Per preliminary project details, it is assumed that construction of the project would begin in May 2025 and would last approximately 22 months. A detailed depiction of the construction schedule—including information regarding phasing, equipment used during each phase, haul trucks, vendor trucks, and worker vehicles—is included in Section 2.3.2. above, and complete details of the emissions calculations are provided in Appendix A, *Air Quality and Greenhouse Gas Emissions CalEEMod Output Files*. Construction emissions were amortized over the operational life of the proposed project, which is assumed to be 30 years.

3.3.2.2 Operation

Operation of the proposed project would generate GHG emissions from mobile sources, area sources, energy use, water use and wastewater generation, solid waste (i.e., CO_2e emissions associated with landfill off-gassing), and refrigerants. As with project construction, CalEEMod Version 2022.1 was used to estimate potential project-generated operational GHG emissions based on proposed project land uses. It was assumed that the project would be operational following the completion of construction, which would occur in 2027.

Area

The area source category calculates direct sources of GHG emissions located at the project site including natural gas hearths and landscape maintenance equipment. This source category does not include the emissions associated with natural gas usage in space heating and water heating as these are calculated in the building energy use module of CalEEMod.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, roto tillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. The emissions associated from landscape equipment use were estimated using CalEEMod defaults. For San Diego County, CalEEMod assumes that landscaping equipment would operate 180 days per year.

Energy

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth). CalEEMod default values for energy consumption were applied to each land use. The energy use from residential land uses is calculated in CalEEMod based on the Residential Appliance Saturation Survey.

Annual natural gas and electricity emissions were estimated in CalEEMod using default values for emissions factors for San Diego Gas and Electric (SDG&E), which would be the energy source provider for the project.

Mobile Sources (Motor Vehicles)

Following the completion of construction activities, the project would generate GHG emissions from mobile sources (vehicular traffic), as a result of residents associated with the 73 residential units. Information from the Traffic Assessment Letter along with CalEEMod default data were used for the model inputs. Emission factors representing the vehicle mix and emission factors for 2027 were used to estimate emissions associated with vehicular sources.

Solid Waste

The project would generate solid waste, and therefore, result in CO_2e emissions associated with landfill off-gassing. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste.

Water and Wastewater

Supply, conveyance, treatment, and distribution of water for the project require the use of electricity, which would result in associated indirect GHG emissions. Similarly, wastewater generated by the project requires the use of electricity for conveyance and treatment, along with GHG emissions generated during wastewater treatment.

Refrigerants

Refrigerants are substances used in equipment for air conditioning (A/C) and refrigeration. Most of the refrigerants used today are hydrofluorocarbons or blends thereof, which can have high GWP values. All equipment that uses refrigerants has a charge size (i.e., quantity of refrigerant the equipment contains), and an operational refrigerant leak rate, and each refrigerant has a GWP that is specific to that refrigerant. CalEEMod default values were applied, which quantify refrigerant emissions from leaks during regular operation and routine servicing over the equipment lifetime, and then derives average annual emissions from the lifetime estimate (CAPCOA 2022).

For additional details see Appendix A, *Air Quality and Greenhouse Gas Emissions CalEEMod Output Files*.

3.4 Impact Analysis

This section evaluates the GHG emissions impacts associated with the project. The significance criteria described in Section 3.3.1, Thresholds of Significance, were used to evaluate impacts associated with the construction and operation of the project.

3.4.1 Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

3.4.1.1 Applicable Plans, Policies, and Regulations

Evaluation of Project Consistency with the City of La Mesa's General Plan

On July 9, 2013, the City Council adopted the City's General Plan (City of La Mesa 2013b). The Land Use & Urban Design and Conservation & Sustainability Elements include objectives and policies that support the reduction of GHG emissions. Table 14 includes the proposed project's consistency with those objectives.

Table 14. Consistency with City of La Mesa's General Plan Objectives

General Plan Objectives	Project Consistency
Objective UD-3.1. Development that is architecturally and environmentally sensitive and is compatible with neighboring design and scale.	The proposed project would comply with the current CalGreen standards. The proposed project has been designed to include landscape throughout the project site that would provide shade trees.
Objective CS-1.1. Create compact, mixed-used projects with amenities to enhance the City's natural setting.	The proposed project would be consistent with this objective. The proposed project includes multi-family residential use, as well as landscaping that would enhance the City's natural setting.
Objective CS-1.4. Collaborate with partner agencies, utilities and businesses to support a range of energy efficiency and conservation measures.	The proposed project would comply with the current Title 24 standards, Part 6 and Part 11 (CALGreen). Additionally, as a result of PDF-AQ-1, the project would incorporate EV-ready parking garages and energy-conserving spray foam in attics.
Objective CS-2.1. Facilitate solid waste reduction measures.	The proposed project would comply with the waste diversion requirements of Assembly Bill 341 and Senate Bill 1383.
Objective CS-2.2. Reduce the level of pollutants entering the air.	The proposed project would comply with California Air Resources Board and San Diego Air Pollution Control District requirements.
Objective CS-3.1. Facilitate a reduction of automobile dependency in favor of affordable alternative, sustainable modes of travel.	The proposed project site is adequately served by existing public transit, including being located approximately 0.5 miles from the Amaya Drive Light Rail Station. As such, the proposed project would facilitate use of alternative transit over automobile dependency. Furthermore, bike parking would be provided in the project site.

Source: City of La Mesa 2013b.

Evaluation of Project Consistency with the City of La Mesa's Climate Action Plan

There is no numeric emissions-based threshold by which the City could evaluate whether project emissions would exceed a threshold of significance as indicated in CEQA Guidelines Section 15064.4(b)(2). However, the City adopted a CAP on March 13, 2018, which is a plan for the reduction of GHG emissions in accordance with CEQA Guidelines, Section 15183.5. Table 15 summarizes the proposed project's consistency with those strategies.

Table 15. Consistency with City of La Mesa's Climate Action Plan Strategies

Climate Action Plan Strategies	Project Consistency
Strategy E-2 Shade Tree Program. Develop a shade tree program to require developers and property owners to plant shade trees.	The proposed project has been designed to include landscape throughout the project site that would provide shade trees.
Strategy E-5 Solar Photovoltaic (PV) Program. Install solar PV systems on residential and non-residential property in the community, and identify opportunities for municipal installations on City property.	The project would comply with the current Title 24 solar requirements.

Table 15. Consistency with City of La Mesa's Climate Action Plan Strategies

Climate Action Plan Strategies	Project Consistency
Strategy E-6 Solar Hot Water Heater Program. Install solar water heaters in new construction and building retrofits.	As stated in PDF-AQ-1, the project would incorporate electric water heaters and would comply with the current Title 24 solar requirements.
Strategy E-7 Solar Ready Construction. Incorporate solar-ready design into new construction, including building orientation for maximum solar exposure, pre-wiring and pre-plumbing for solar PV and solar hot water, and roof system construction that can handle additional loads from potential future solar installations.	The project would comply with the current Title 24 solar requirements.
Strategy E-8 Zero Net Energy Construction. Implement California's zero net energy building standards for new residential construction starting in 2020 and new non-residential construction starting in 2030.	Proposed project construction would comply with the applicable Title 24 standards, Part 6 and Part 11. As stated in PDF-AQ-1, the project would require all-electric appliances.
Strategy T-1 Bicycle and Pedestrian Infrastructure Development. Continue to plan for and construct safe, attractive bicycle and pedestrian paths and facilities within the community, and provide education programs aimed at increasing use of alternative transportation options.	Currently, the closest Class II bike lanes to the project site are along Amaya Drive. Contiguous sidewalks are also provided on both sides of Amaya Drive and Jericho Road. The project would include the construction of bicycle parking. The proposed project does not conflict with City's Smart Growth – Pedestrian and Bicycle Improvements Plan and would comply with Strategy T-1.
Strategy T-4 Mixed-Use and Transit-Oriented Development. Continue to encourage mixed-use and transit-oriented development through land use and zoning designations to support alternative transportation opportunities.	The proposed project includes multi-family residential use, in an area served by existing transit (i.e., located approximately 0.5 miles from the Amaya Drive Light Rail Station).
Strategy W-2 Water Sensitive Landscape Design and Irrigation. Conserve water through efficient landscaping design and irrigation.	Proposed project landscape would comply with the City's Water Efficient Landscape Ordinance and Model Water Efficient Landscape Ordinance (MWELO) state requirements.
Strategy SW-1 Food Scrap and Yard Waste Diversion. Work with local waste hauler to develop residential food scrap and compostable paper collection program.	The proposed project would not interfere with the City's pursuit of developing and implementing a residential food scrap and recycling program.
Strategy SW-2 Construction & Demolition Waste Diversion Program. Continue to enforce the City's construction and demolition waste diversion ordinance.	Proposed project construction would comply with the City's 75% construction and demolition waste diversion requirement, California Department of Resources Recycling and Recovery (CalRecycle), and CALGreen.
Strategy SW-3 75% Waste Diversion Goal. Maximize waste diversion efforts community-wide with particular focus on organic and recyclable waste.	The proposed project would comply with the waste diversion requirements of Assembly Bill 341 and Senate Bill 1383.
Strategy GI-2 Expanded Urban Forestry Program. Increase La Mesa's urban forest canopy coverage to reduce impacts of the heat island effect, improve stormwater management, provide	The proposed project would incorporate additional trees on site, which would increase the City's urban forest canopy coverage.

Table 15. Consistency with City of La Mesa's Climate Action Plan Strategies

Climate Action Plan Strategies	Project Consistency
additional habitat, and maximize carbon sequestration.	

Source: City of La Mesa 2018.

