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Air Quality and Greenhouse Gas Emissions  
Technical Report

# **Modera Melrose Mixed Use Development Project**

## **City of Oceanside, California**

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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 <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	oxides of nitrogen
O <sub>3</sub>	ozone
PM <sub>2.5</sub>	fine particulate matter
PM <sub>10</sub>	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 <sub>2</sub>	sulfur dioxide
SO <sub>x</sub>	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 impacts associated with implementation of the Modera Melrose Mixed Use Development Project (project). This assessment uses the significance thresholds in Appendix G of the California Environmental Quality Act Guidelines.

## Project Overview

The project proposes to develop a 7.43-acre site with 323 residential apartment units, 290 of which would be market rate and 33 of which would be very low-income affordable units. Development would also consist of 2,365 square-feet (sq-ft) of commercial space, 1,746 sq-ft of leasing office space, and a pool and recreational facilities. The Project will include 526 parking spaces, including 381 surface spaces and 145 below-ground 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). The proposed project would implement **PDF-AQ-1**, **PDF-AQ-2**, and **PDF-GHG-1** as follow:

- PDF-AQ-1:** Require the installation of only electric or natural gas appliances in future residential construction. Future residential units are prohibited from having wood-burning fireplaces or stoves.
- PDF-AQ-2:** 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. 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.
- PDF-GHG-1:** Photo-voltaic (PV) systems will be installed on each building to meet 50% of forecasted electricity demand.

## 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<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM<sub>10</sub>), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns (PM<sub>2.5</sub>), and lead. Pollutants that are evaluated include volatile organic compounds (VOCs) (also referred to as reactive organic gases), oxides of nitrogen (NO<sub>x</sub>), CO, sulfur oxides (SO<sub>x</sub>), PM<sub>10</sub>, and PM<sub>2.5</sub>. VOCs and NO<sub>x</sub> are important because they are precursors to O<sub>3</sub>.

## 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 it is consistent with the current land use and zoning designation, and 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). After implementation of mitigation measure **MM-AQ-1**, which requires use of low-VOC architectural coatings, the maximum daily construction emissions would not exceed the SDAPCD significance thresholds for VOCs, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub> 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 2024. 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<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub>.

## 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<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub>, the project would not result in a cumulatively considerable increase in criteria air pollutants.

## Exposure of Sensitive Receptors

As mentioned above, after implementation of **MM-AQ-1** construction activities would not generate emissions in excess of the SDAPCD site-specific mass daily thresholds; therefore, site-specific construction impacts during construction 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 TAC, at existing proximate sensitive receptors in the Project vicinity. The results of the HRA demonstrate that after implementation of **MM-AQ-2**, which requires use of Tier 4 equipment during construction, the TAC exposure from construction diesel exhaust emissions would not result in cancer risk above the 10 in 1 million threshold, nor a Chronic Hazard Index greater than 1.0. Therefore, impacts to sensitive receptors would be less than significant.

The proposed project includes 323 residential units and based on the Local Transportation Study, is expected to generate a maximum of 1,843 daily vehicle trips on Saturdays and 2,037 daily trips on weekdays. The nearest signalized intersection to the project is located at N. Melrose Dr. and Oceanside Blvd, and is not expected to operate at or below Level of Service (LOS) E by the time the project is operational. Therefore, no hotspot analysis would be required and potential Project-generated impacts associated with CO hotspots would be less than significant.

## 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 would be a mixed-use 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 greenhouse gas (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<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O). GHG emissions are measured in metric tons of CO<sub>2</sub> equivalent (MT CO<sub>2e</sub>), which account for weighted global warming potential (GWP) factors for CH<sub>4</sub> and N<sub>2</sub>O.

## 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, and solid waste. Estimated annual Project-generated operational GHG emissions at buildout in 2024 would be approximately 2,675 MT CO<sub>2e</sub> per year. Estimated annual Project-generated operational emissions in 2024, plus amortized Project construction emissions would be approximately 2,736 MT CO<sub>2e</sub> per year.

As discussed in Section 3.4 of this report, the Project operational emissions in 2024 plus amortized project construction emissions would be greater than the City's Climate Action Plan (CAP) GHG threshold of 900 MT CO<sub>2e</sub> per year. As such, the Project is required to complete the CAP Consistency Checklist to ensure that emission targets identified in the City's CAP can be achieved considering the additional emissions. The project proposes use of on-site renewable energy through solar photovoltaic (PV) roof tiles, electric vehicle (EV) charging infrastructure, and canopy coverage and permeable surface area that exceeds requirements outlined in the City's Zoning Ordinance. Given these project design features, as well as the project's location within a designated Smart Growth Opportunity Area, proximity to a priority transit-oriented development (TOD) corridor, and consistency with land use and zoning designations, the proposed project is deemed consistent with the measurable goals outlined in the City's CAP. As such, 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 and the 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 Modera Melrose Mixed Use 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 7.43-acre project site is a vacant, undeveloped parcel, located in the east central portion of the City of Oceanside (City), which is within the northwestern portion of San Diego County (Figure 1, Project Location). State Route (SR) 76 is approximately 1.6 mile to the north of the project site. The site is located at the southeast corner of West Bobier Drive and Oceanside Boulevard. The site is surrounded by residential uses and commercial uses to the west.

The City of Oceanside General Plan identifies the site as Neighborhood Commercial (NC) and the project site is zoned Commercial Neighborhood (CN). The existing land use designation and zoning allows for mixed-use development, including various residential uses. The proposed project is consistent with the underlying land use and zoning for the project site but would require a waiver under the State Density Bonus Law.

## 1.3 Project Description

The project proposes development of a mixed-use infill project which would include 323 multi-family residential units and ground-level commercial space on the 7.43-acre project site. The proposed residential development would include 33 affordable/low-income units and 290 market rate units ranging from 666 square feet to 1,416 square feet.

The proposed development would include a total of 526 parking spaces for residences and guests. The project development would include a total of six buildings; five of which would be 4- to 5-story residential buildings, and one 4-story mixed-use building, which would include commercial use on the ground level and 3 residential levels. The proposed residential units would include 1, 2, or 3 bedrooms, living areas, and garage spaces for select units.

## 1.4 Project Design Features

The proposed project would implement construction-related and operational project design features (PDFs) intended to reduce emissions of criteria air pollutants and toxic air contaminants (TACs) as follows:

- PDF-AQ-1: Require the installation of only electric or natural gas appliances in future residential construction. Future residential units are prohibited from having wood-burning fireplaces or stoves.
- PDF-AQ-2: 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. Construction of

Project components would be subject to SDAPCD Rule 55 – Fugitive Dust Control. Compliance with Rule 55 would limit fugitive dust (PM<sub>10</sub> and PM<sub>2.5</sub>) that may be generated during grading and construction activities.

PDF-GHG-1: Photo-voltaic (PV) systems will be installed on each building to meet 50% of forecasted electricity demand.

**PDF-AQ-1, PDF-AQ-2, and PDF-GHG-1** would be required as City-imposed Conditions of Approval to ensure they are implemented during construction and operation of the proposed project.

Figure 1 Regional Map

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Figure 2      Vicinity Map

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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<sub>3</sub>) and a state nonattainment area for particulate matter less than 10 microns (PM<sub>10</sub>), particulate matter less than 2.5 microns (PM<sub>2.5</sub>), and O<sub>3</sub>.

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<sub>3</sub>, which contributes to the formation of smog. Smog is a combination of smoke and other particulates, O<sub>3</sub>, hydrocarbons, oxides of nitrogen (NO<sub>x</sub>) 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<sub>x</sub> 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<sub>2</sub>) 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<sub>3</sub> 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<sub>3</sub> 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, 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 closest sensitive receptors to the Project site are single-family residences immediately adjacent on the southwest boundary of the site.

## 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<sub>3</sub>, NO<sub>2</sub>, CO, sulfur dioxide (SO<sub>2</sub>), PM<sub>10</sub>, PM<sub>2.5</sub>, and lead. These pollutants are discussed in the following paragraphs.<sup>1</sup> In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

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<sup>1</sup> 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 "Six Common Air Pollutants" (EPA 2017a) and the California Air Resources Board's "Glossary of Air Pollutant Terms" (CARB 2017) published information.

**Ozone (O<sub>3</sub>).** O<sub>3</sub> 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<sub>3</sub> precursors. These precursors are mainly NO<sub>x</sub> and VOCs. The maximum effects of precursor emissions on O<sub>3</sub> concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O<sub>3</sub> 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<sub>3</sub> exists in the upper atmosphere O<sub>3</sub> layer (stratospheric O<sub>3</sub>) and at the Earth's surface in the troposphere.<sup>2</sup> The O<sub>3</sub> 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<sub>3</sub> is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O<sub>3</sub>. Stratospheric, or "good," O<sub>3</sub> 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<sub>3</sub> layer, plant and animal life would be seriously harmed.

O<sub>3</sub> in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O<sub>3</sub> at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013). These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

**Nitrogen Dioxide (NO<sub>2</sub>).** NO<sub>2</sub> is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO<sub>2</sub> in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas. NO<sub>x</sub> plays a major role, together with VOCs, in the atmospheric reactions that produce O<sub>3</sub>. NO<sub>x</sub> is formed from fuel combustion under high temperature or pressure. In addition, NO<sub>x</sub> 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<sub>2</sub> 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.

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<sup>2</sup> 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.

**Sulfur Dioxide (SO<sub>2</sub>).** SO<sub>2</sub> is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO<sub>2</sub> are coal and oil used in power plants and industries; as such, the highest levels of SO<sub>2</sub> are generally found near large industrial complexes. In recent years, SO<sub>2</sub> concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO<sub>2</sub> and limits on the sulfur content of fuels.

SO<sub>2</sub> 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<sub>2</sub> can injure lung tissue and reduce visibility and the level of sunlight. SO<sub>2</sub> 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<sub>2.5</sub> and PM<sub>10</sub> represent fractions of particulate matter. Coarse particulate matter (PM<sub>10</sub>) 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<sub>10</sub> 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<sub>2.5</sub>) 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<sub>2.5</sub> results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, PM<sub>2.5</sub> can be formed in the atmosphere from gases such as sulfur oxides (SO<sub>x</sub>), NO<sub>x</sub>, and VOCs.

PM<sub>2.5</sub> and PM<sub>10</sub> 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<sub>2.5</sub> and PM<sub>10</sub> 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<sub>10</sub> tends to collect in the upper portion of the respiratory system, PM<sub>2.5</sub> 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<sub>10</sub> and PM<sub>2.5</sub> (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<sub>3</sub> 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<sub>3</sub> 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<sub>2</sub> 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<sub>2.5</sub>.

## 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<sub>2.5</sub> (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<sub>2.5</sub>, DPM also contributes to the same non-cancer health effects as PM<sub>2.5</sub> 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 fungus is very prevalent in the soils of California’s San Joaquin Valley, particularly in Kern County. Kern County is considered a highly endemic county (i.e., more than 20 cases annually of Valley Fever per 100,000 people) based on the incidence rates reported through 2016 (California Department of Public Health 2017). 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).