The CAP demonstrates that, with implementation of applicable General Plan objectives and policies, coupled with state and federal actions and execution of CAP measures and actions, the City will reduce GHG emissions in alignment with state goals established by AB 32 and SB 32 and maintain a trajectory to meet its proportional share of the 2050 state target identified in Executive Order S-3-05. As described above, the proposed project would be consistent with applicable General Plan objectives and policies and CAP strategies. Furthermore, the project is located approximately 0.5 miles from the Amaya Drive Light Rail Station. The project is located in proximity to a high-quality transit stop (i.e., the Light Rail Station), which should reduce single-occupancy vehicle usage. As such, the proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purposes of reducing the emissions of GHGs. The proposed project's impact would be **less than significant.**

A discussion of proposed project construction and operational GHG emissions is included for informational purposes in Section 3.4.1.2.

3.4.1.2 Project GHG Emissions

Table 16 shows the estimated annual GHG construction emissions associated with the project. Complete details of the construction emissions calculations are provided in Appendix A, *Air Quality and Greenhouse Gas Emissions CalEEMod Output Files*.

Table 16. Estimated Annual Construction GHG Emissions

	CO_2	CH_4	N_2O	R	CO_2e
Year	Metric Tons				
2025	392.27	0.02	0.02	0.14	399.72
2026	250.76	0.01	0.01	0.08	253.79
2027	22.59	0.00	0.00	0.01	28.92
Total	**671.62**	**0.03**	**0.03**	**0.23**	**682.43**
Amortized Emissions (30 years)					*22.75*

Source: CalEEMod Version 2022.1.
Notes: GHG = greenhouse gas; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
See Appendix A for complete results. <0.01 = reported value is less than 0.01.

As shown in Table 16, the estimated total GHG emissions from construction of the project would be approximately 682 MT CO_2e. When amortized over 30 years, the estimated annual GHG emissions from construction of the project would be approximately 23 MT CO_2e per year.

Table 17. Summary of Operational GHG Emissions

Emissions Source	MT CO_2	MT CH_4	MT N_2O	MT R	MT CO_2e
Mobile	401.78	0.02	0.02	0.54	408.04
Area	67.11	0.07	0.00	—	68.89
Energy	160.65	0.01	0.00	—	161.15
Water	6.71	0.08	0.00	—	9.40
Waste	4.83	0.48	0.00	—	16.90
Refrigerants	—	—	—	0.09	0.09
Total	641.08	0.67	0.02	0.64	664.47
Amortized Construction Emissions (20 years)					22.75
Total Project Emissions					***687.22***

Source: See Appendix A for complete results.
Notes: GHG = greenhouse gas; MT = metric tons; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent. <0.01 = reported value is less than 0.01.

Table 17 shows the estimated annual GHG operational emissions associated with the project. As discussed above, total annual operational emissions were combined with amortized (30 years) construction emissions.

As shown in Table 17, implementation of the project would result in approximately 687 MT CO_2e per year including amortized construction emissions. Complete details of the construction emissions calculations are provided in Appendix A, *Air Quality and Greenhouse Gas Emissions CalEEMod Output Files*.

3.4.2.3 Conclusion

The project is not expected to generate GHG emissions that may have a significant impact on the environment, and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. The impact would be **less than significant.**

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Appendix A

CalEEMod Outputs and Estimated Emissions

Jericho Road Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Jericho Road
Construction Start Date	5/5/2025
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	7.80
Location	32.78687497212921, -116.99420986009108
County	San Diego
City	La Mesa
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6556
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.26

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
Condo/Townhouse	73.0	Dwelling Unit	3.49	77,380	0.00	—	204	—

Parking Lot	5.00	Space	0.04	0.00	0.00	—	—	—
City Park	0.60	Acre	0.60	0.00	26,074	26,074	—	—

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.63	4.50	47.5	38.7	0.12	1.75	5.95	7.70	1.62	1.93	3.55	—	15,293	15,293	0.70	0.93	12.3	15,599
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	27.1	27.1	8.67	11.8	0.02	0.39	0.27	0.58	0.36	0.07	0.41	—	2,130	2,130	0.09	0.08	0.05	2,155
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.42	1.40	7.64	7.19	0.02	0.29	0.96	1.25	0.26	0.29	0.55	—	2,369	2,369	0.11	0.14	0.82	2,414
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.26	0.26	1.39	1.31	< 0.005	0.05	0.18	0.23	0.05	0.05	0.10	—	392	392	0.02	0.02	0.14	400

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	5.63	4.50	47.5	38.7	0.12	1.75	5.95	7.70	1.62	1.93	3.55	—	15,293	15,293	0.70	0.93	12.3	15,599
2026	1.13	0.93	7.75	10.2	0.02	0.27	0.27	0.54	0.25	0.07	0.32	—	2,129	2,129	0.09	0.08	1.61	2,156
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.20	1.01	8.67	11.8	0.02	0.39	0.27	0.58	0.36	0.07	0.41	—	2,130	2,130	0.09	0.08	0.05	2,155
2026	1.13	0.93	7.77	10.1	0.02	0.27	0.27	0.54	0.25	0.07	0.32	—	2,119	2,119	0.09	0.08	0.04	2,144
2027	27.1	27.1	7.44	9.98	0.02	0.24	0.27	0.51	0.22	0.07	0.29	—	2,108	2,108	0.09	0.07	0.04	2,132
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.91	0.74	7.64	6.62	0.02	0.29	0.96	1.25	0.26	0.29	0.55	—	2,369	2,369	0.11	0.14	0.82	2,414
2026	0.80	0.67	5.55	7.19	0.01	0.19	0.19	0.39	0.18	0.05	0.23	—	1,515	1,515	0.06	0.05	0.50	1,533
2027	1.42	1.40	0.61	0.84	< 0.005	0.02	0.03	0.04	0.02	0.01	0.02	—	173	173	0.01	0.01	0.06	175
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.17	0.13	1.39	1.21	< 0.005	0.05	0.18	0.23	0.05	0.05	0.10	—	392	392	0.02	0.02	0.14	400
2026	0.15	0.12	1.01	1.31	< 0.005	0.04	0.04	0.07	0.03	0.01	0.04	—	251	251	0.01	0.01	0.08	254
2027	0.26	0.26	0.11	0.15	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	28.6	28.6	< 0.005	< 0.005	0.01	28.9

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.78	5.69	2.77	31.7	0.09	2.49	2.19	4.68	2.40	0.55	2.96	431	4,925	5,356	5.50	0.12	8.18	5,537
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	7.36	5.29	2.83	27.1	0.09	2.49	2.19	4.68	2.40	0.55	2.96	431	4,803	5,234	5.51	0.13	0.75	5,409
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.59	3.99	1.78	16.0	0.04	0.60	2.17	2.77	0.58	0.55	1.13	123	3,749	3,872	4.05	0.12	3.84	4,013
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.84	0.73	0.33	2.91	0.01	0.11	0.40	0.51	0.11	0.10	0.21	20.4	621	641	0.67	0.02	0.64	664

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.75	1.62	1.00	10.5	0.02	0.02	2.19	2.21	0.02	0.55	0.57	—	2,525	2,525	0.13	0.10	7.63	2,565
Area	5.98	4.05	1.40	21.1	0.06	2.44	—	2.44	2.35	—	2.35	397	1,394	1,791	1.88	< 0.005	—	1,839
Energy	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	970	970	0.07	< 0.005	—	973
Water	—	—	—	—	—	—	—	—	—	—	—	4.91	35.6	40.5	0.51	0.01	—	56.8
Waste	—	—	—	—	—	—	—	—	—	—	—	29.2	0.00	29.2	2.92	0.00	—	102
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
Total	7.78	5.69	2.77	31.7	0.09	2.49	2.19	4.68	2.40	0.55	2.96	431	4,925	5,356	5.50	0.12	8.18	5,537
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.72	1.59	1.09	10.0	0.02	0.02	2.19	2.21	0.02	0.55	0.57	—	2,413	2,413	0.13	0.11	0.20	2,449
Area	5.60	3.68	1.36	16.9	0.06	2.44	—	2.44	2.35	—	2.35	397	1,383	1,780	1.88	< 0.005	—	1,828
Energy	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	970	970	0.07	< 0.005	—	973
Water	—	—	—	—	—	—	—	—	—	—	—	4.91	35.6	40.5	0.51	0.01	—	56.8
Waste	—	—	—	—	—	—	—	—	—	—	—	29.2	0.00	29.2	2.92	0.00	—	102
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55

Total	7.36	5.29	2.83	27.1	0.09	2.49	2.19	4.68	2.40	0.55	2.96	431	4,803	5,234	5.51	0.13	0.75	5,409
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.70	1.57	1.08	9.96	0.02	0.02	2.17	2.19	0.02	0.55	0.57	—	2,427	2,427	0.13	0.10	3.29	2,465
Area	2.85	2.40	0.32	5.85	0.01	0.55	—	0.55	0.53	—	0.53	89.1	316	405	0.42	< 0.005	—	416
Energy	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	970	970	0.07	< 0.005	—	973
Water	—	—	—	—	—	—	—	—	—	—	—	4.91	35.6	40.5	0.51	0.01	—	56.8
Waste	—	—	—	—	—	—	—	—	—	—	—	29.2	0.00	29.2	2.92	0.00	—	102
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
Total	4.59	3.99	1.78	16.0	0.04	0.60	2.17	2.77	0.58	0.55	1.13	123	3,749	3,872	4.05	0.12	3.84	4,013
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.31	0.29	0.20	1.82	< 0.005	< 0.005	0.40	0.40	< 0.005	0.10	0.10	—	402	402	0.02	0.02	0.54	408
Area	0.52	0.44	0.06	1.07	< 0.005	0.10	—	0.10	0.10	—	0.10	14.8	52.4	67.1	0.07	< 0.005	—	68.9
Energy	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	161	161	0.01	< 0.005	—	161
Water	—	—	—	—	—	—	—	—	—	—	—	0.81	5.89	6.71	0.08	< 0.005	—	9.40
Waste	—	—	—	—	—	—	—	—	—	—	—	4.83	0.00	4.83	0.48	0.00	—	16.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	0.84	0.73	0.33	2.91	0.01	0.11	0.40	0.51	0.11	0.10	0.21	20.4	621	641	0.67	0.02	0.64	664