## 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<sub>3</sub> protection, and enforcement provisions.

NAAQS are established by the EPA for “criteria pollutants” under the CAA, which are O<sub>3</sub>, CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, 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 <sup>a</sup>	National Standards <sup>b</sup>	
		Concentration <sup>c</sup>	Primary <sup>c,d</sup>	Secondary <sup>c,e</sup>
O <sub>3</sub>	1 hour	0.09 ppm (180 µg/m <sup>3</sup> )	—	Same as primary standard <sup>f</sup>
	8 hours	0.070 ppm (137 µg/m <sup>3</sup> )	0.070 ppm (137 µg/m <sup>3</sup> ) <sup>f</sup>	
NO <sub>2</sub> <sup>g</sup>	1 hour	0.18 ppm (339 µg/m <sup>3</sup> )	0.100 ppm (188 µg/m <sup>3</sup> )	Same as primary standard
	Annual arithmetic mean	0.030 ppm (57 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )	
CO	1 hour	20 ppm (23 mg/m <sup>3</sup> )	35 ppm (40 mg/m <sup>3</sup> )	None
	8 hours	9.0 ppm (10 mg/m <sup>3</sup> )	9 ppm (10 mg/m <sup>3</sup> )	
SO <sub>2</sub> <sup>h</sup>	1 hour	0.25 ppm (655 µg/m <sup>3</sup> )	0.075 ppm (196 µg/m <sup>3</sup> )	—
	3 hours	—	—	0.5 ppm (1,300 µg/m <sup>3</sup> )
	24 hours	0.04 ppm (105 µg/m <sup>3</sup> )	0.14 ppm (for certain areas) <sup>g</sup>	—
	Annual	—	0.030 ppm (for certain areas) <sup>g</sup>	—
PM <sub>10</sub> <sup>i</sup>	24 hours	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	Same as primary standard
	Annual arithmetic mean	20 µg/m <sup>3</sup>	—	
PM <sub>2.5</sub> <sup>i</sup>	24 hours	—	35 µg/m <sup>3</sup>	Same as primary standard
	Annual arithmetic mean	12 µg/m <sup>3</sup>	12.0 µg/m <sup>3</sup>	15.0 µg/m <sup>3</sup>
Lead <sup>i, k</sup>	30-day average	1.5 µg/m <sup>3</sup>	—	—
	Calendar quarter	—	1.5 µg/m <sup>3</sup> (for certain areas) <sup>k</sup>	Same as primary standard
	Rolling 3-month average	—	0.15 µg/m <sup>3</sup>	
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m <sup>3</sup> )	—	—
Vinyl chloride <sup>l</sup>	24 hours	0.01 ppm (26 µg/m <sup>3</sup> )	—	—
Sulfates	24- hours	25 µg/m <sup>3</sup>	—	—

**Table 1. Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards <sup>a</sup>	National Standards <sup>b</sup>	
		Concentration <sup>c</sup>	Primary <sup>c,d</sup>	Secondary <sup>c,e</sup>
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<sub>3</sub> = ozone; ppm = parts per million by volume; µg/m<sup>3</sup> = micrograms per cubic meter; NO<sub>2</sub> = nitrogen dioxide; CO = carbon monoxide; mg/m<sup>3</sup>= milligrams per cubic meter; SO<sub>2</sub> = sulfur dioxide; PM<sub>10</sub> = particulate matter with an aerodynamic diameter less than or equal to 10 microns; PM<sub>2.5</sub> = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns.

- <sup>a</sup> California standards for O<sub>3</sub>, CO, SO<sub>2</sub> (1-hour and 24-hour), NO<sub>2</sub>, suspended particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>), 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.
- <sup>b</sup> National standards (other than O<sub>3</sub>, NO<sub>2</sub>, SO<sub>2</sub>, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O<sub>3</sub> 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<sub>10</sub>, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m<sup>3</sup> is equal to or less than 1. For PM<sub>2.5</sub>, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.
- <sup>c</sup> 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.
- <sup>d</sup> National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
- <sup>e</sup> National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- <sup>f</sup> On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
- <sup>g</sup> 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.
- <sup>h</sup> On June 2, 2010, a new 1-hour SO<sub>2</sub> 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<sub>2</sub> 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.
- <sup>i</sup> On December 14, 2012, the national annual PM<sub>2.5</sub> primary standard was lowered from 15 µg/m<sup>3</sup> to 12.0 µg/m<sup>3</sup>. The existing national 24-hour PM<sub>2.5</sub> standards (primary and secondary) were retained at 35 µg/m<sup>3</sup>, as was the annual secondary standard of 15 µg/m<sup>3</sup>. The existing 24-hour PM<sub>10</sub> standards (primary and secondary) of 150 µg/m<sup>3</sup> were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.
- <sup>j</sup> 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.
- <sup>k</sup> The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m<sup>3</sup> 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 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a

subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) HAPs. 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. The regulation was anticipated to result in an 80% decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. 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 and is subject to the guidelines and regulations of SDAPCD.

In San Diego County, O<sub>3</sub> and particulate matter are the pollutants of main concern, since exceedances of CAAQS for those pollutants are experienced here in most years. For this reason, the SDAB has been designated as a nonattainment area for the state PM<sub>10</sub>, PM<sub>2.5</sub>, and O<sub>3</sub> standards. The SDAB is also a federal O<sub>3</sub> attainment (maintenance) area for 1997 8-hour O<sub>3</sub> standard, a O<sub>3</sub> nonattainment area for the 2008 8-hour O<sub>3</sub> standard, and a CO maintenance area (western and central part of the SDAB only). The Project area is in the CO maintenance area.

#### 2.1.7.2 Federal Attainment Plans

In December 2016, the SDAPCD adopted an update to the Eight-Hour Ozone Attainment Plan for San Diego County (2008 O<sub>3</sub> 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<sub>3</sub> standard (1997 O<sub>3</sub> NAAQS) by 2018 (SDAPCD 2016b). In this plan, SDAPCD relies on the Regional Air Quality Strategy (RAQS) to

demonstrate how the region will comply with the federal O<sub>3</sub> standard. The RAQS details how the region will manage and reduce O<sub>3</sub> precursors (NO<sub>x</sub> 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<sub>3</sub> NAAQS and maintenance for the 1997 O<sub>3</sub> 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 2016b).

### 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, most recently in 2016 (SDAPCD 2016c). The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for O<sub>3</sub>. 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 (SANDAG 2017a, 2017b).

In December 2016, SDAPCD adopted the revised RAQS for the County. Since 2007, the San Diego region has reduced daily VOC emissions and NO<sub>x</sub> emissions by 3.9% and 7.0%, respectively; SDAPCD expects to continue reductions through 2035 (SDAPCD 2016c). These reductions were achieved through implementation of six VOC control measures and three NO<sub>x</sub> control measures adopted in SDAPCD's 2009 RAQS (SDAPCD 2009a); in addition, SDAPCD is considering additional measures, including three VOC measures and four control measures to reduce 0.3 daily tons of VOCs and 1.2 daily tons of NO<sub>x</sub>, provided they are found to be feasible region-wide. In addition, SDAPCD has implemented nine incentive-based programs, has worked with SANDAG to implement regional transportation control measures, and has reaffirmed the state emission offset repeal.

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<sub>10</sub> and PM<sub>2.5</sub>) (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 2015).

## 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 <sub>3</sub> (8-hour)	Nonattainment	Nonattainment
O <sub>3</sub> (1-hour)	Attainment <sup>a</sup>	Nonattainment
CO	Attainment	Attainment
PM <sub>10</sub>	Unclassifiable <sup>b</sup>	Nonattainment
PM <sub>2.5</sub>	Attainment	Nonattainment <sup>c</sup>
NO <sub>2</sub>	Attainment	Attainment
SO <sub>2</sub>	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 2022b

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

**Notes:** SDAB = San Diego; O<sub>3</sub> = ozone; CO = carbon monoxide; PM<sub>10</sub> = coarse particulate matter; PM<sub>2.5</sub> = fine particulate matter; NO<sub>2</sub> = nitrogen dioxide; SO<sub>2</sub> = sulfur dioxide.

- <sup>a</sup> 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.
- <sup>b</sup> At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassifiable.
- <sup>c</sup> 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<sub>2.5</sub> standards, the data completeness requirements for state PM<sub>2.5</sub> 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<sub>2.5</sub> monitors as they reach the end of their useful life with continuous PM<sub>2.5</sub> 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. SDAPCD monitors air quality conditions at 10 locations throughout the basin. The Camp Pendleton monitoring station represents the closest monitoring station to the Project site for concentrations for O<sub>3</sub>, PM<sub>2.5</sub>, and NO<sub>2</sub>. The Escondido monitoring station is the closest monitoring station for CO. The closest monitoring station for SO<sub>2</sub> is the El Cajon monitoring station. The San Diego–Kearny Villa Road monitoring station is the closest station monitoring for PM<sub>10</sub>. Ambient concentrations of pollutants from 2018 through 2020 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		
					2018	2019	2020	2018	2019	2020
<b>Ozone (O<sub>3</sub>)</b>										
Camp Pendleton	ppm	Maximum 1-hour concentration	State	0.09	0.084	0.075	0.094	0	0	0
	ppm	Maximum 8-hour concentration	State	0.070	0.069	0.064	0.074	0	0	3
			Federal	0.070	0.068	0.063	0.062	0	0	0
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>										
Camp Pendleton	ppm	Maximum 1-hour concentration	State	0.18	0.048	0.053	0.058	0	0	0
			Federal	0.100	0.048	0.053	0.058	0	0	0
	ppm	Annual concentration	State	0.030	0.006	0.006	0.006	0	0	0
			Federal	0.053	0.006	0.005	0.006	0	0	0
<b>Carbon Monoxide (CO)</b>										
Escondido-Rancho Carmel Drive	ppm	Maximum 1-hour concentration	State	20	1.9	4.1	3.3	0	0	0
			Federal	35	1.9	4.1	3.3	0	0	0
	ppm	Maximum 8-hour concentration	State	9.0	1.4	2.5	1.7	0	0	0
			Federal	9	1.4	2.5	1.7	0	0	0
<b>Sulfur Dioxide (SO<sub>2</sub>)</b>										
El Cajon	ppm	Maximum 1-hour concentration	Federal	0.075	0.004	—	—	0	0	0
	ppm	Maximum 24-hour concentration	State	0.04	0.0004	—	—	0	0	0
			Federal	0.140	0.0004	—	—	0	0	0
ppm	Annual concentration	Federal	0.030	0.0001	—	—	—	—	—	

**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		
					2018	2019	2020	2018	2019	2020
<b>Coarse Particulate Matter (PM<sub>10</sub>)<sup>a</sup></b>										
San Diego–Kearny Villa Road	µg/m <sup>3</sup>	Maximum 24-hour concentration	State	50	38	–	–	0 (0)	–	–
			Federal	150	38	–	–	0 (0)	–	–
	µg/m <sup>3</sup>	Annual concentration	State	20	18.4	–	–	–	–	–
<b>Fine Particulate Matter (PM<sub>2.5</sub>)<sup>a</sup></b>										
Camp Pendleton	µg/m <sup>3</sup>	Maximum 24-hour concentration	Federal	35	30.5	13.8	61.1	0 (0)	0 (0)	0 (0)
			State	12	–	–	–	–	–	–
	µg/m <sup>3</sup>	Annual concentration		Federal	12.0	–	–	9.5	–	–

Sources: CARB 2022c; EPA 2022a.