3. Construction Emissions Details

3.1. Demolition/Site Prep (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	1.53	1.28	12.4	13.2	0.02	0.53	—	0.53	0.48	—	0.48	—	2,249	2,249	0.09	0.02	—	2,257
Demolition	—	—	—	—	—	—	3.85	3.85	—	0.58	0.58	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	0.40	< 0.005	0.02	—	0.02	0.01	—	0.01	—	67.8	67.8	< 0.005	< 0.005	—	68.0
Demolition	—	—	—	—	—	—	0.12	0.12	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.2	11.2	< 0.005	< 0.005	—	11.3
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.04	0.56	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	114	114	0.01	< 0.005	0.43	116
Vendor	0.02	0.01	0.27	0.12	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	200	200	0.01	0.03	0.52	209
Hauling	0.11	0.03	1.89	0.70	0.01	0.03	0.37	0.40	0.03	0.10	0.13	—	1,437	1,437	0.08	0.23	3.13	1,510

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.27	3.27	< 0.005	< 0.005	0.01	3.32
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.04	6.04	< 0.005	< 0.005	0.01	6.30
Hauling	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.3	43.3	< 0.005	0.01	0.04	45.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.54	0.54	< 0.005	< 0.005	< 0.005	0.55
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.00	1.00	< 0.005	< 0.005	< 0.005	1.04
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.17	7.17	< 0.005	< 0.005	0.01	7.52

3.3. Grading (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.14	4.32	40.3	35.3	0.09	1.65	—	1.65	1.52	—	1.52	—	9,768	9,768	0.40	0.08	—	9,801
Dust From Material Movement	—	—	—	—	—	—	4.43	4.43	—	1.52	1.52	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.70	0.59	5.53	4.83	0.01	0.23	—	0.23	0.21	—	0.21	—	1,338	1,338	0.05	0.01	—	1,343
Dust From Material Movement	—	—	—	—	—	—	0.61	0.61	—	0.21	0.21	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.01	0.88	< 0.005	0.04	—	0.04	0.04	—	0.04	—	222	222	0.01	< 0.005	—	222
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.05	0.74	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	152	152	0.01	0.01	0.57	154
Vendor	0.02	0.01	0.27	0.12	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	200	200	0.01	0.03	0.52	209
Hauling	0.40	0.11	6.79	2.53	0.03	0.10	1.33	1.43	0.10	0.37	0.46	—	5,173	5,173	0.29	0.81	11.3	5,434
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	19.8	19.8	< 0.005	< 0.005	0.03	20.1

Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.4	27.4	< 0.005	< 0.005	0.03	28.7
Hauling	0.05	0.02	0.96	0.35	< 0.005	0.01	0.18	0.20	0.01	0.05	0.06	—	709	709	0.04	0.11	0.67	744
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.28	3.28	< 0.005	< 0.005	0.01	3.33
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.54	4.54	< 0.005	< 0.005	0.01	4.74
Hauling	0.01	< 0.005	0.18	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	117	117	0.01	0.02	0.11	123

3.5. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	0.89	7.55	9.11	0.02	0.30	—	0.30	0.28	—	0.28	—	1,550	1,550	0.06	0.01	—	1,556
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.10	9.10	< 0.005	< 0.005	—	9.13
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.51	1.51	< 0.005	< 0.005	—	1.51
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.81	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	182
Vendor	0.03	0.02	0.55	0.25	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	—	401	401	0.02	0.06	0.03	418
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.06	1.06	< 0.005	< 0.005	< 0.005	1.08
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.35	2.35	< 0.005	< 0.005	< 0.005	2.46
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.18
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.39	0.39	< 0.005	< 0.005	< 0.005	0.41
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.02	0.85	7.19	9.06	0.02	0.26	—	0.26	0.24	—	0.24	—	1,550	1,550	0.06	0.01	—	1,556
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.02	0.85	7.19	9.06	0.02	0.26	—	0.26	0.24	—	0.24	—	1,550	1,550	0.06	0.01	—	1,556
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	0.61	5.13	6.47	0.01	0.19	—	0.19	0.17	—	0.17	—	1,107	1,107	0.04	0.01	—	1,111
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.94	1.18	< 0.005	0.03	—	0.03	0.03	—	0.03	—	183	183	0.01	< 0.005	—	184
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.86	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	186	186	0.01	0.01	0.65	189
Vendor	0.03	0.01	0.51	0.24	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	—	393	393	0.01	0.06	0.96	411
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.76	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	176	176	0.01	0.01	0.02	178
Vendor	0.03	0.01	0.53	0.24	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	—	393	393	0.01	0.06	0.02	411
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.55	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	127	127	0.01	0.01	0.20	128
Vendor	0.02	0.01	0.37	0.17	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	281	281	0.01	0.04	0.30	293
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	20.9	20.9	< 0.005	< 0.005	0.03	21.3
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	46.5	46.5	< 0.005	0.01	0.05	48.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.97	0.81	6.88	9.03	0.02	0.23	—	0.23	0.21	—	0.21	—	1,550	1,550	0.06	0.01	—	1,555
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.53	0.69	< 0.005	0.02	—	0.02	0.02	—	0.02	—	118	118	< 0.005	< 0.005	—	119
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.6	19.6	< 0.005	< 0.005	—	19.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.72	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	0.01	0.01	0.02	175
Vendor	0.03	0.01	0.50	0.23	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	—	385	385	0.01	0.05	0.02	401
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.3	13.3	< 0.005	< 0.005	0.02	13.5
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	29.4	29.4	< 0.005	< 0.005	0.03	30.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.20	2.20	< 0.005	< 0.005	< 0.005	2.23
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.86	4.86	< 0.005	< 0.005	< 0.005	5.07
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.11	0.94	8.34	11.0	0.02	0.39	—	0.39	0.36	—	0.36	—	1,653	1,653	0.07	0.01	—	1,659
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.59	0.78	< 0.005	0.03	—	0.03	0.03	—	0.03	—	118	118	< 0.005	< 0.005	—	118
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.11	0.14	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	19.5	19.5	< 0.005	< 0.005	—	19.6
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.65	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	143	143	0.01	0.01	0.01	145
Vendor	0.02	0.01	0.28	0.13	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	200	200	0.01	0.03	0.01	209
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.3	10.3	< 0.005	< 0.005	0.02	10.5
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.3	14.3	< 0.005	< 0.005	0.02	14.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.71	1.71	< 0.005	< 0.005	< 0.005	1.73
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.36	2.36	< 0.005	< 0.005	< 0.005	2.47
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	26.9	26.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.58	6.58	< 0.005	< 0.005	—	6.61
Architectural Coatings	1.33	1.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.09	1.09	< 0.005	< 0.005	—	1.09
Architectural Coatings	0.24	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.04	0.04	0.43	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	104	104	0.01	< 0.005	0.01	105
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	5.15	5.15	< 0.005	< 0.005	0.01	5.23
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.85	0.85	< 0.005	< 0.005	< 0.005	0.87
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	1.74	1.62	0.99	10.4	0.02	0.02	2.18	2.20	0.02	0.55	0.57	—	2,517	2,517	0.12	0.10	7.61	2,558
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

City Park	0.01	< 0.005	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	7.48	7.48	< 0.005	< 0.005	0.02	7.60
Total	1.75	1.62	1.00	10.5	0.02	0.02	2.19	2.21	0.02	0.55	0.57	—	2,525	2,525	0.13	0.10	7.63	2,565
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	1.71	1.58	1.09	9.99	0.02	0.02	2.18	2.20	0.02	0.55	0.57	—	2,406	2,406	0.13	0.11	0.20	2,441
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.01	< 0.005	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	7.15	7.15	< 0.005	< 0.005	< 0.005	7.25
Total	1.72	1.59	1.09	10.0	0.02	0.02	2.19	2.21	0.02	0.55	0.57	—	2,413	2,413	0.13	0.11	0.20	2,449
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.31	0.29	0.20	1.81	< 0.005	< 0.005	0.40	0.40	< 0.005	0.10	0.10	—	401	401	0.02	0.02	0.54	407
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.64
Total	0.31	0.29	0.20	1.82	< 0.005	< 0.005	0.40	0.40	< 0.005	0.10	0.10	—	402	402	0.02	0.02	0.54	408

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/Townhou	—	—	—	—	—	—	—	—	—	—	—	—	486	486	0.03	< 0.005	—	488
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.77	2.77	< 0.005	< 0.005	—	2.78
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	489	489	0.03	< 0.005	—	491
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	486	486	0.03	< 0.005	—	488
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.77	2.77	< 0.005	< 0.005	—	2.78
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	489	489	0.03	< 0.005	—	491
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	80.5	80.5	< 0.005	< 0.005	—	80.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46	< 0.005	< 0.005	—	0.46
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	81.0	81.0	< 0.005	< 0.005	—	81.3

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	481	481	0.04	< 0.005	—	482
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	481	481	0.04	< 0.005	—	482
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	481	481	0.04	< 0.005	—	482
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	481	481	0.04	< 0.005	—	482
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	79.7	79.7	0.01	< 0.005	—	79.9
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	79.7	79.7	0.01	< 0.005	—	79.9