Notes: ppm = parts per million; – = not available or applicable; µg/m<sup>3</sup> = 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<sub>3</sub> and particulate matter. Daily exceedances for particulate matter are estimated days because PM<sub>10</sub> and PM<sub>2.5</sub> 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<sub>3</sub>, annual PM<sub>10</sub>, or 24-hour SO<sub>2</sub>, nor is there a state 24-hour standard for PM<sub>2.5</sub>.

The Camp Pendleton monitoring station is located at 21441-W B Street, Oceanside, California.

The Escondido monitoring station is located at 600 East Valley Pkwy, Escondido, California.

The El Cajon monitoring station is located at 10537 Floyd Smith Drive, El Cajon, California.

The San Diego–Kearny Villa monitoring station is located at 6123A Kearny Villa Road, San Diego, California.

The San Diego – Rancho Carmel Drive monitoring station is located at 11403 Rancho Carmel Drive, San Diego, California.

<sup>a</sup> Measurements of PM<sub>10</sub> and PM<sub>2.5</sub> 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 air pollution control district may be relied upon to determine whether a project would have a significant impact on air quality.

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. As part of its air quality permitting process, the SDAPCD has established thresholds in Rule 20.2 requiring the preparation of Air Quality Impact Assessments for permitted stationary sources. The SDAPCD sets forth quantitative emission thresholds below which a stationary source would not have a significant impact on ambient air quality. 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.

For CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that the Project’s total emissions would or would not result in a significant impact to air quality.

**Table 4. SDAPCD Air Quality Significance Thresholds**

Construction Emissions	
Pollutant	Total Emissions (Pounds per Day)
Coarse particulate matter (PM <sub>10</sub> )	100
Fine particulate matter (PM <sub>2.5</sub> )	55
Oxides of nitrogen (NO <sub>x</sub> )	250
Sulfur oxides (SO <sub>x</sub> )	250
Carbon monoxide (CO)	550
Volatile organic compounds (VOCs)	75*

**Table 4. SDAPCD Air Quality Significance Thresholds**

Operational Emissions			
Pollutant	Total Emissions		
	Pounds per Hour	Pounds per Day	Tons per Year
Coarse particulate matter (PM <sub>10</sub> )	–	100	15
Fine particulate matter (PM <sub>2.5</sub> )	–	55	10
Oxides of nitrogen (NO <sub>x</sub> )	25	250	40
Sulfur oxides (SO <sub>x</sub> )	25	250	40
Carbon monoxide (CO)	100	550	100
Lead and lead compounds	–	3.2	0.6
Volatile organic compounds (VOCs)	–	75*	13.7

Source: SDAPCD 2016a.

Notes: SDAPCD = San Diego Air Pollution Control District.

\* 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 2020.4.0<sup>3</sup>. Per preliminary project details, it is assumed that construction of the Project would begin in Spring 2023 and would last approximately 18 months.

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

<sup>3</sup> 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).

based on available information provided by the Project applicant, typical construction practices, and CalEEMod 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 (Duration)	Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Site Preparation	18	2	0	Rubber Tired Dozers	3	8
				Tractors/Loaders/Backhoes	4	8
Grading	15	2	5,400	Excavators	1	8
				Graders	1	8
				Rubber Tired Dozers	1	8
				Tractors/Loaders/Backhoes	3	8
Building Construction	351	81	0	Cranes	1	7
				Forklifts	3	8
				Generator Sets	1	8
				Tractors/Loaders/Backhoes	3	7
				Welders	1	8
Paving	15	2	0	Pavers	2	8
				Paving Equipment	2	8
				Rollers	2	8
Architectural Coating	70	2	0	Air Compressors	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 is meant to represent a reasonably conservative estimate of construction activity. For the analysis, it is generally assumed that heavy construction equipment would be operating at the site for approximately 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 10.8 miles for worker trips, 7.3 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, 43,200 cubic yards of material import is 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<sub>10</sub> and PM<sub>2.5</sub> emissions. Construction of Project components would be subject to SDAPCD Rule 55 – Fugitive Dust Control. Compliance with Rule 55 would limit fugitive dust (PM<sub>10</sub> and PM<sub>2.5</sub>) 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.

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<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>. 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 on sensitive receptors proximate to the Project site. This report includes an HRA associated with emissions from construction of the proposed Project 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 2022)*, 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. Additionally, some TACs increase non-cancer health risk due to long-term (chronic) exposures. The Chronic Hazard Index is the sum of the individual substance chronic hazard indices for all TACs affecting the same target organ system. The SDAPCD recommends a Chronic Hazard Index significance threshold of one (project increment). 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. The HRA for the proposed project evaluated the risk to existing off-site residents from diesel emissions from exhaust from on-site construction equipment and diesel haul and vendor trucks.

The dispersion modeling of DPM was performed using the American Meteorological Society/EPA Regulatory Model (AERMOD), which is the model SDAPCD requires for atmospheric dispersion of emissions. AERMOD is a steady-state Gaussian plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of surface and elevated sources, building downwash, and simple and complex terrain (EPA 2021). For the proposed 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 for construction emissions using AERMOD and the maximum concentrations determined for the one-hour and period-averaging periods. 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 (2016–2018) for the McClellan-Palomar Airport 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. Per the SDAPCD guidelines, the land use procedure from 4.4.1 of the OEHHA Guidance Manual indicated that urban dispersion was appropriate for the project site.
Terrain Characteristics	The elevation of the modeled site is about 130 meters above sea level. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate.
Elevation Data	Digital elevation data were imported into AERMOD, and elevations were assigned to the emission sources and receptors. Digital elevation data were obtained through AERMOD View in the U.S. Geological Survey’s National Elevation Dataset format with a 10-meter resolution.
Emission Sources and Release Parameters	Air dispersion modeling of DPM from construction equipment was conducted using emissions estimated using CalEEMod, assuming emissions would occur eight hours per day, five days per week. Vendor and hauling trips were modified to account only for emissions occurring within 1,000 ft of the project site. The proposed project area was modeled as a series of adjacent line-volume sources.
Source Release Characterizations	The source release height was assumed to be five meters with plume height and width of 10 and 9 meters per volume source (SCAQMD 2008).
Receptors	20-meter spacing discrete receptors were placed outside the construction area at nearby sensitive receptors surrounding the Project site.

**Notes:** AERMOD = American Meteorological Society/EPA Regulatory Model; SDAPCD = San Diego Air Pollution Control District; DPM = diesel particulate matter; CalEEMod = California Emissions Estimator Model. See Appendix B for additional information.

Dispersion model plot files from AERMOD were then imported into CARB’s Hotspots Analysis and Reporting Program Version 2 (Version 21081) to determine health risk, which requires peak one-hour emission rates and annual emission rates for all pollutants for each modeling source. For the residential health risk, the HRA assumes exposure would start in the third trimester of pregnancy for a duration of 22 months.

### 2.3.2.3 Operation

Operation of the proposed project would generate VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from area sources, energy sources and mobile sources, which are discussed below. Emissions from these sources were estimated based on CalEEMod default assumptions for operations of the proposed project land uses. It was assumed that the project would be operational following the completion of construction, which would occur in 2024.

#### 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 that represent the number of operational days.

## Energy

As represented in CalEEMod, energy sources include emissions associated with natural gas usage. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off site. CalEEMod default values for energy consumption for each land use were applied for the Project analysis. The energy use from residential land uses is calculated in CalEEMod based on the Residential Appliance Saturation Survey. Energy use from the non-residential land uses is based on various studies and assessments as described in Section 7.3, *Estimating Energy Use from Other Land Uses*, of Appendix A of the CalEEMod User's Guide (CAPCOA 2021).

## Mobile Sources (Motor Vehicles)

Following the completion of construction activities, the Project would generate VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from mobile sources (vehicular traffic) as a result of the 323 additional residential units. The CalEEMod Version 2020.4.0 was used to estimate daily emissions from proposed vehicular sources in combination with trip rates provided in the Local Transportation Study prepared for the proposed project (Linscott Law & Greenspan 2022). 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 2024 were used to estimate emissions associated with vehicular sources.

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 4.3, 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.<sup>4</sup> The federal O<sub>3</sub> 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 2016). The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for O<sub>3</sub>. 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 323 multi-family residential units. The City of Oceanside General Plan identifies the site as Neighborhood Commercial (NC) and the project site is zoned Commercial Neighborhood (CN). The existing land use designation and zoning allows for mixed-use development, including various residential uses. The proposed project is consistent with the underlying land use and zoning for the project site but would require a waiver under the State Density Bonus Law.

Under the Density Bonus Law if a project is developed with 10 or more residences, no fewer than 15% of those residences must be designated as "affordable" as defined by the state. Of the proposed 323 single-family homes, 33 of the units would be affordable/low-income units, and the remaining 290 units would be considered market rate units, which complies with the Density Bonus Law provisions regarding affordable housing. Therefore, the proposed mix of residential units totaling 323 units is consistent with the underlying uses anticipated for the project site and consistent with the provisions allowed under State Density Bonus Law.

Furthermore, the most recent Regional Housing Needs Assessment from SANDAG stated that Oceanside needs to build 5,443 units from 2021 through 2029 (SANDAG 2020). The City has a projected deficit of 1,268 very-low, 718 low income units, 883 moderate and 2,574 above-moderate income units (SANDAG 2020). The Project is expected to bring 323 units to market in 2023, including 33 low income units and 290 above moderate income units, which would be within SANDAG's growth projection for housing during the 6<sup>th</sup> Cycle planning horizon (i.e., April 2021 – April 2029). Therefore, the Project would not conflict with SANDAG's regional growth forecast for the City.

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<sup>4</sup> For the purpose of this discussion, the relevant federal air quality plan is the O<sub>3</sub> maintenance plan (SDAPCD 2016b). The RAQS is the applicable plan for purposes of state air quality planning. Both plans reflect growth projections in the SDAB.