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	3.80	1.88	1.36	16.9	0.06	2.44	—	2.44	2.35	—	2.35	397	1,383	1,780	1.88	< 0.005	—	1,828
Consumer Products	1.67	1.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.38	0.36	0.04	4.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.1	11.1	< 0.005	< 0.005	—	11.1
Total	5.98	4.05	1.40	21.1	0.06	2.44	—	2.44	2.35	—	2.35	397	1,394	1,791	1.88	< 0.005	—	1,839
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	3.80	1.88	1.36	16.9	0.06	2.44	—	2.44	2.35	—	2.35	397	1,383	1,780	1.88	< 0.005	—	1,828
Consumer Products	1.67	1.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	5.60	3.68	1.36	16.9	0.06	2.44	—	2.44	2.35	—	2.35	397	1,383	1,780	1.88	< 0.005	—	1,828
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.16	0.08	0.06	0.69	< 0.005	0.10	—	0.10	0.10	—	0.10	14.8	51.5	66.2	0.07	< 0.005	—	68.0

Consum Products	0.30	0.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coating s	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landsca pe Equipm ent	0.03	0.03	< 0.005	0.37	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.90	0.90	< 0.005	< 0.005	—	0.91
Total	0.52	0.44	0.06	1.07	< 0.005	0.10	—	0.10	0.10	—	0.10	14.8	52.4	67.1	0.07	< 0.005	—	68.9

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/T ownhou se	—	—	—	—	—	—	—	—	—	—	—	4.91	28.2	33.1	0.51	0.01	—	49.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	7.41	7.41	< 0.005	< 0.005	—	7.44
Total	—	—	—	—	—	—	—	—	—	—	—	4.91	35.6	40.5	0.51	0.01	—	56.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/T ownhou se	—	—	—	—	—	—	—	—	—	—	—	4.91	28.2	33.1	0.51	0.01	—	49.4

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	7.41	7.41	< 0.005	< 0.005	—	7.44
Total	—	—	—	—	—	—	—	—	—	—	—	4.91	35.6	40.5	0.51	0.01	—	56.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.81	4.66	5.48	0.08	< 0.005	—	8.17
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	1.23	1.23	< 0.005	< 0.005	—	1.23
Total	—	—	—	—	—	—	—	—	—	—	—	0.81	5.89	6.71	0.08	< 0.005	—	9.40

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	29.1	0.00	29.1	2.91	0.00	—	102
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.03	0.00	0.03	< 0.005	0.00	—	0.10
Total	—	—	—	—	—	—	—	—	—	—	—	29.2	0.00	29.2	2.92	0.00	—	102

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	29.1	0.00	29.1	2.91	0.00	—	102
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.03	0.00	0.03	< 0.005	0.00	—	0.10
Total	—	—	—	—	—	—	—	—	—	—	—	29.2	0.00	29.2	2.92	0.00	—	102
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	4.82	0.00	4.82	0.48	0.00	—	16.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	< 0.005	0.00	< 0.005	< 0.005	0.00	—	0.02
Total	—	—	—	—	—	—	—	—	—	—	—	4.83	0.00	4.83	0.48	0.00	—	16.9

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55

City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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/Site Prep	Demolition	5/5/2025	5/19/2025	5.00	11.0	—
Grading	Grading	5/20/2025	7/28/2025	5.00	50.0	—
Building Construction	Building Construction	12/29/2025	2/08/2027	5.00	291	—
Paving	Paving	11/17/2025	12/22/2025	5.00	26.0	—
Architectural Coating	Architectural Coating	2/9/2027	3/4/2027	5.00	18.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

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

Demolition/Site Prep	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Demolition/Site Prep	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	4.00	8.00	423	0.48
Grading	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Building Construction	Forklifts	Diesel	Average	2.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	4.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Air Compressors	Diesel	Average	2.00	8.00	37.0	0.48
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	3.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition/Site Prep	—	—	—	—
Demolition/Site Prep	Worker	12.0	12.0	LDA,LDT1,LDT2
Demolition/Site Prep	Vendor	8.00	7.63	HHDT,MHDT
Demolition/Site Prep	Hauling	20.0	20.0	HHDT
Demolition/Site Prep	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	16.0	12.0	LDA,LDT1,LDT2

Grading	Vendor	8.00	7.63	HHDT,MHDT
Grading	Hauling	72.0	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	20.0	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	16.0	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	16.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	8.00	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	12.0	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	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	156,695	52,232	0.00	0.00	118

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition/Site Prep	0.00	0.00	0.00	1,955	—
Grading	26,870	1,784	250	0.00	—
Paving	0.00	0.00	0.00	0.00	0.04

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Condo/Townhouse	—	0%
Parking Lot	0.04	100%
City Park	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	589	0.03	< 0.005
2026	0.00	589	0.03	< 0.005
2027	0.00	589	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
Condo/Townhouse	438	438	438	159,870	3,086	3,086	3,086	1,126,537
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.47	1.17	1.31	251	3.26	8.20	9.16	1,756

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	66
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	7
Conventional Wood Stoves	0
Catalytic Wood Stoves	4
Non-Catalytic Wood Stoves	4
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)
156694.5	52,232	0.00	0.00	118

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

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)
Condo/Townhouse	301,443	589	0.0330	0.0040	1,501,225
Parking Lot	1,717	589	0.0330	0.0040	0.00
City Park	0.00	589	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)
Condo/Townhouse	2,564,714	0.00
Parking Lot	0.00	0.00
City Park	0.00	865,898

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	54.1	—

Parking Lot	0.00	—
City Park	0.05	—

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
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
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	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

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	11.9	annual days of extreme heat
Extreme Precipitation	3.85	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	4.28	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	N/A	N/A	N/A	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	0	0	0	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

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

6.3. Adjusted Climate Risk Scores

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	55.4
AQ-PM	47.7
AQ-DPM	64.6
Drinking Water	45.9
Lead Risk Housing	65.3
Pesticides	0.00
Toxic Releases	28.3

Traffic	62.5
Effect Indicators	—
CleanUp Sites	28.7
Groundwater	6.97
Haz Waste Facilities/Generators	20.3
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	37.2
Cardio-vascular	23.9
Low Birth Weights	25.2
Socioeconomic Factor Indicators	—
Education	13.1
Housing	21.6
Linguistic	43.3
Poverty	42.4
Unemployment	29.4

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	70.07570897
Employed	66.62389324
Median HI	60.52867958
Education	—
Bachelor's or higher	62.64596433
High school enrollment	100

Preschool enrollment	73.10406775
Transportation	—
Auto Access	67.17567047
Active commuting	43.16694469
Social	—
2-parent households	69.61375593
Voting	87.30912357
Neighborhood	—
Alcohol availability	38.45759015
Park access	81.35506224
Retail density	38.70139869
Supermarket access	24.54767099
Tree canopy	20.82638265
Housing	—
Homeownership	43.3465931
Housing habitability	73.47619659
Low-inc homeowner severe housing cost burden	75.00320801
Low-inc renter severe housing cost burden	69.47260362
Uncrowded housing	69.47260362
Health Outcomes	—
Insured adults	59.36096497
Arthritis	0.0
Asthma ER Admissions	30.2
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	26.3
Cognitively Disabled	58.3
Physically Disabled	60.6
Heart Attack ER Admissions	48.9
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	72.5
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	75.0
Elderly	39.0
English Speaking	89.2
Foreign-born	7.1
Outdoor Workers	68.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	48.0
Traffic Density	82.0
Traffic Access	58.1
Other Indices	—

Hardship	31.3
Other Decision Support	—
2016 Voting	85.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	20.0
Healthy Places Index Score for Project Location (b)	71.0
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	Acreage provided in data request
Construction: Construction Phases	Edited to match data request. Using default phase length for arc coating.
Construction: Off-Road Equipment	Changes made according to client-provided data request. "Bobcat" listed in construction equipment is assumed to be a T/L/B.

Construction: Trips and VMT	Using data request trips (doubled). Defaults for grading hauls and arc coating workers (not covered by data request).
Operations: Hearths	Assuming no wood hearths, all transitioned to gas.
Operations: Vehicle Data	Using 6 trips/DU as stated in traffic report. Keeping default trips for open space.

Appendix B
Health Risk Assessment Output Files

Jericho Road Con HRA Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Jericho Road Con HRA
Construction Start Date	5/5/2025
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	7.80
Location	32.78687497212921, -116.99420986009108
County	San Diego
City	La Mesa
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6556
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.26

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
Condo/Townhouse	73.0	Dwelling Unit	3.49	77,380	0.00	—	204	—

Parking Lot	5.00	Space	0.04	0.00	0.00	—	—	—
City Park	0.60	Acre	0.60	0.00	26,074	26,074	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-1-A	Use Electric or Hybrid Powered Equipment
Construction	C-5	Use Advanced Engine Tiers

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.23	4.37	41.6	36.1	0.09	1.66	4.44	6.10	1.52	1.52	3.04	—	9,953	9,953	0.43	0.11	0.12	9,997
Mit.	1.04	0.99	7.16	50.5	0.09	0.19	4.44	4.63	0.19	1.52	1.71	—	9,954	9,954	0.43	0.11	0.12	9,997
% Reduced	80%	77%	83%	-40%	—	89%	—	24%	88%	—	44%	—	> -0.5%	> -0.5%	—	—	—	> -0.5%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	27.1	27.1	8.43	11.0	0.02	0.39	< 0.005	0.39	0.36	< 0.005	0.36	—	1,667	1,667	0.07	0.02	< 0.005	1,673
Mit.	27.0	27.0	2.69	11.7	0.02	0.03	< 0.005	0.03	0.03	< 0.005	0.03	—	1,667	1,667	0.07	0.02	< 0.005	1,673
% Reduced	< 0.5%	< 0.5%	68%	-6%	—	92%	—	92%	91%	—	91%	—	> -0.5%	> -0.5%	—	—	—	> -0.5%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	1.41	1.40	6.73	6.56	0.01	0.27	0.72	1.00	0.25	0.23	0.48	—	1,561	1,561	0.07	0.02	0.01	1,568
Mit.	1.34	1.34	1.74	8.20	0.01	0.03	0.72	0.75	0.03	0.23	0.25	—	1,561	1,561	0.07	0.02	0.01	1,567
% Reduced	5%	4%	74%	-25%	—	89%	—	24%	88%	—	46%	—	< 0.5%	< 0.5%	—	—	—	< 0.5%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.26	0.25	1.23	1.20	< 0.005	0.05	0.13	0.18	0.05	0.04	0.09	—	258	258	0.01	< 0.005	< 0.005	260
Mit.	0.25	0.24	0.32	1.50	< 0.005	0.01	0.13	0.14	0.01	0.04	0.05	—	258	258	0.01	< 0.005	< 0.005	259
% Reduced	5%	4%	74%	-25%	< 0.5%	89%	—	24%	88%	—	46%	—	< 0.5%	< 0.5%	< 0.5%	< 0.5%	—	< 0.5%