### 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 in Section 2.4.2. above.

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, 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 Prior to Mitigation**

Construction Phase	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	Pounds per Day					
Site Preparation	2.72	27.65	18.71	0.04	21.09	11.31
Grading	2.37	54.80	24.95	0.19	13.32	5.80
Building Construction	2.71	18.67	25.92	0.07	4.17	1.62
Paving	1.38	9.64	14.99	0.02	0.61	0.47
Architectural Coatings	106.03	1.43	3.41	0.01	0.65	0.22
<b>Maximum</b>	<b>106.03</b>	<b>54.80</b>	<b>25.92</b>	<b>0.19</b>	<b>21.09</b>	<b>11.31</b>
<i>SDAPCD threshold</i>	75	250	550	250	100	55
<b>Threshold exceeded?</b>	<b>Yes</b>	No	No	No	No	No

**Notes:** VOC = volatile organic compound; NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; SO<sub>x</sub> = sulfur oxides; PM<sub>10</sub> = coarse particulate matter; PM<sub>2.5</sub> = 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.

As shown in Table 7, daily construction emissions for the Project would exceed SDAPCD’s significance thresholds for VOCs during the application of architectural coatings. Therefore, the Project would have a **potentially significant impact** related to emissions of criteria air pollutant emissions during construction and would require mitigation.

### 2.4.2.2 Mitigation

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

MM-AQ-1 Require Low-Volatile Organic Compound Coatings During Construction. The project applicant and/or their contractors shall ensure that low-VOC coatings with a VOC content of 30 grams per liter or less are used during construction.

### 2.4.2.3 Level of Significance After Mitigation

Table 8 summarizes the estimated maximum daily construction emissions associated with the conceptual construction phases of the Project after implementation of **MM-AQ-1**. As discussed below in Section 2.5.3, use of Tier 4 off road equipment is required to mitigate potentially significant health risk impacts during construction. Therefore, mitigated emissions shown in Table 8 also include use of Tier 4 equipment as described in **MM-AQ-2**. As shown, after mitigation, daily construction emissions for the Project would not exceed SDAPCD’s significance thresholds for any criteria air pollutant. Therefore, after implementation of mitigation, the Project would result in a **less than significant impact**.

**Table 8. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions After Mitigation**

Construction Phase	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	Pounds per Day					
Site Preparation	1.57	19.60	21.29	0.04	20.34	10.63
Grading	1.45	49.63	28.48	0.19	12.75	5.28
Building Construction	1.88	14.96	27.73	0.07	3.56	1.05
Paving	0.73	10.15	17.66	0.02	0.18	0.08
Architectural Coatings	64.62	1.27	3.43	0.01	0.60	0.16
<b>Maximum</b>	<b>64.62</b>	<b>49.63</b>	<b>28.48</b>	<b>0.19</b>	<b>20.34</b>	<b>10.63</b>
<i>SDAPCD threshold</i>	75	250	550	250	100	55
<b>Threshold exceeded?</b>	No	No	No	No	No	No

**Notes:** VOC = volatile organic compound; NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; SO<sub>x</sub> = sulfur oxides; PM<sub>10</sub> = coarse particulate matter; PM<sub>2.5</sub> = 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.

### 2.4.2.4 Operations

Operation of the proposed project would generate VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from mobile sources (vehicle trips), area sources (consumer products, landscape maintenance equipment), and energy sources. As discussed in Section 2.4.2., 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. The project includes a PDF that prohibits wood-burning. As such, CalEEMod area source emissions were adjusted to ensure that only natural gas hearths and fireplaces are installed and used in residential development.

Table 9 presents the unmitigated maximum daily emissions associated with the operation of the Project in 2024 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<sub>3</sub> 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 9. Estimated Maximum Daily Operational Criteria Air Pollutant Emissions**

Source	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	Pounds per Day					
Area	9.13	5.13	28.72	0.03	0.54	0.54
Energy	0.07	0.62	0.28	0.00	0.05	0.05
Mobile	5.81	6.35	53.09	0.11	12.07	3.27
<b>Total</b>	<b>15.00</b>	<b>12.10</b>	<b>82.08</b>	<b>0.15</b>	<b>12.66</b>	<b>3.86</b>
<i>SDAPCD threshold</i>	75	250	550	250	100	55

**Table 9. Estimated Maximum Daily Operational Criteria Air Pollutant Emissions**

Source	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	Pounds per Day					
Threshold exceeded?	No	No	No	No	No	No

**Notes:** VOC = volatile organic compound; NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; SO<sub>x</sub> = sulfur oxides; PM<sub>10</sub> = coarse particulate matter; PM<sub>2.5</sub> = fine particulate matter; SDAPCD = San Diego Air Pollution Control District. <0.01 = reported value is less than 0.01.

See Appendix A for complete results.

The values shown are the maximum summer or winter daily emissions results from CalEEMod.

As shown in Table 9, 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.

### 2.4.2.5 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<sub>3</sub> and a state nonattainment area for O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. PM<sub>10</sub> and PM<sub>2.5</sub> 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 would be below the significance levels after implementation of **MM-AQ-1**, which requires use of low-VOC paints. Construction would be short term, temporary in nature, and activities would be considered typical of a residential project. Once construction is completed, construction-related emissions would cease. Operational emissions generated by the Project would not result in emissions that exceed significance thresholds for any criteria air pollutant. 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 2.5.1 of this report, the Project is consistent 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<sub>3</sub> 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. The signalized intersection nearest to the project is located at N. Melrose Dr./Oceanside Blvd, which is currently operating at LOS F. While this LOS is below the County's screening criteria of LOS E, per the Local Transportation Study prepared for the Project, once the project is constructed, the intersection will be operating at LOS D with Project traffic due to improvements by the adjacent Melrose Heights Project, which are assumed to be implemented by the time the Project is built and result in delay decreases (Linscott, Law & Greenspan 2022). 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. Construction of the Project would occur over a period of 14 months and following completion of construction activities, Project-related TAC emissions would cease. The closest sensitive receptors to the Project site are single-family residences immediately adjacent on the southeast 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 single-family residences to the southeast of the Project site. Table 10 summarizes the results of the HRA for proposed project construction, and detailed results are provided in Appendix B, *Health Risk Assessment Output Files*.

**Table 10. Construction Activity Health Risk Assessment Results Prior to Mitigation**

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
<b>Offsite</b>				
Cancer Risk	Per Million	39.33	10.0	<b>Potentially Significant</b>
HIC	Not Applicable	0.035	1.0	Less than Significant

Source: Appendix B

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

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-2 Require Use of Tier 4 Off-Road Equipment During Construction.** Prior to the commencement of construction activities for the project, the Applicant shall require its construction contractor to demonstrate that all 75-horsepower or greater diesel-powered equipment is powered with California Air Resources Board (CARB)-certified Tier 4 Interim engines.

An exemption from this requirement may be granted if (1) the Applicant documents equipment with Tier 4 Interim 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 Oceanside or County of San Diego were contacted and that those owners/operators confirmed Tier 4 Interim equipment could not be located within the City of Oceanside 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 11 summarizes the results of the HRA after implementation of **MM-AQ-2** for construction of the proposed project. As shown, after mitigation, TAC exposure from construction diesel exhaust emissions would result in cancer risk below the 10 in 1 million threshold and Chronic Hazard Index would still be less than 1. Threshold, after implementation of mitigation, the Project would result in a **less than significant impact** related to exposure to TAC emissions during construction.

**Table 11. Construction Activity Health Risk Assessment Results After Mitigation**

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
<b>Offsite</b>				
Cancer Risk	Per Million	6.41	10.0	Less than Significant
HIC	Not Applicable	0.006	1.0	Less than Significant

Source: Appendix B

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

### 2.5.3.5 Health Effects of Criteria Air Pollutants

After implementation of mitigation measures **MM-AQ-1** and **MM-AQ-2**, 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. Generally, the VOCs in architectural coatings and asphalt are of relatively low toxicity. Additionally, SDAPCD Rule 67.0.1 restricts the VOC content of coatings for both construction and operational applications, and **MM-AQ-1** would ensure that during construction, only coatings with content less than 30 g/L would be used.

In addition, VOCs and NO<sub>x</sub> are precursors to O<sub>3</sub>, 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<sub>3</sub> NAAQS standard and 1997 8-hour NAAQS standard). The health effects associated with O<sub>3</sub>, as discussed in Section 2.1.4, Criteria Air Pollutants, are generally associated with reduced lung function. The contribution of VOCs and NO<sub>x</sub> to regional ambient O<sub>3</sub> concentrations is the result of complex photochemistry. The increases in O<sub>3</sub> concentrations in the SDAB due to O<sub>3</sub> 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<sub>3</sub> concentrations would also

depend on the time of year that the VOC emissions would occur because exceedances of the O<sub>3</sub> 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<sub>3</sub> precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, the VOC and NO<sub>x</sub> emissions associated with Project construction could minimally contribute to regional O<sub>3</sub> concentrations and the associated health impacts. Due to the minimal contribution during construction and operation, as well as the existing good air quality in coastal San Diego areas, health impacts would be considered less than significant.

Similar to O<sub>3</sub>, construction of the Project would not exceed thresholds for PM<sub>10</sub> or PM<sub>2.5</sub> 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.

Regarding NO<sub>2</sub>, which is a constituent of NO<sub>x</sub>, construction of the Project would not contribute to exceedances of the NAAQS and CAAQS for NO<sub>2</sub> since NO<sub>x</sub> emissions would be less than the applicable SDAPCD threshold. As described in Section 3.1, NO<sub>2</sub> 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 require any stationary emission sources that would create substantial, localized NO<sub>2</sub> impacts.

Based on the preceding considerations, health impacts from Project-related criteria air pollutant emissions would be considered **less than significant** with implementation of **MM-AQ-1** and **MM-AQ-2**.

#### 2.4.3.6 Conclusion

The results of the HRA demonstrate that after implementation of **MM-AQ-2**, which requires use of Tier 4 equipment during construction, the TAC exposure from construction diesel exhaust emissions would not result in cancer risk above the 10 in 1 million threshold, nor a Chronic Hazard Index greater than 1.0. In addition, VOC and NO<sub>x</sub> emissions, as described previously, would minimally contribute to regional O<sub>3</sub> concentrations and the associated health effects. In addition to O<sub>3</sub>, NO<sub>x</sub> emissions would not contribute to potential exceedances of the NAAQS and CAAQS for NO<sub>2</sub>. As shown in Table 3, the existing NO<sub>2</sub> concentrations in the area are well below the NAAQS and CAAQS standards. Thus, it is not expected the Project's operational NO<sub>x</sub> emissions would result in exceedances of the NO<sub>2</sub> standards or contribute to the associated health effects. CO tends to be a localized impact associated with congested intersections. The associated CO "hotspots" were discussed previously as a less than significant impact. Thus, the Project's CO emissions would not contribute to significant health effects associated with this pollutant. PM<sub>10</sub> and PM<sub>2.5</sub> would not contribute to potential exceedances of the NAAQS and CAAQS for particulate matter and would not obstruct the SDAB from coming into attainment for these pollutants and would not contribute to significant health effects associated with particulates. Therefore, overall health impacts associated with criteria air pollutants would be considered **less than significant**.

## 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. Although localized air quality impacts are focused on potential impacts to sensitive receptors, such as residences and schools, other land uses where people may congregate (e.g., workplaces) or uses with the intent to attract people (e.g., restaurants and visitor-serving accommodations) should also be considered in the evaluation of potential odor nuisance impacts. The Project would include a mixed-use 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**.

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# 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 of time (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 2022b).

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-20th century and is the most significant driver of observed climate change (IPCC 2014; EPA 2022b). 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 2014). 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 2014). 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 and other Climate Forcing Substances

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. GHGs include, but are not limited to, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), ozone (O<sub>3</sub>), water vapor, hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>).<sup>5</sup> Some GHGs, such as CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O, occur naturally and are emitted to the

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<sup>5</sup> California Health and Safety Code 38505 identifies seven GHGs that CARB is responsible to monitor and regulate to reduce emissions: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, SF<sub>6</sub>, HFCs, PFCs, and NF<sub>3</sub>.

atmosphere through natural processes and human activities. Of these gases, CO<sub>2</sub> and CH<sub>4</sub> are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO<sub>2</sub>, include fluorinated gases, such as HFCs, HCFCs, PFCs, and SF<sub>6</sub>, which are associated with certain industrial products and processes. A summary of the most common GHGs and their sources is included in the following text.<sup>6</sup> Also included is a discussion of other climate forcing substances.

**Carbon Dioxide (CO<sub>2</sub>).** CO<sub>2</sub> is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO<sub>2</sub> 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<sub>2</sub> are from the combustion of fuels such as coal, oil, natural gas, and wood and changes in land use.

**Methane (CH<sub>4</sub>).** CH<sub>4</sub> is produced through both natural and human activities. CH<sub>4</sub> is a flammable gas and is the main component of natural gas. Methane 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<sub>2</sub>O).** N<sub>2</sub>O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N<sub>2</sub>O. Sources of N<sub>2</sub>O 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<sub>2</sub>O as a propellant (such as in 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 ozone-depleting substances (e.g., CFCs, 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 ozone-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 ozone 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<sub>6</sub> is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF<sub>6</sub> is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.

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<sup>6</sup> 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 Glossary of Air Pollution Terms (2015), and EPA's Glossary of Climate Change Terms (2016).

- **Nitrogen Trifluoride:**  $\text{NF}_3$  is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

**Chlorofluorocarbons (CFCs).** 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  $\text{O}_3$ .

**Hydrochlorofluorocarbons (HCFCs).** 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 particulate matter, 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. Diesel particulate matter emissions are a major source of black carbon and are toxic air contaminants (TACs) that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter from the California Air Resources Board's (CARB's) 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 ( $\text{O}_3$ ).** Tropospheric  $\text{O}_3$ , which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric  $\text{O}_3$ , which is created by the interaction between solar ultraviolet radiation and molecular oxygen ( $\text{O}_2$ ), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric  $\text{O}_3$ , 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 particulate matter 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

2022b). The Intergovernmental Panel on Climate Change (IPCC) developed the global warming potential (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<sub>2</sub>; therefore, GWP-weighted emissions are measured in metric tons CO<sub>2</sub> equivalent (MT CO<sub>2e</sub>).

The current version of the CalEEMod (version 2020.4.0) assumes that the GWP for CH<sub>4</sub> is 25 (so emissions of 1 MT of CH<sub>4</sub> are equivalent to emissions of 25 MT of CO<sub>2</sub>), and the GWP for N<sub>2</sub>O 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 2019 (the most recent year for which data is available) totaled approximately 52,400 million metric tons (MMT) of CO<sub>2e</sub>, excluding land use change and forestry (PBL 2018). The top six GHG emitters include China, the United States, the Russian Federation, India, Japan, and the European Union, which accounted for approximately 62% of the total global emissions, or approximately 32,500 MMT CO<sub>2e</sub> (PBL 2018). Table 12 presents the top GHG-emissions-producing countries.

**Table 12. Six Top GHG Producer Countries**

Emitting Countries	2019 GHG Emissions (MMT CO <sub>2e</sub> ) <sup>a,b</sup>
China	14,000
United States	6,600
European Union	4,300
India	3,700
Russian Federation	2,500
Japan	1,400
<b>Total</b>	<b>32,500</b>

Source: PBL 2018.

Notes: MMT CO<sub>2e</sub> = million metric tons of carbon dioxide equivalent.

<sup>a</sup> Column may not add due to rounding.

<sup>b</sup> GHG emissions do not include land use change and forestry-related GHG emissions.

#### National Inventory

Per the EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 to 2019 (EPA 2021), total United States GHG emissions were approximately 6,558.3 MMT CO<sub>2e</sub> in 2019 (EPA 2021). The primary GHG emitted by human activities in the United States was CO<sub>2</sub>, which represented approximately 80.1% of total GHG emissions (5,255.8 MMT CO<sub>2e</sub>). The largest source of CO<sub>2</sub>, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 92.4% of CO<sub>2</sub> emissions in 2019 (4,856.7 MMT CO<sub>2e</sub>). Relative to 1990, gross United States GHG emissions in 2019 were 1.8% higher; however, the gross emissions were down from a high of 15.6% above 1990 levels in 2007. GHG emissions decreased from 2018 to 2019 by 1.7% (113.1 MMT CO<sub>2e</sub>) and overall, net emissions in 2019 were 13% below 2005 levels (EPA 2021).

## State Inventory

According to California’s 2000–2019 GHG emissions inventory (2021 edition), California emitted approximately 418 MMT CO<sub>2</sub>e in 2019, including emissions resulting from out-of-state electrical generation (CARB 2022d). 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 13 presents California GHG emission source categories and their relative contributions to the emissions inventory in 2019.

Between 2000 and 2019, per-capita GHG emissions in California have dropped from a peak of 14.0 MT per person in 2001 to 10.5 MT per person in 2019, representing an approximate 25% decrease. In addition, total GHG emissions in 2019 were approximately 7 MMT CO<sub>2</sub>e lower than 2018 emissions (CARB 2022d).

**Table 13. GHG Emissions Sources in California**

Source Category	Annual GHG Emissions (MMT CO <sub>2</sub> e)	Percent of Total*
Transportation	166.1	39.7%
Industrial	88.2	21.1%
Electric power	58.8	14.1%
Commercial and residential	43.8	10.5%
Agriculture	31.8	7.6%
High global-warming potential substances	20.6	4.9%
Recycling and waste	8.9	2.1%
<b>Total</b>	<b>418.2</b>	<b>100%</b>

Source: CARB 2022d.

Notes: GHG = greenhouse gas; MMT CO<sub>2</sub>e = million metric tons of carbon dioxide equivalent.

\* Column may not add due to rounding.

Between 2000 and 2019, per-capita GHG emissions in California have dropped from a peak of 14.0 MT CO<sub>2</sub>e per person in 2001 to 10.5 MT CO<sub>2</sub>e per person in 2019, representing an approximate 25% decrease. In addition, total GHG emissions in 2019 were approximately 7 MMT CO<sub>2</sub>e lower than 2018 emissions (CARB 2022d).

## Local Inventories

According to the GHG inventory data compiled by the Energy Policy Initiative Center, in 2012, the County (as defined to include all cities therein and unincorporated County areas) emitted 34.7 MMT CO<sub>2</sub>e (EPIC 2015). As outlined in Table 14, San Diego County GHG Emissions by Sectors, on-road transportation generated 37% of these emissions. Similar to emissions trends statewide, electricity generation is the second biggest emitter.

**Table 14. San Diego County GHG Emissions by Sectors**

Source Category	Annual GHG Emissions (MMT CO <sub>2</sub> e)	Percent of Total
On-road transportation	13.14	37.2
Electricity generation	7.97	22.6

**Table 14. San Diego County GHG Emissions by Sectors**

Source Category	Annual GHG Emissions (MMT CO <sub>2</sub> e)	Percent of Total
Natural gas end uses	2.84	8.0
Heavy Duty Trucks & Vehicles	1.89	5.4
Solid Waste	1.75	4.9
Other Fuels	1.64	4.6
Industrial	1.43	4.1
Aviation	1.37	3.9
Off-Road	0.92	2.6
Wildfire	0.81	2.3
Other – Thermal Cogeneration	0.64	1.8
Water	0.52	1.5
Wastewater	0.16	0.5
Rail	0.11	0.3
Agriculture	0.08	0.2
Marine Vessels	0.05	0.1
Development and Sequestration	(0.65)	N/A
<b>Total</b>	<b>34.67</b>	<b>100</b>

Source: EPIC 2015.

Notes: GHG = greenhouse gas; MMT CO<sub>2</sub>e = million metric tons of carbon dioxide equivalent per year

The 2013 emissions inventory for the City is shown in Table 15 below.

**Table 15. City of Oceanside GHG Emissions by Sectors for 2013**

Source Category	Annual GHG Emissions (MT CO <sub>2</sub> e)	Percent of Total
Transportation	477,178	48.5
Electricity	251,524	25.6
Natural Gas	162,447	16.5
Solid Waste	40,615	4.1
Water <sup>1</sup>	27,420	2.8
Municipal Operations	24,828	2.5
<b>Total</b>	<b>984,012</b>	<b>100</b>

Source: City of Oceanside 2019.

Notes: GHG emissions for each category are rounded. Sums may not add up to totals due to rounding.

<sup>1</sup> Emissions associated with water and wastewater treatment at City-operated facilities were accounted for as Municipal emissions. Water emissions include upstream emissions from import of water to the City.

### 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 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, and rising sea levels (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. Reflecting the long-term warming trend since pre-industrial times, observed global mean surface temperature for the decade 2006–2015 was 0.87°C (1.6°F) (likely between 0.75°C [1.4°F] and 0.99°C [1.8°F]) higher than the average over the 1850–1900 period (IPCC 2018). 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 are estimated to have caused approximately 1.0°C (1.8°F) of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C (1.4°F to 2.2°F) (IPCC 2018). Global warming is likely to reach 1.5°C (2.7°F) between 2030 and 2052 if it continues to increase at the current rate (IPCC 2018).

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. The Office of Environmental Health Hazard Assessment 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 with record warmth from 2012 to 2016, 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 2018).

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 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 2018).

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 followed an increasing trend overall.

The CNRA has released four California Climate Change Assessments (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. A summary of current and future climate change impacts to resource areas in California, as discussed in the Safeguarding California: Reducing Climate Risk (CNRA 2014), is provided in the following text.

**Agriculture.** The impacts of climate change on the agricultural sector are far more severe than the typical variability in weather and precipitation patterns that occur year to year. Some of the specific challenges faced by the agricultural sector and farmers include more drastic and unpredictable precipitation and weather patterns; extreme weather events that range from severe flooding to extreme drought, to destructive storm events; significant shifts in water availability and water quality; changes in pollinator lifecycles; temperature fluctuations, including extreme heat stress and decreased chill hours; increased risks from invasive species and weeds, agricultural pests and plant diseases; and disruptions to the transportation and energy infrastructure supporting agricultural production. These challenges and associated short-term and long-term impacts can have both positive and negative effects on agricultural production. Nonetheless, it is predicted that current crop and livestock production will suffer long-term negative effects resulting in a substantial decrease in the agricultural sector if not managed or mitigated.