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	5.23	4.37	41.6	36.1	0.09	1.66	4.44	6.10	1.52	1.52	3.04	—	9,953	9,953	0.43	0.11	0.12	9,997
2026	1.03	0.86	7.36	9.18	0.02	0.26	< 0.005	0.27	0.24	< 0.005	0.24	—	1,577	1,577	0.07	0.02	0.02	1,583
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.13	0.94	8.43	11.0	0.02	0.39	< 0.005	0.39	0.36	< 0.005	0.36	—	1,667	1,667	0.07	0.02	< 0.005	1,673
2026	1.03	0.86	7.36	9.19	0.02	0.26	< 0.005	0.27	0.24	< 0.005	0.24	—	1,577	1,577	0.07	0.02	< 0.005	1,584
2027	27.1	27.1	7.05	9.15	0.02	0.23	< 0.005	0.24	0.21	< 0.005	0.22	—	1,577	1,577	0.07	0.02	< 0.005	1,583
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.85	0.71	6.73	6.19	0.01	0.27	0.72	1.00	0.25	0.23	0.48	—	1,561	1,561	0.07	0.02	0.01	1,568
2026	0.74	0.61	5.26	6.56	0.01	0.19	< 0.005	0.19	0.17	< 0.005	0.17	—	1,126	1,126	0.05	0.01	0.01	1,131
2027	1.41	1.40	0.58	0.75	< 0.005	0.02	< 0.005	0.02	0.02	< 0.005	0.02	—	127	127	0.01	< 0.005	< 0.005	127
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	0.16	0.13	1.23	1.13	< 0.005	0.05	0.13	0.18	0.05	0.04	0.09	—	258	258	0.01	< 0.005	< 0.005	260
2026	0.13	0.11	0.96	1.20	< 0.005	0.03	< 0.005	0.03	0.03	< 0.005	0.03	—	186	186	0.01	< 0.005	< 0.005	187
2027	0.26	0.25	0.11	0.14	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	21.0	21.0	< 0.005	< 0.005	< 0.005	21.1

2.3. Construction Emissions by Year, Mitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.04	0.99	7.16	50.5	0.09	0.19	4.44	4.63	0.19	1.52	1.71	—	9,954	9,954	0.43	0.11	0.12	9,997
2026	0.17	0.17	2.43	9.30	0.01	0.03	< 0.005	0.03	0.03	< 0.005	0.03	—	1,473	1,473	0.06	0.02	0.02	1,479
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.19	0.19	2.69	11.7	0.02	0.03	< 0.005	0.03	0.03	< 0.005	0.03	—	1,667	1,667	0.07	0.02	< 0.005	1,673
2026	0.17	0.17	2.44	9.30	0.01	0.03	< 0.005	0.03	0.03	< 0.005	0.03	—	1,473	1,473	0.06	0.02	< 0.005	1,480
2027	27.0	27.0	2.43	9.30	0.01	0.03	< 0.005	0.03	0.03	< 0.005	0.03	—	1,474	1,474	0.06	0.02	< 0.005	1,480
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.16	0.16	1.24	8.20	0.01	0.03	0.72	0.75	0.03	0.23	0.25	—	1,561	1,561	0.07	0.02	0.01	1,567
2026	0.12	0.12	1.74	6.64	0.01	0.02	< 0.005	0.02	0.02	< 0.005	0.02	—	1,052	1,052	0.05	0.01	0.01	1,057
2027	1.34	1.34	0.22	0.76	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	119	119	0.01	< 0.005	< 0.005	120
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.03	0.03	0.23	1.50	< 0.005	0.01	0.13	0.14	0.01	0.04	0.05	—	258	258	0.01	< 0.005	< 0.005	260
2026	0.02	0.02	0.32	1.21	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	174	174	0.01	< 0.005	< 0.005	175
2027	0.25	0.24	0.04	0.14	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	19.7	19.7	< 0.005	< 0.005	< 0.005	19.8

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.78	5.69	2.77	31.7	0.09	2.49	2.19	4.68	2.40	0.55	2.96	431	4,925	5,356	5.50	0.12	8.18	5,537
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.36	5.29	2.83	27.1	0.09	2.49	2.19	4.68	2.40	0.55	2.96	431	4,803	5,234	5.51	0.13	0.75	5,409
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.59	3.99	1.78	16.0	0.04	0.60	2.17	2.77	0.58	0.55	1.13	123	3,749	3,872	4.05	0.12	3.84	4,013
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.84	0.73	0.33	2.91	0.01	0.11	0.40	0.51	0.11	0.10	0.21	20.4	621	641	0.67	0.02	0.64	664

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.75	1.62	1.00	10.5	0.02	0.02	2.19	2.21	0.02	0.55	0.57	—	2,525	2,525	0.13	0.10	7.63	2,565
Area	5.98	4.05	1.40	21.1	0.06	2.44	—	2.44	2.35	—	2.35	397	1,394	1,791	1.88	< 0.005	—	1,839
Energy	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	970	970	0.07	< 0.005	—	973
Water	—	—	—	—	—	—	—	—	—	—	—	4.91	35.6	40.5	0.51	0.01	—	56.8
Waste	—	—	—	—	—	—	—	—	—	—	—	29.2	0.00	29.2	2.92	0.00	—	102
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
Total	7.78	5.69	2.77	31.7	0.09	2.49	2.19	4.68	2.40	0.55	2.96	431	4,925	5,356	5.50	0.12	8.18	5,537

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.72	1.59	1.09	10.0	0.02	0.02	2.19	2.21	0.02	0.55	0.57	—	2,413	2,413	0.13	0.11	0.20	2,449
Area	5.60	3.68	1.36	16.9	0.06	2.44	—	2.44	2.35	—	2.35	397	1,383	1,780	1.88	< 0.005	—	1,828
Energy	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	970	970	0.07	< 0.005	—	973
Water	—	—	—	—	—	—	—	—	—	—	—	4.91	35.6	40.5	0.51	0.01	—	56.8
Waste	—	—	—	—	—	—	—	—	—	—	—	29.2	0.00	29.2	2.92	0.00	—	102
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
Total	7.36	5.29	2.83	27.1	0.09	2.49	2.19	4.68	2.40	0.55	2.96	431	4,803	5,234	5.51	0.13	0.75	5,409
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.70	1.57	1.08	9.96	0.02	0.02	2.17	2.19	0.02	0.55	0.57	—	2,427	2,427	0.13	0.10	3.29	2,465
Area	2.85	2.40	0.32	5.85	0.01	0.55	—	0.55	0.53	—	0.53	89.1	316	405	0.42	< 0.005	—	416
Energy	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	970	970	0.07	< 0.005	—	973
Water	—	—	—	—	—	—	—	—	—	—	—	4.91	35.6	40.5	0.51	0.01	—	56.8
Waste	—	—	—	—	—	—	—	—	—	—	—	29.2	0.00	29.2	2.92	0.00	—	102
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
Total	4.59	3.99	1.78	16.0	0.04	0.60	2.17	2.77	0.58	0.55	1.13	123	3,749	3,872	4.05	0.12	3.84	4,013
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.31	0.29	0.20	1.82	< 0.005	< 0.005	0.40	0.40	< 0.005	0.10	0.10	—	402	402	0.02	0.02	0.54	408
Area	0.52	0.44	0.06	1.07	< 0.005	0.10	—	0.10	0.10	—	0.10	14.8	52.4	67.1	0.07	< 0.005	—	68.9
Energy	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	161	161	0.01	< 0.005	—	161
Water	—	—	—	—	—	—	—	—	—	—	—	0.81	5.89	6.71	0.08	< 0.005	—	9.40
Waste	—	—	—	—	—	—	—	—	—	—	—	4.83	0.00	4.83	0.48	0.00	—	16.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	0.84	0.73	0.33	2.91	0.01	0.11	0.40	0.51	0.11	0.10	0.21	20.4	621	641	0.67	0.02	0.64	664

2.6. Operations Emissions by Sector, Mitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.75	1.62	1.00	10.5	0.02	0.02	2.19	2.21	0.02	0.55	0.57	—	2,525	2,525	0.13	0.10	7.63	2,565
Area	5.98	4.05	1.40	21.1	0.06	2.44	—	2.44	2.35	—	2.35	397	1,394	1,791	1.88	< 0.005	—	1,839
Energy	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	970	970	0.07	< 0.005	—	973
Water	—	—	—	—	—	—	—	—	—	—	—	4.91	35.6	40.5	0.51	0.01	—	56.8
Waste	—	—	—	—	—	—	—	—	—	—	—	29.2	0.00	29.2	2.92	0.00	—	102
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
Total	7.78	5.69	2.77	31.7	0.09	2.49	2.19	4.68	2.40	0.55	2.96	431	4,925	5,356	5.50	0.12	8.18	5,537
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.72	1.59	1.09	10.0	0.02	0.02	2.19	2.21	0.02	0.55	0.57	—	2,413	2,413	0.13	0.11	0.20	2,449
Area	5.60	3.68	1.36	16.9	0.06	2.44	—	2.44	2.35	—	2.35	397	1,383	1,780	1.88	< 0.005	—	1,828
Energy	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	970	970	0.07	< 0.005	—	973
Water	—	—	—	—	—	—	—	—	—	—	—	4.91	35.6	40.5	0.51	0.01	—	56.8
Waste	—	—	—	—	—	—	—	—	—	—	—	29.2	0.00	29.2	2.92	0.00	—	102
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
Total	7.36	5.29	2.83	27.1	0.09	2.49	2.19	4.68	2.40	0.55	2.96	431	4,803	5,234	5.51	0.13	0.75	5,409
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.70	1.57	1.08	9.96	0.02	0.02	2.17	2.19	0.02	0.55	0.57	—	2,427	2,427	0.13	0.10	3.29	2,465
Area	2.85	2.40	0.32	5.85	0.01	0.55	—	0.55	0.53	—	0.53	89.1	316	405	0.42	< 0.005	—	416
Energy	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	970	970	0.07	< 0.005	—	973
Water	—	—	—	—	—	—	—	—	—	—	—	4.91	35.6	40.5	0.51	0.01	—	56.8
Waste	—	—	—	—	—	—	—	—	—	—	—	29.2	0.00	29.2	2.92	0.00	—	102
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55

Total	4.59	3.99	1.78	16.0	0.04	0.60	2.17	2.77	0.58	0.55	1.13	123	3,749	3,872	4.05	0.12	3.84	4,013
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.31	0.29	0.20	1.82	< 0.005	< 0.005	0.40	0.40	< 0.005	0.10	0.10	—	402	402	0.02	0.02	0.54	408
Area	0.52	0.44	0.06	1.07	< 0.005	0.10	—	0.10	0.10	—	0.10	14.8	52.4	67.1	0.07	< 0.005	—	68.9
Energy	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	161	161	0.01	< 0.005	—	161
Water	—	—	—	—	—	—	—	—	—	—	—	0.81	5.89	6.71	0.08	< 0.005	—	9.40
Waste	—	—	—	—	—	—	—	—	—	—	—	4.83	0.00	4.83	0.48	0.00	—	16.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	0.84	0.73	0.33	2.91	0.01	0.11	0.40	0.51	0.11	0.10	0.21	20.4	621	641	0.67	0.02	0.64	664

3. Construction Emissions Details

3.1. Demolition/Site Prep (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.53	1.28	12.4	13.2	0.02	0.53	—	0.53	0.48	—	0.48	—	2,249	2,249	0.09	0.02	—	2,257
Demolition	—	—	—	—	—	—	3.85	3.85	—	0.58	0.58	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.04	0.37	0.40	< 0.005	0.02	—	0.02	0.01	—	0.01	—	67.8	67.8	< 0.005	< 0.005	—	68.0
Demolition	—	—	—	—	—	—	0.12	0.12	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.2	11.2	< 0.005	< 0.005	—	11.3
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	< 0.005	0.09	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.01	14.2
Hauling	0.02	0.01	0.31	0.22	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	47.8	47.8	0.01	0.01	0.03	50.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	0.43
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.45	1.45	< 0.005	< 0.005	< 0.005	1.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.07	0.07	< 0.005	< 0.005	< 0.005	0.07

Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.24	0.24	< 0.005	< 0.005	< 0.005	0.25

3.2. Demolition/Site Prep (2025) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.21	1.10	12.8	0.02	0.04	—	0.04	0.04	—	0.04	—	2,249	2,249	0.09	0.02	—	2,257
Demolition	—	—	—	—	—	—	3.85	3.85	—	0.58	0.58	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.03	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	67.8	67.8	< 0.005	< 0.005	—	68.0
Demolition	—	—	—	—	—	—	0.12	0.12	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.2	11.2	< 0.005	< 0.005	—	11.3

Demoliti	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	< 0.005	0.09	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.01	14.2
Hauling	0.02	0.01	0.31	0.22	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	47.8	47.8	0.01	0.01	0.03	50.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	0.43
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.45	1.45	< 0.005	< 0.005	< 0.005	1.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.07	0.07	< 0.005	< 0.005	< 0.005	0.07
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.24	0.24	< 0.005	< 0.005	< 0.005	0.25

3.3. Grading (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	5.14	4.32	40.3	35.3	0.09	1.65	—	1.65	1.52	—	1.52	—	9,768	9,768	0.40	0.08	—	9,801
Dust From Material Movement	—	—	—	—	—	—	4.43	4.43	—	1.52	1.52	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.70	0.59	5.53	4.83	0.01	0.23	—	0.23	0.21	—	0.21	—	1,338	1,338	0.05	0.01	—	1,343
Dust From Material Movement	—	—	—	—	—	—	0.61	0.61	—	0.21	0.21	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.01	0.88	< 0.005	0.04	—	0.04	0.04	—	0.04	—	222	222	0.01	< 0.005	—	222
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	< 0.005	0.09	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.01	14.2
Hauling	0.09	0.05	1.13	0.77	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	172	172	0.03	0.03	0.11	181
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.86	1.86	< 0.005	< 0.005	< 0.005	1.95
Hauling	0.01	0.01	0.16	0.11	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	23.7	23.7	< 0.005	< 0.005	0.01	25.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.32
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.92	3.92	< 0.005	< 0.005	< 0.005	4.13

3.4. Grading (2025) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.94	0.94	5.95	49.6	0.09	0.18	—	0.18	0.18	—	0.18	—	9,768	9,768	0.40	0.08	—	9,801

Dust From Material Movement	—	—	—	—	—	—	4.43	4.43	—	1.52	1.52	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.13	0.81	6.80	0.01	0.03	—	0.03	0.03	—	0.03	—	1,338	1,338	0.05	0.01	—	1,343
Dust From Material Movement	—	—	—	—	—	—	0.61	0.61	—	0.21	0.21	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	1.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	222	222	0.01	< 0.005	—	222
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Vendor	0.01	< 0.005	0.09	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.01	14.2
Hauling	0.09	0.05	1.13	0.77	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	172	172	0.03	0.03	0.11	181
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.86	1.86	< 0.005	< 0.005	< 0.005	1.95
Hauling	0.01	0.01	0.16	0.11	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	23.7	23.7	< 0.005	< 0.005	0.01	25.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.32
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.92	3.92	< 0.005	< 0.005	< 0.005	4.13

3.5. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	0.89	7.55	9.11	0.02	0.30	—	0.30	0.28	—	0.28	—	1,550	1,550	0.06	0.01	—	1,556
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.10	9.10	< 0.005	< 0.005	—	9.13
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.51	1.51	< 0.005	< 0.005	—	1.51
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.01	0.18	0.13	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	27.3	27.3	< 0.005	< 0.005	< 0.005	28.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.16	0.16	< 0.005	< 0.005	< 0.005	0.17
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2025) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	2.26	9.18	0.01	0.03	—	0.03	0.03	—	0.03	—	1,447	1,447	0.06	0.01	—	1,452
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.49	8.49	< 0.005	< 0.005	—	8.52
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.41	1.41	< 0.005	< 0.005	—	1.41
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.01	0.18	0.13	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	27.3	27.3	< 0.005	< 0.005	< 0.005	28.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.16	0.16	< 0.005	< 0.005	< 0.005	0.17
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.02	0.85	7.19	9.06	0.02	0.26	—	0.26	0.24	—	0.24	—	1,550	1,550	0.06	0.01	—	1,556
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.02	0.85	7.19	9.06	0.02	0.26	—	0.26	0.24	—	0.24	—	1,550	1,550	0.06	0.01	—	1,556
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	0.61	5.13	6.47	0.01	0.19	—	0.19	0.17	—	0.17	—	1,107	1,107	0.04	0.01	—	1,111
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.94	1.18	< 0.005	0.03	—	0.03	0.03	—	0.03	—	183	183	0.01	< 0.005	—	184
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.01	0.17	0.12	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	26.6	26.6	< 0.005	< 0.005	0.02	28.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.01	0.18	0.13	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	26.9	26.9	< 0.005	< 0.005	< 0.005	28.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.01	0.12	0.09	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	19.1	19.1	< 0.005	< 0.005	0.01	20.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.16	3.16	< 0.005	< 0.005	< 0.005	3.32
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2026) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	2.26	9.18	0.01	0.03	—	0.03	0.03	—	0.03	—	1,446	1,446	0.06	0.01	—	1,451
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	2.26	9.18	0.01	0.03	—	0.03	0.03	—	0.03	—	1,446	1,446	0.06	0.01	—	1,451
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.11	0.11	1.61	6.56	0.01	0.02	—	0.02	0.02	—	0.02	—	1,033	1,033	0.04	0.01	—	1,037
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.29	1.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	171	171	0.01	< 0.005	—	172
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.01	0.17	0.12	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	26.6	26.6	< 0.005	< 0.005	0.02	28.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.01	0.18	0.13	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	26.9	26.9	< 0.005	< 0.005	< 0.005	28.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.01	0.12	0.09	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	19.1	19.1	< 0.005	< 0.005	0.01	20.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.16	3.16	< 0.005	< 0.005	< 0.005	3.32

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.97	0.81	6.88	9.03	0.02	0.23	—	0.23	0.21	—	0.21	—	1,550	1,550	0.06	0.01	—	1,555
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.53	0.69	< 0.005	0.02	—	0.02	0.02	—	0.02	—	118	118	< 0.005	< 0.005	—	119
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.6	19.6	< 0.005	< 0.005	—	19.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.01	0.17	0.13	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	26.4	26.4	< 0.005	< 0.005	< 0.005	27.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.01	2.01	< 0.005	< 0.005	< 0.005	2.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.35
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2027) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.16	0.16	2.26	9.18	0.01	0.03	—	0.03	0.03	—	0.03	—	1,446	1,446	0.06	0.01	—	1,451
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.17	0.70	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	110	110	< 0.005	< 0.005	—	111
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.3	18.3	< 0.005	< 0.005	—	18.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.01	0.17	0.13	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	26.4	26.4	< 0.005	< 0.005	< 0.005	27.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.01	2.01	< 0.005	< 0.005	< 0.005	2.11