**Biodiversity and Habitat.** The state's extensive biodiversity stems from its varied climate and assorted landscapes, which have resulted in numerous habitats where species have evolved and adapted over time. Specific climate change challenges to biodiversity and habitat include species migration in response to climatic changes, range shift, and novel combinations of species; pathogens, parasites and disease; invasive species; extinction risks; changes in the timing of seasonal life-cycle events; food web disruptions; and threshold effects (i.e., a change in the ecosystem that results in a "tipping point" beyond which irreversible damage or loss has occurred). Habitat restoration, conservation, and resource management across California and through collaborative efforts amongst public, private and nonprofit agencies has assisted in the effort to fight climate change impacts on biodiversity and habitat. One of the key measures in these efforts is ensuring species' ability to relocate as temperature and water availability fluctuate as a result of climate change, based on geographic region.

**Energy.** The energy sector provides California residents with a supply of reliable and affordable energy through a complex integrated system. Specific climate change challenges for the energy sector include temperature, fluctuating precipitation patterns, increasing extreme weather events and sea level rise. Increasing temperatures and reduced snowpack negatively impact the availability of a steady flow of snowmelt to hydroelectric reservoirs. Higher temperatures also reduce the capacity of thermal power plants since power plant cooling is less efficient at higher ambient temperatures. Natural gas infrastructure in coastal California is threatened by sea level rise and extreme storm events.

**Forestry.** Forests occupy approximately 33% of California's 100 million acres and provide key benefits such as wildlife habitat, absorption of CO<sub>2</sub>, renewable energy and building materials. The most significant climate change related risk to forests is accelerated risk of wildfire and more frequent and severe droughts. Droughts have resulted in more large-scale mortalities and combined with increasing temperatures have led to an overall increase in wildfire risks. Increased wildfire intensity subsequently increases public safety risks, property damage, fire suppression and emergency response costs, watershed and water quality impacts and vegetation conversions. These factors contribute to decreased forest growth, geographic shifts in tree distribution, loss of fish and wildlife habitat and decreased carbon absorption. Climate change may result in increased establishment of non-native species, particularly in rangelands where invasive species are already a problem. Invasive species may be able to

exploit temperature or precipitation changes, or quickly occupy areas denuded by fire, insect mortality or other climate change effects on vegetation.

**Ocean and Coastal Ecosystems and Resources.** Sea level rise, changing ocean conditions and other climate change stressors are likely to exacerbate long-standing challenges related to ocean and coastal ecosystems in addition to threatening people and infrastructure located along the California coastline and in coastal communities. Sea level rise in addition to more frequent and severe coastal storms and erosion are threatening vital infrastructure such as roads, bridges, power plants, ports and airports, gasoline pipes, and emergency facilities, as well as negatively impacting the coastal recreational assets such as beaches and tidal wetlands. Water quality and ocean acidification threaten the abundance of seafood and other plant and wildlife habitats throughout California and globally.

**Public Health.** Climate change can impact public health through various environmental changes and is the largest threat to human health in the twenty-first century. Changes in precipitation patterns affect public health primarily through potential for altered water supplies, and extreme events such as heat, floods, droughts, and wildfires. Increased frequency, intensity and duration of extreme heat and heat waves is likely to increase the risk of mortality due to heat related illness as well as exacerbate existing chronic health conditions. Other extreme weather events are likely to negatively impact air quality and increase or intensify respiratory illness such as asthma and allergies. Additional health impacts that may be impacted by climate change include cardiovascular disease, vector-borne diseases, mental health impacts, and malnutrition injuries. Increased frequency of these ailments is likely to subsequently increase the direct risk of injury and/or mortality.

**Transportation.** Residents of California rely on airports, seaports, public transportation and an extensive roadway network to gain access to destinations, goods and services. While the transportation industry is a source of GHG emissions it is also vulnerable to climate change risks. Particularly, sea level rise and erosion threaten many coastal California roadways, airports, seaports, transit systems, bridge supports, and energy and fueling infrastructure. Increasing temperatures and extended periods of extreme heat threaten the integrity of the roadways and rail lines. High temperatures cause the road surfaces to expand which leads to increased pressure and pavement buckling. High temperatures can also cause rail breakages, which could lead to train derailment. Other forms of extreme weather events, such as extreme storm events, can negatively impact infrastructure which can impair movement of peoples and goods, or potentially block evacuation routes and emergency access roads. Increased wildfires, flooding, erosion risks, landslides, mudslides, and rockslides can all profoundly impact the transportation system and pose a serious risk to public safety.

**Water.** Water resources in California support residences, plants, wildlife, farmland, landscapes and ecosystems and bring trillions of dollars in economic activity. Climate change could seriously impact the timing, form, amount of precipitation, runoff patterns, and frequency and severity of precipitation events. Higher temperatures reduce the amount of snowpack and lead to earlier snowmelt, which can impact water supply availability, natural ecosystems and winter recreation. Water supply availability during the intense dry summer months is heavily dependent on the snowpack accumulated during the wintertime. Increased risk of flooding has a variety of public health concerns including water quality, public safety, property damage, displacement and post-disaster mental health problems. Prolonged and intensified droughts can also negatively groundwater reserves and result in increased overdraft and subsidence. Droughts can also negatively impact agriculture and farmland throughout the state. The higher risk of wildfires can lead to increased erosion, which can negatively impact watersheds and result in poor water quality. Water temperatures are also prone to increase, which can negatively impact wildlife that rely on a specific range of temperatures for suitable habitat.

In addition to the potential statewide effects of climate change, to address local and regional governments need for information to support action in their communities, the CNRA Fourth Assessment includes reports for nine regions of the state, including the San Diego Region, where the Project is located. Key projected climate changes for the San Diego Region include the following (CNRA 2019):

- 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 Federal

**Massachusetts v. EPA.** In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court 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 December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act:

- The Administrator found that elevated concentrations of GHGs—CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>—in the atmosphere threaten the public health and welfare of current and future generations. This is the “endangerment finding.”
- The Administrator further found the combined emissions of GHGs—CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is 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 (December 2007), among other key measures, would do the following, which would aid in the reduction of national GHG emissions:

1. 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 by 2022.

2. 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.
3. 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 response to a U.S. Supreme Court ruling, the Bush Administration issued Executive Order (EO) 13432 in 2007 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 NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016 (75 FR 25324–25728).

In 2010, President Barack Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and 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 NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO<sub>2</sub> by 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 2017–2021 (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 (EPA 2022c).

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018 (76 FR 57106–57513). The standards for CO<sub>2</sub> 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%–23% over the 2010 baselines.

In August 2016, the EPA and 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 types and sizes of buses and work trucks. The final standards are expected to lower CO<sub>2</sub> 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).

In August 2018, the EPA and NHTSA proposed to amend certain fuel economy and GHG standards for passenger cars and light trucks and establish new standards for model years 2021 through 2026. Compared to maintaining the post-2020 standards in place at the time, the 2018 proposal would increase U.S. fuel consumption by about half a million barrels per day (2%–3% of total daily consumption, according to the Energy Information Administration) and would impact the global climate by 3/1000th of 1 °C by 2100 (EPA and NHTSA 2018). California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures, and have committed to cooperating with other countries to implement global climate change initiatives.

In 2019, the EPA and NHTSA published the Safer Affordable Fuel-Efficient Vehicles Rule Part One: One National Program (SAFE-1), 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<sub>2</sub> emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. 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 March 2022 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.

### 3.2.2 State

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes executive orders, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

#### State Climate Change Targets

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

**Executive Order S-3-05.** EO S-3-05 (June 2005) established the following statewide goals: GHG emissions should be reduced to 2000 levels by 2010, GHG emissions should be reduced to 1990 levels by 2020, and GHG emissions should be reduced to 80% below 1990 levels by 2050.

EO S-3-05 also directed the California EPA 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. The Climate Action Team was formed, which subsequently issued reports from 2006 to 2010 (CAT 2016).

**Assembly Bill 32.** In furtherance of the goals established in EO S-3-05, the legislature enacted AB 32 (Núñez and Pavley). The bill is referred to as the California Global Warming Solutions Act of 2006 (September 27, 2006). 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-55-18.** EO B-55-18 (September 2018) establishes a statewide policy for the state to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net-negative emissions thereafter. The goal is an 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.

**California Air Resources Board's Climate Change Scoping Plan.** One specific requirement of AB 32 was for CARB to prepare a scoping plan for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (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 Scoping Plan: A Framework for Change (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 emissions limit and initiate the transformations needed to achieve the state's long-range climate objectives. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
2. Achieving a statewide renewable energy mix of 33%.
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions.
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (17 CCR 95480 et seq.).
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

The Scoping Plan also identified local governments as essential partners in achieving California's goals to reduce GHG emissions because they have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Specifically, the Scoping Plan encouraged local governments to adopt a reduction goal for municipal operations, and for community emissions to reduce GHGs by approximately 15% from then levels (2008) by 2020. Many local governments developed community-scale local GHG reduction plans based on this Scoping Plan recommendation.

In 2014, CARB approved the first update to the Scoping Plan. The First Update to the Climate Change Scoping Plan: Building on the Framework (First 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. The First Update concluded that California is on track to meet the 2020 target but recommended a 2030 mid-term GHG reduction target be established to ensure a continuum of action to reduce emissions. The First 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. As part of the First Update, CARB recalculated the state's 1990 emissions level, using more recent GWPs identified by the IPCC, from 427 MMT CO<sub>2e</sub> to 431 MMT CO<sub>2e</sub> (CARB 2014).

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 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 EO S-3-05. The governor called on California to pursue a new and ambitious set of strategies, in line with the five climate change pillars from his inaugural address, to reduce GHG emissions and prepare for the unavoidable impacts of climate change. In the summer of 2016, the legislature affirmed the importance of addressing climate change through passage of SB 32.

In December 2017, CARB adopted California's 2017 Climate Change Scoping Plan (2017 Scoping Plan) for public review and comment (CARB 2017). The 2017 Scoping Plan builds on the successful framework established in the initial Scoping Plan and First Update while identifying new, technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target as established by SB 32 and define the state's climate change priorities to 2030 and beyond. The strategies' commitments include implementing renewable energy and energy efficiency strategies (including the mandates of SB 350), increasing stringency of the Low Carbon Fuel Standard, implementing measures identified in the Mobile Source and Freight Strategies, implementing measures identified in the proposed Short-Lived Climate Pollutant Reduction Strategy, and increasing stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, it recommends continuing the Cap-and-Trade Program and a measure to reduce GHGs from refineries by 20%.