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.35
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.11	0.94	8.34	11.0	0.02	0.39	—	0.39	0.36	—	0.36	—	1,653	1,653	0.07	0.01	—	1,659
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.59	0.78	< 0.005	0.03	—	0.03	0.03	—	0.03	—	118	118	< 0.005	< 0.005	—	118
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.01	0.11	0.14	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	19.5	19.5	< 0.005	< 0.005	—	19.6
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	< 0.005	0.09	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.6	13.6	< 0.005	< 0.005	< 0.005	14.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.97	0.97	< 0.005	< 0.005	< 0.005	1.02
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.16	0.16	< 0.005	< 0.005	< 0.005	0.17
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2025) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	2.60	11.6	0.02	0.03	—	0.03	0.03	—	0.03	—	1,653	1,653	0.07	0.01	—	1,659
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.18	0.83	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	118	118	< 0.005	< 0.005	—	118
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.5	19.5	< 0.005	< 0.005	—	19.6
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	< 0.005	0.09	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.6	13.6	< 0.005	< 0.005	< 0.005	14.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.97	0.97	< 0.005	< 0.005	< 0.005	1.02
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.16	0.16	< 0.005	< 0.005	< 0.005	0.17
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architectural Coating	26.9	26.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.58	6.58	< 0.005	< 0.005	—	6.61
Architectural Coatings	1.33	1.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.09	1.09	< 0.005	< 0.005	—	1.09
Architectural Coatings	0.24	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2027) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	26.9	26.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.03	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.58	6.58	< 0.005	< 0.005	—	6.61
Architectural Coatings	1.33	1.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.09	1.09	< 0.005	< 0.005	—	1.09
Architectural Coatings	0.24	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	1.74	1.62	0.99	10.4	0.02	0.02	2.18	2.20	0.02	0.55	0.57	—	2,517	2,517	0.12	0.10	7.61	2,558
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.01	< 0.005	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	7.48	7.48	< 0.005	< 0.005	0.02	7.60
Total	1.75	1.62	1.00	10.5	0.02	0.02	2.19	2.21	0.02	0.55	0.57	—	2,525	2,525	0.13	0.10	7.63	2,565
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	1.71	1.58	1.09	9.99	0.02	0.02	2.18	2.20	0.02	0.55	0.57	—	2,406	2,406	0.13	0.11	0.20	2,441
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.01	< 0.005	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	7.15	7.15	< 0.005	< 0.005	< 0.005	7.25

Total	1.72	1.59	1.09	10.0	0.02	0.02	2.19	2.21	0.02	0.55	0.57	—	2,413	2,413	0.13	0.11	0.20	2,449
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.31	0.29	0.20	1.81	< 0.005	< 0.005	0.40	0.40	< 0.005	0.10	0.10	—	401	401	0.02	0.02	0.54	407
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.64
Total	0.31	0.29	0.20	1.82	< 0.005	< 0.005	0.40	0.40	< 0.005	0.10	0.10	—	402	402	0.02	0.02	0.54	408

4.1.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	1.74	1.62	0.99	10.4	0.02	0.02	2.18	2.20	0.02	0.55	0.57	—	2,517	2,517	0.12	0.10	7.61	2,558
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.01	< 0.005	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	7.48	7.48	< 0.005	< 0.005	0.02	7.60
Total	1.75	1.62	1.00	10.5	0.02	0.02	2.19	2.21	0.02	0.55	0.57	—	2,525	2,525	0.13	0.10	7.63	2,565
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	1.71	1.58	1.09	9.99	0.02	0.02	2.18	2.20	0.02	0.55	0.57	—	2,406	2,406	0.13	0.11	0.20	2,441
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

City Park	0.01	< 0.005	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	7.15	7.15	< 0.005	< 0.005	< 0.005	7.25
Total	1.72	1.59	1.09	10.0	0.02	0.02	2.19	2.21	0.02	0.55	0.57	—	2,413	2,413	0.13	0.11	0.20	2,449
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.31	0.29	0.20	1.81	< 0.005	< 0.005	0.40	0.40	< 0.005	0.10	0.10	—	401	401	0.02	0.02	0.54	407
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.64
Total	0.31	0.29	0.20	1.82	< 0.005	< 0.005	0.40	0.40	< 0.005	0.10	0.10	—	402	402	0.02	0.02	0.54	408

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	486	486	0.03	< 0.005	—	488
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.77	2.77	< 0.005	< 0.005	—	2.78
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	489	489	0.03	< 0.005	—	491
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/Townhou	—	—	—	—	—	—	—	—	—	—	—	—	486	486	0.03	< 0.005	—	488
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.77	2.77	< 0.005	< 0.005	—	2.78
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	489	489	0.03	< 0.005	—	491
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	80.5	80.5	< 0.005	< 0.005	—	80.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46	< 0.005	< 0.005	—	0.46
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	81.0	81.0	< 0.005	< 0.005	—	81.3

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	486	486	0.03	< 0.005	—	488
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.77	2.77	< 0.005	< 0.005	—	2.78
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	489	489	0.03	< 0.005	—	491

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	486	486	0.03	< 0.005	—	488
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.77	2.77	< 0.005	< 0.005	—	2.78
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	489	489	0.03	< 0.005	—	491
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	80.5	80.5	< 0.005	< 0.005	—	80.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46	< 0.005	< 0.005	—	0.46
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	81.0	81.0	< 0.005	< 0.005	—	81.3

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	481	481	0.04	< 0.005	—	482
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	481	481	0.04	< 0.005	—	482
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	481	481	0.04	< 0.005	—	482
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	481	481	0.04	< 0.005	—	482
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	79.7	79.7	0.01	< 0.005	—	79.9
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	79.7	79.7	0.01	< 0.005	—	79.9

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	481	481	0.04	< 0.005	—	482

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	481	481	0.04	< 0.005	—	482
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	481	481	0.04	< 0.005	—	482
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	481	481	0.04	< 0.005	—	482
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	79.7	79.7	0.01	< 0.005	—	79.9
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	79.7	79.7	0.01	< 0.005	—	79.9

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hearths	3.80	1.88	1.36	16.9	0.06	2.44	—	2.44	2.35	—	2.35	397	1,383	1,780	1.88	< 0.005	—	1,828
Consumer Products	1.67	1.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.38	0.36	0.04	4.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.1	11.1	< 0.005	< 0.005	—	11.1
Total	5.98	4.05	1.40	21.1	0.06	2.44	—	2.44	2.35	—	2.35	397	1,394	1,791	1.88	< 0.005	—	1,839
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	3.80	1.88	1.36	16.9	0.06	2.44	—	2.44	2.35	—	2.35	397	1,383	1,780	1.88	< 0.005	—	1,828
Consumer Products	1.67	1.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	5.60	3.68	1.36	16.9	0.06	2.44	—	2.44	2.35	—	2.35	397	1,383	1,780	1.88	< 0.005	—	1,828
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.16	0.08	0.06	0.69	< 0.005	0.10	—	0.10	0.10	—	0.10	14.8	51.5	66.2	0.07	< 0.005	—	68.0
Consumer Products	0.30	0.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipment	0.03	0.03	< 0.005	0.37	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.90	0.90	< 0.005	< 0.005	—	0.91
Total	0.52	0.44	0.06	1.07	< 0.005	0.10	—	0.10	0.10	—	0.10	14.8	52.4	67.1	0.07	< 0.005	—	68.9

4.3.2. Mitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	3.80	1.88	1.36	16.9	0.06	2.44	—	2.44	2.35	—	2.35	397	1,383	1,780	1.88	< 0.005	—	1,828
Consumer Products	1.67	1.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.38	0.36	0.04	4.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.1	11.1	< 0.005	< 0.005	—	11.1
Total	5.98	4.05	1.40	21.1	0.06	2.44	—	2.44	2.35	—	2.35	397	1,394	1,791	1.88	< 0.005	—	1,839
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	3.80	1.88	1.36	16.9	0.06	2.44	—	2.44	2.35	—	2.35	397	1,383	1,780	1.88	< 0.005	—	1,828
Consumer Products	1.67	1.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	5.60	3.68	1.36	16.9	0.06	2.44	—	2.44	2.35	—	2.35	397	1,383	1,780	1.88	< 0.005	—	1,828
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.16	0.08	0.06	0.69	< 0.005	0.10	—	0.10	0.10	—	0.10	14.8	51.5	66.2	0.07	< 0.005	—	68.0
Consumer Products	0.30	0.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03	0.03	< 0.005	0.37	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.90	0.90	< 0.005	< 0.005	—	0.91
Total	0.52	0.44	0.06	1.07	< 0.005	0.10	—	0.10	0.10	—	0.10	14.8	52.4	67.1	0.07	< 0.005	—	68.9

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	4.91	28.2	33.1	0.51	0.01	—	49.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	7.41	7.41	< 0.005	< 0.005	—	7.44
Total	—	—	—	—	—	—	—	—	—	—	—	4.91	35.6	40.5	0.51	0.01	—	56.8

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	4.91	28.2	33.1	0.51	0.01	—	49.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	7.41	7.41	< 0.005	< 0.005	—	7.44
Total	—	—	—	—	—	—	—	—	—	—	—	4.91	35.6	40.5	0.51	0.01	—	56.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.81	4.66	5.48	0.08	< 0.005	—	8.17
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	1.23	1.23	< 0.005	< 0.005	—	1.23
Total	—	—	—	—	—	—	—	—	—	—	—	0.81	5.89	6.71	0.08	< 0.005	—	9.40

4.4.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	4.91	28.2	33.1	0.51	0.01	—	49.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	7.41	7.41	< 0.005	< 0.005	—	7.44
Total	—	—	—	—	—	—	—	—	—	—	—	4.91	35.6	40.5	0.51	0.01	—	56.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	4.91	28.2	33.1	0.51	0.01	—	49.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	7.41	7.41	< 0.005	< 0.005	—	7.44
Total	—	—	—	—	—	—	—	—	—	—	—	4.91	35.6	40.5	0.51	0.01	—	56.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.81	4.66	5.48	0.08	< 0.005	—	8.17
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	1.23	1.23	< 0.005	< 0.005	—	1.23
Total	—	—	—	—	—	—	—	—	—	—	—	0.81	5.89	6.71	0.08	< 0.005	—	9.40

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/Townhou	—	—	—	—	—	—	—	—	—	—	—	29.1	0.00	29.1	2.91	0.00	—	102
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.03	0.00	0.03	< 0.005	0.00	—	0.10
Total	—	—	—	—	—	—	—	—	—	—	—	29.2	0.00	29.2	2.92	0.00	—	102
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	29.1	0.00	29.1	2.91	0.00	—	102
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.03	0.00	0.03	< 0.005	0.00	—	0.10
Total	—	—	—	—	—	—	—	—	—	—	—	29.2	0.00	29.2	2.92	0.00	—	102
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	4.82	0.00	4.82	0.48	0.00	—	16.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	< 0.005	0.00	< 0.005	< 0.005	0.00	—	0.02
Total	—	—	—	—	—	—	—	—	—	—	—	4.83	0.00	4.83	0.48	0.00	—	16.9

4.5.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	29.1	0.00	29.1	2.91	0.00	—	102
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.03	0.00	0.03	< 0.005	0.00	—	0.10
Total	—	—	—	—	—	—	—	—	—	—	—	29.2	0.00	29.2	2.92	0.00	—	102
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	29.1	0.00	29.1	2.91	0.00	—	102
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.03	0.00	0.03	< 0.005	0.00	—	0.10
Total	—	—	—	—	—	—	—	—	—	—	—	29.2	0.00	29.2	2.92	0.00	—	102
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	4.82	0.00	4.82	0.48	0.00	—	16.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	< 0.005	0.00	< 0.005	< 0.005	0.00	—	0.02
Total	—	—	—	—	—	—	—	—	—	—	—	4.83	0.00	4.83	0.48	0.00	—	16.9

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09

4.6.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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/Site Prep	Demolition	5/5/2025	5/19/2025	5.00	11.0	—
Grading	Grading	5/20/2025	7/28/2025	5.00	50.0	—
Building Construction	Building Construction	12/29/2025	2/08/2027	5.00	291	—
Paving	Paving	11/17/2025	12/22/2025	5.00	26.0	—
Architectural Coating	Architectural Coating	2/9/2027	3/4/2027	5.00	18.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition/Site Prep	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40

Demolition/Site Prep	Tractors/Loaders/Back	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	4.00	8.00	423	0.48
Grading	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Building Construction	Forklifts	Diesel	Average	2.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	4.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Air Compressors	Diesel	Average	2.00	8.00	37.0	0.48
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	3.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition/Site Prep	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Demolition/Site Prep	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Final	4.00	8.00	423	0.48
Grading	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Building Construction	Forklifts	Diesel	Tier 4 Final	2.00	8.00	82.0	0.20
Building Construction	Generator Sets	Electric	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	4.00	84.0	0.37

Building Construction	Cranes	Diesel	Tier 4 Final	1.00	4.00	367	0.29
Building Construction	Air Compressors	Diesel	Tier 4 Final	2.00	8.00	37.0	0.48
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition/Site Prep	—	—	—	—
Demolition/Site Prep	Worker	0.00	12.0	LDA,LDT1,LDT2
Demolition/Site Prep	Vendor	8.00	0.19	HHDT,MHDT
Demolition/Site Prep	Hauling	20.0	0.19	HHDT
Demolition/Site Prep	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	0.00	12.0	LDA,LDT1,LDT2
Grading	Vendor	8.00	0.19	HHDT,MHDT
Grading	Hauling	72.0	0.19	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	0.00	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	16.0	0.19	HHDT,MHDT
Building Construction	Hauling	0.00	0.19	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	0.00	12.0	LDA,LDT1,LDT2

Paving	Vendor	8.00	0.19	HHDT,MHDT
Paving	Hauling	0.00	0.19	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	0.19	HHDT,MHDT
Architectural Coating	Hauling	0.00	0.19	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition/Site Prep	—	—	—	—
Demolition/Site Prep	Worker	0.00	12.0	LDA,LDT1,LDT2
Demolition/Site Prep	Vendor	8.00	0.19	HHDT,MHDT
Demolition/Site Prep	Hauling	20.0	0.19	HHDT
Demolition/Site Prep	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	0.00	12.0	LDA,LDT1,LDT2
Grading	Vendor	8.00	0.19	HHDT,MHDT
Grading	Hauling	72.0	0.19	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	0.00	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	16.0	0.19	HHDT,MHDT
Building Construction	Hauling	0.00	0.19	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	0.00	12.0	LDA,LDT1,LDT2

Paving	Vendor	8.00	0.19	HHDT,MHDT
Paving	Hauling	0.00	0.19	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	0.19	HHDT,MHDT
Architectural Coating	Hauling	0.00	0.19	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	156,695	52,232	0.00	0.00	118

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition/Site Prep	0.00	0.00	0.00	1,955	—
Grading	26,870	1,784	250	0.00	—
Paving	0.00	0.00	0.00	0.00	0.04

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Condo/Townhouse	—	0%
Parking Lot	0.04	100%
City Park	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	589	0.03	< 0.005
2026	0.00	589	0.03	< 0.005
2027	0.00	589	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
Condo/Townhouse	438	438	438	159,870	3,086	3,086	3,086	1,126,537
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.47	1.17	1.31	251	3.26	8.20	9.16	1,756

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	438	438	438	159,870	3,086	3,086	3,086	1,126,537

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.47	1.17	1.31	251	3.26	8.20	9.16	1,756

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	66
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	7
Conventional Wood Stoves	0
Catalytic Wood Stoves	4
Non-Catalytic Wood Stoves	4
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	66
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	7

Conventional Wood Stoves	0
Catalytic Wood Stoves	4
Non-Catalytic Wood Stoves	4
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)
156694.5	52,232	0.00	0.00	118

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

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)
Condo/Townhouse	301,443	589	0.0330	0.0040	1,501,225
Parking Lot	1,717	589	0.0330	0.0040	0.00
City Park	0.00	589	0.0330	0.0040	0.00

5.11.2. Mitigated

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)
Condo/Townhouse	301,443	589	0.0330	0.0040	1,501,225
Parking Lot	1,717	589	0.0330	0.0040	0.00
City Park	0.00	589	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)
Condo/Townhouse	2,564,714	0.00
Parking Lot	0.00	0.00
City Park	0.00	865,898

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	2,564,714	0.00
Parking Lot	0.00	0.00
City Park	0.00	865,898

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	54.1	—
Parking Lot	0.00	—

City Park	0.05	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	54.1	—
Parking Lot	0.00	—
City Park	0.05	—

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
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
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
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
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	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

5.15.2. Mitigated

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	11.9	annual days of extreme heat
Extreme Precipitation	3.85	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	4.28	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	N/A	N/A	N/A	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	0	0	0	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

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

6.3. Adjusted Climate Risk Scores

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	55.4

AQ-PM	47.7
AQ-DPM	64.6
Drinking Water	45.9
Lead Risk Housing	65.3
Pesticides	0.00
Toxic Releases	28.3
Traffic	62.5
Effect Indicators	—
CleanUp Sites	28.7
Groundwater	6.97
Haz Waste Facilities/Generators	20.3
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	37.2
Cardio-vascular	23.9
Low Birth Weights	25.2
Socioeconomic Factor Indicators	—
Education	13.1
Housing	21.6
Linguistic	43.3
Poverty	42.4
Unemployment	29.4

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	70.07570897
Employed	66.62389324
Median HI	60.52867958
Education	—
Bachelor's or higher	62.64596433
High school enrollment	100
Preschool enrollment	73.10406775
Transportation	—
Auto Access	67.17567047
Active commuting	43.16694469
Social	—
2-parent households	69.61375593
Voting	87.30912357
Neighborhood	—
Alcohol availability	38.45759015
Park access	81.35506224
Retail density	38.70139869
Supermarket access	24.54767099
Tree canopy	20.82638265
Housing	—
Homeownership	43.3465931
Housing habitability	73.47619659
Low-inc homeowner severe housing cost burden	75.00320801
Low-inc renter severe housing cost burden	69.47260362
Uncrowded housing	69.47260362
Health Outcomes	—
Insured adults	59.36096497
Arthritis	0.0

Asthma ER Admissions	30.2
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	26.3
Cognitively Disabled	58.3
Physically Disabled	60.6
Heart Attack ER Admissions	48.9
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	72.5
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	75.0
Elderly	39.0
English Speaking	89.2
Foreign-born	7.1

Outdoor Workers	68.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	48.0
Traffic Density	82.0
Traffic Access	58.1
Other Indices	—
Hardship	31.3
Other Decision Support	—
2016 Voting	85.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	20.0
Healthy Places Index Score for Project Location (b)	71.0
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	Acreage provided in data request
Construction: Construction Phases	Edited to match data request. Using default phase length for arc coating.
Construction: Off-Road Equipment	Changes made according to client-provided data request. "Bobcat" listed in construction equipment is assumed to be a T/L/B.
Construction: Trips and VMT	Using data request trips (doubled). Defaults for grading hauls and arc coating workers (not covered by data request). Using standard con HRA assumptions.
Operations: Hearths	Assuming no wood hearths, all transitioned to gas.
Operations: Vehicle Data	Trip rates changed to match traffic report.