For local governments, the 2017 Scoping Plan replaced the initial Scoping Plan's 15% reduction goal with a recommendation to aim for a community-wide goal of no more than 6 MT CO<sub>2</sub>e per capita by 2030, and no more than 2 MT CO<sub>2</sub>e per capita by 2050, which are consistent with the state's long-term goals. These goals are also consistent with the Under 2 Memorandum of Understanding (Under 2 2016) and the Paris Agreement, which are developed around the scientifically based levels necessary to limit global warming to below 2 °C. The 2017 Scoping Plan recognized the benefits of local government GHG planning (e.g., through CAPs) and provided more information regarding tools CARB is working on to support those efforts. It also recognized the CEQA streamlining provisions for project-level review where there is a legally adequate CAP.<sup>7</sup>

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32, SB 32, and the executive orders, and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. A project is considered consistent with the statutes and executive orders if it meets the general policies in reducing GHG emissions to facilitate the achievement of the state's goals and does not impede attainment of those goals. A project would be consistent if it will further the objectives and not obstruct their attainment.

**Executive Order B-30-15.** EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing statewide 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 statewide GHG emissions to 80% below 1990 levels by 2050, as set forth in EO S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to CARB's Scoping Plan to express the 2030 target in terms of MMT CO<sub>2</sub>e. The executive order also calls for state agencies to continue to develop and implement GHG emissions reduction programs in support of the reduction targets. Sector-specific agencies in transportation, energy, water, and forestry were required to prepare GHG reduction plans by September 2015, followed by a report on action taken in relation to these plans in June 2016. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction target.

**Senate Bill 32 and Assembly Bill 197.** SB 32 and AB 197 (enacted in 2016) are companion bills that set a new statewide GHG reduction targets, make changes to CARB's membership and increase legislative oversight of CARB's climate change-based activities, and expand dissemination of GHG and other air-quality-related emissions data to enhance transparency and accountability. More specifically, 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

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<sup>7</sup> *Sierra Club v. County of Napa* (2004) 121 Cal.App.4th 1490; *San Francisco Tomorrow et al. v. City and County of San Francisco* (2015) 229 Cal.App.4th 498; *San Franciscans Upholding the Downtown Specific Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656; *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 719.

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 CARB 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.

**Senate Bill 605 and Senate Bill 1383.** SB 605 (2014) required CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants in the state, and SB 1383 (2016) required CARB to approve and implement that strategy by January 1, 2018. The Short-Lived Climate Pollutants Reduction Strategy was approved by CARB in March 2017, and lays out a range of options to reduce short-lived climate pollutant emissions in California, including regulations, incentives, and other market-supporting activities. SB 1383 also establishes specific targets for the reduction of short-lived climate pollutants (40% below 2013 levels by 2030 for CH<sub>4</sub> 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 Short-Lived Climate Pollutant Reduction Strategy in March 2017. This strategy establishes a framework for the statewide reduction of emissions of black carbon, CH<sub>4</sub>, and fluorinated gases.

## Building Energy

**Title 24, Part 6.** Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. Although not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and CEC, and revised if necessary (California Public Resources Code [PRC] Section 25402[b][1]). The regulations receive input from members of industry and the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (PRC Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (PRC Section 25402[d]) and cost effectiveness (PRC Sections 25402[b][2] and [b][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 2019 Title 24 standards are the currently applicable building energy efficiency standards, and became effective on January 1, 2020. The 2019 Title 24 Building Energy Efficiency Standards will further reduce energy used and associated GHG emissions compared to prior standards. In general, single-family residences built to the 2019 standards are anticipated to use approximately 7% less energy due to energy efficiency measures than those built to the 2016 standards; once rooftop solar electricity generation is factored in, single-family residences built under the 2019 standards will use approximately 53% less energy than those under the 2016 standards (CEC 2018). Nonresidential buildings built to the 2019 standards are anticipated to use an estimated 30% less energy than those built to the 2016 standards (CEC 2018).

The 2022 Title 24 standards will improve upon the 2019 standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The CEC adopted the 2022 Title 24 Energy Code in August 2021 and the California Building Standards Commission approved incorporating the updated code into the

California Building Standards Code (CALGreen) in December 2021. The 2022 Energy Code will go into effect on January 1, 2023. The 2022 Energy Code focuses on four key areas in newly constructed homes and businesses:

- 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 photovoltaic (PV) system and battery storage standards to make clean energy available onsite and complement the state's progress toward a 100% clean electricity grid.
- Strengthening ventilation standards to improve indoor air quality.

**Title 24, Part 11.** In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as California's Green Building Standards (CALGreen), and 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, schools, and hospitals. The CALGreen 2019 standards, which are the current standards, became effective January 1, 2020.

**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. Performance of appliances must be certified through the CEC to demonstrate compliance with 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; dishwashers; 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 for 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.

**Assembly Bill 1109.** Enacted in 2007, AB 1109 required the 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.

**SB 1.** SB 1 (Murray) (August 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 Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. 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 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.”

**California AB 1470 (Solar Water Heating).** This bill established the Solar Water Heating and Efficiency Act of 2007. AB 1470 makes findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand. AB 1470 defines several terms for purposes of the act. The bill required a commission to evaluate the data available from a specified pilot program, and to design and implement a program of incentives for the installation of 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

## Renewable Energy and Energy Procurement

**SB 1078 (2002)** established the Renewables Portfolio Standard (RPS) program, which requires an annual increase in renewable generation by the utilities. Initially, the RPS required utilities to obtain 20% of their power from renewable sources by 2010. SB X1-2 (2011) subsequently expanded the RPS by establishing that 33% of the total electricity sold to retail customers in California per year by December 31, 2020, and in subsequent years, be secured from qualifying renewable energy sources. SB 350 (2015) further expanded the RPS by establishing that 50% of the total electricity sold to retail customers in California per year by December 31, 2030, be secured from qualifying renewable energy sources. And SB 100 (2018) further accelerated the RPS, requiring achievement of a 50% RPS by December 31, 2026, and a 60% RPS by December 31, 2030. SB 100 also established a new state policy goal that calls for eligible renewable energy resources and zero-carbon resources to supply 100% of electricity retail sales and 100% of electricity procured to serve all state agencies by December 31, 2045.

Under the program, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 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.

## Mobile Sources

**State Vehicle Standards.** AB 1493 (July 2002) was enacted in response to the transportation sector accounting for more than one-half of California’s CO<sub>2</sub> emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. AB 1493 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 zero-emissions vehicles. It ordered CARB, CEC, the California Public Utilities Commission, 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 goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established 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.

**Executive Order S-1-07.** Issued on January 18, 2007, EO S-1-07 sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO<sub>2e</sub> grams per unit of fuel energy sold in California. The initial target of the Low Carbon

Fuel Standard was to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. The Low Carbon Fuel Standard was subsequently amended in 2018 to require a 20% reduction in carbon intensity by 2030. This new requirement aligns with the California's overall 2030 target of reducing climate changing emissions to 40% below 1990 levels by 2030, set by SB 32. CARB has adopted implementing regulations for both the 10% and 20% carbon intensity reduction targets.

**Senate Bill 375.** SB 375 (2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 required CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. Regional metropolitan planning organizations are then responsible for preparing a Sustainable Communities Strategy (SCS) within their Regional Transportation Plan (RTP). The goal of the SCS is to establish a forecasted development pattern for the region that, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If an SCS is unable to achieve the GHG reduction target, a metropolitan planning organization 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.

Pursuant to California Government Code Section 65080(b)(2)(K), an SCS does not regulate the use of land; supersede the land use authority of cities and counties; or require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. 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.

In 2010, CARB adopted the SB 375 targets for the regional metropolitan planning organizations. The targets adopted for SANDAG in 2010 are a 7% reduction in per-capita passenger-vehicle GHG emissions by 2020 and a 13% reduction by 2035, measured relative to 2005 GHG emissions. In 2018, CARB adopted the second round of SB 375 reduction targets, and increased SANDAG's 2020 target to a 15% reduction in per-capita passenger-vehicle GHG emissions, and the 2035 target to a 19% reduction using the same 2005 baseline.

SANDAG completed and adopted its 2050 RTP/SCS in October 2011. In November 2011, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region.

After SANDAG's 2050 RTP/SCS was adopted, a lawsuit was filed by the Cleveland National Forest Foundation and others (*Cleveland National Forest Foundation v. San Diego Association of Governments* (2017) 3 Cal. 5th 497), regarding analysis of EO S-3-05's 2050 goal of an 80% reduction in GHG emissions from 1990 levels. The Supreme Court of California held that the Environmental Impact Report at issue was sufficient to inform the public, based on the information available at the time, about the regional plan's GHG impacts and its potential inconsistency with state climate change goals without including an explicit analysis of the consistency of projected 2050 GHG emissions with the goals in the executive order.

In 2015, SANDAG adopted the next iteration of its RTP/SCS in accordance with statutorily mandated timelines and no subsequent litigation challenge was filed. More specifically, in October 2015, SANDAG adopted San Diego Forward: The Regional Plan (SANDAG 2015). Like the 2050 RTP/SCS, San Diego Forward: Regional Plan meets CARB's 2020 and 2035 reduction targets for the region (SANDAG 2015). In December 2015, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would

achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region. The Regional Plan was updated in 2021, which was the result of years of planning, data analysis, and community engagement to reimagine the San Diego region with a transformative transportation system, a sustainable pattern of growth and development, and innovative demand and management strategies (SANDAG 2021).

**Advanced Clean Cars Program.** The Advanced Clean Cars 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. 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 implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that by 2025, cars will emit 75% less smog-forming pollution than the average new car sold in 2012. To reduce GHG emissions, CARB, in conjunction with the EPA and NHTSA, adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The zero-emissions vehicle (ZEV) program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018 to 2025 model years.

**AB 1236.** AB 1236 (October 2015) (Chiu) required a city, county, or city and county to approve an application for the installation of electric vehicle charging stations, as defined, through the issuance of specified permits unless the city or county makes specified written findings based on substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. AB 1236 provided for appeal of that decision to the planning commission, as specified. The bill provided that the implementation of consistent statewide standards to achieve the timely and cost-effective installation of electric vehicle charging stations is a matter of statewide concern. The bill required electric vehicle charging stations to meet specified standards. AB 1236 required a city, county, or city and county with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that created an expedited and streamlined permitting process for electric vehicle charging stations. The bill also required a city, county, or city and county with a population of fewer than 200,000 residents to adopt this ordinance by September 30, 2017.

**Executive Order B-16-12.** EO B-16-12 (2012) directs state entities under the Governor's direction and control to support and facilitate development and distribution ZEVs. On a statewide basis, EO B-16-12 also establishes a GHG emissions reduction target from the transportation sector equaling 80% less than 1990 levels by 2050. In furtherance of this executive order, the Governor convened an Interagency Working Group on ZEVs that has published multiple reports regarding the progress made on the penetration of ZEVs in the statewide vehicle fleet.

**Senate Bill 350.** In 2015, SB 350 – the Clean Energy and Pollution Reduction Act – was enacted into law. As one of its elements, SB 350 establishes a statewide policy for widespread electrification of the transportation sector, recognizing that such electrification is required for achievement of the state's 2030 and 2050 reduction targets (see California Public Utilities Code, Section 740.12).

## Solid Waste

**AB 939, AB 341, and AB 1826.** In 1989, AB 939, known as the Integrated Waste Management Act (PRC Sections 40000 et seq.), was passed because of the increase in waste stream and decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB

939 mandated a reduction of waste being disposed of 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 2000.

AB 341 (Chapter 476, Statutes of 2011 [Chesbro]) 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 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle conducted several general stakeholder workshops and several focused workshops, and in August 2015 published a discussion document titled AB 341 Report to the Legislature, which identified five priority strategies that CalRecycle believed would assist the state in reaching the 75% goal by 2020, legislative and regulatory recommendations, and an evaluation of program effectiveness (CalRecycle 2015).

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 multi-family 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.

## Water

**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 executive order extended through February 28, 2016, although many of the directives have since become permanent water-efficiency standards and requirements. The executive order 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 modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increased the requirements for landscape water use efficiency and broadened its applicability to include new development projects with smaller landscape areas.

**EO B-37-16.** Issued May 2016, EO B-37-16 directed the State Water Resources Control Board to adjust emergency water conservation regulations through the end of January 2017 to reflect differing water supply conditions across the state. The State Water Resources Control Board also developed a proposal to achieve a mandatory reduction of potable urban water usage that builds off the mandatory 25% reduction called for in EO B-29-15. The State Water Resources Control Board and Department of Water Resources will develop new, permanent water use targets that build on the existing state law requirements that the state achieve 20% reduction in urban water usage by 2020. EO B-37-16 also specifies that the State Water Resources Control Board permanently prohibit water-wasting practices such as hosing off sidewalks, driveways, and other hardscapes; washing automobiles with hoses not equipped with a shut-off nozzle; using non-recirculated water in fountains and other decorative water features; watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and irrigating ornamental turf on public street medians.

## Other State Regulations and Goals

**SB 97.** SB 97 (Dutton) (August 2007) directed the Governor’s Office of Planning and Research to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, the Governor’s Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project’s GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2007). The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The 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 a 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. The adopted amendments do not establish a GHG emissions threshold, instead allowing a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The CNRA also acknowledged that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project’s GHG emissions (CNRA 2009a).

With respect to GHG emissions, the CEQA Guidelines state in Section 15064.4(a) that lead agencies should “make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate” GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a “model or methodology” to quantify the emissions or by relying on “qualitative analysis or other 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: the extent a project may increase or reduce GHG emissions as compared to the existing environmental setting; whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and 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 Order 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 executive order 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 (CNRA 2009b), and an update, Safeguarding California: Reducing Climate Risk, followed in July 2014 (CNRA 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.

### 3.2.3 Local

#### City of Oceanside General Plan

The City of Oceanside's General Plan Circulation Element includes goals and policies to reduce GHG emissions within the City (City of Oceanside 2002). The following goals and policies from the City's General Plan are relevant to the Proposed Project:

##### Circulation Element

Policy 2.5: The City will strive to incorporate complete streets throughout the Oceanside transportation network which are designed and constructed to serve all users of streets, roads and highways, regardless of their age or ability, or whether they are driving, walking, bicycling, or using transit.

##### Pedestrian Facilities

Goal 5: Support walking as a primary means of transportation that in turn supports transit and bike options. A positive walking environment is essential for supporting smart growth, mixed land uses, transit oriented development, traffic calming and reducing traffic congestion and greenhouse gas emissions.

##### Intelligent Transportation System Technologies

Policy 4.1: The City shall encourage the reduction of vehicle miles traveled, reduction of the total number of daily and peak hour vehicle trips, and provide better utilization of the circulation system through development and implementation of TDM strategies. These may include, but not limited to, implementation of peak hour trip reduction, encourage staggered work hours, telework programs, increased development of employment centers where transit usage is highly viable, encouragement of ridesharing options in the public and private sector, provision for park-and-ride facilities adjacent to the regional transportation system, and provision for transit subsidies.

##### Transportation Demand Management

Policy 4.9: The City shall look for opportunities to incorporate TDM [transportation demand management] programs into their Energy Roadmap that contributes to state and regional goals for saving energy and reducing greenhouse gas emissions.

#### Land Use Element

##### Air Quality

The City will continue to cooperate with the SDAPCD Board. This will include participation in the development of the Regional Air Quality Strategy (RAQS) through cooperation with the San Diego County Air Quality Planning Team.

##### Bicycle Facilities

Policy A: Development shall provide Class II Bikeways (Bike Lanes) on all secondary, major, and prime arterials.

Policy D: The use of land shall integrate the Bicycle Circulation System with auto, pedestrian, and transit systems:

- Development shall provide short-term bicycle parking and long-term bicycle storage facilities such as bicycle racks, pedestal posts, and rental bicycle lockers.
- Development shall provide safe and convenient bicycle access to high activity land uses, such as schools, parks, shopping, employment, and entertainment centers.

## Pedestrian

Policy A: The construction of five (5) foot wide sidewalks adjacent to the curb shall be required in all new developments and street improvements.

## Transit System

Policy A: The City shall coordinate and encourage the existing bus system to serve newly developed areas.

## Energy

Policy A: The City shall encourage the design, installation, and use of passive and active solar collection systems.

Policy B: The City shall encourage the use of energy efficient design, structures, materials, and equipment in all land developments or uses.

## City of Oceanside Climate Action Plan

The City adopted its Climate Action Plan (CAP) on May 8, 2019 (City of Oceanside 2019). The CAP acts as a roadmap to address challenges of climate change within the City and outlines measures the City will take to make progress towards meeting the State's GHG reduction goals. The CAP includes a baseline GHG emissions inventory for 2013, GHG emissions forecasts for 2020, 2030, 2035, 2040, and 2050, local GHG emissions reduction strategies and measures to help the City achieve the statewide targets, and implementation and monitoring mechanisms to ensure the City's measures and targets are achieved. The CAP established local GHG emissions reduction targets for future years as follows:

- by 2020, reduce GHG emissions levels to 5 MT CO<sub>2e</sub> per capita;
- by 2030, reduce GHG emissions levels to 4 MT CO<sub>2e</sub> per capita;
- by 2040, reduce GHG emissions levels to 3 MT CO<sub>2e</sub> per capita; and
- by 2050, reduce GHG emissions levels to 2 MT CO<sub>2e</sub> per capita.

The CAP was prepared in accordance with the requirements within CEQA Guidelines Section 15183.5, and the CAP Consistency Checklist was used to evaluate the proposed project's significance with respect to GHG emissions.

## City of Oceanside Energy Climate Action Element

The Energy Climate Action Element (ECAE) of the City's General Plan was adopted on May 8, 2019 and addresses energy consumption and other activities within the City that may contribute to adverse energy and GHG impacts. The ECAE focuses on activities associated with human-induced climate change. The ECAE outlines sustainability goals and policies for the City's decision-making process including development review protocols. The primary themes and goals of the ECAE are related to energy efficiency and renewable energy, smart growth and multimodal transportation, zero waste, water conservation, urban greening, local agriculture, and sustainable consumption.

## 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**

The City of Oceanside’s CAP relies on a screening threshold based on land use size and a CAP Consistency Checklist to determine whether a project’s emissions would be consistent with GHG emissions estimated within the City’s CAP. Consistent with California’s Climate Change Scoping Plan, the City has established a bright line threshold of significance for GHG emissions impacts: 900 MT CO<sub>2e</sub> annually, with construction-related emissions amortized over 20 years. Specifically, the City has determined that new development projects emitting less than 900 MT CO<sub>2e</sub> annual GHG would not contribute considerably to cumulative climate change impacts, and therefore do not need to demonstrate consistency with the CAP. Projects greater than 900 MT CO<sub>2e</sub> would be required to show CAP Checklist consistency.

The CAP Consistency Checklist is used to determine significance in accordance with CEQA Guidelines Section 15183.5; therefore, the CAP Consistency Checklist was used to evaluate the proposed project’s significance with respect to GHG emissions.

## **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 2.4.2, emissions from the construction phase of Project components were

estimated using the CalEEMod Version 2020.4.0<sup>8</sup>. Per preliminary project details, it is assumed that construction of the Project would begin in Spring 2023 and would last approximately 14 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 2.4.2. above, and complete details of the emissions calculations are provided in Appendix A, *Air Quality and Greenhouse Gas Emissions CalEEMod Output Files*. Per City Guidance, construction-related GHG emissions were amortized over 20 years and added to operational emissions to assess significance.

### 3.3.2.2 Operation

Operation of the proposed project would generate GHG emissions from mobile sources, area sources (landscape maintenance equipment), energy use, water use and wastewater generation, and solid waste (i.e., CO<sub>2</sub>e emissions associated with landfill off-gassing). As with project construction, CalEEMod Version 2020.4.0 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 2024.

#### Area

The area source category calculates direct sources of GHG emissions located at the Project site including 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. The project includes a PDF that prohibits wood-burning, and only allows for natural gas-fired fireplaces in residential units.

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. To be conservative, emissions were estimated assuming that landscape maintenance equipment was powered by gasoline or diesel fuel, and not electrified.

#### 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. Energy use from the non-residential land uses is based on various studies and assessments as described in Section 7.3, *Estimating Energy Use from Other Land Uses*, of Appendix A of the CalEEMod User's Guide (CAPCOA 2021).

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<sup>8</sup> 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).

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. The project includes PDF-GHG-1 that ensures PV systems are installed on each building to meet 50% of forecasted electricity demand.

#### 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 and employees associated with the 323 residential units. The CalEEMod Version 2020.4.0 model was used to estimate daily emissions from vehicular sources (refer to Appendix A). CalEEMod Version 2020.4.0 default data, including trip rate, temperature, trip characteristics, variable start information, and emissions factors were used for the model inputs. Emission factors representing the vehicle mix and emission factors for 2024 were used to estimate emissions associated with vehicular sources.

#### Solid Waste

The Project would generate solid waste, and therefore, result in CO<sub>2</sub>e 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.

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.

**Threshold 1:** *Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

**Threshold 2:** *Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

As discussed above in Section 3.2.3, the City of Oceanside's CCAP was adopted in May 2019 to assist the City in reducing GHG emissions to 4 MT CO<sub>2</sub>e per capita by 2030, and 2 MT CO<sub>2</sub>e per capita by 2050 to align with the state's targets established by EOs B-30-15 and S-3-05, respectively. According to the City's CAP, new discretionary development projects subject to CEQA review that emit less than 900 MT CO<sub>2</sub>e annually would not contribute considerably to cumulative climate change impacts, and therefore, would be considered consistent with the CAP and associated emissions projections. Project-generated GHG emissions were estimated per the methodology described in Section 3.3.2. and are discussed for construction and operation below.

### 3.4.1 Project GHG Emissions

#### Construction

Table 16 shows the estimated annual GHG construction emissions associated with the Project. Additional information about methodology and approach are provided above in Section 3.3.2. 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**

Year	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
	Metric Tons			
2023	716.03	0.08	0.05	732.99
2024	225.85	0.03	0.01	229.44
<b>Total</b>	<b>941.88</b>	<b>0.11</b>	<b>0.06</b>	<b>962.43</b>
<i>Amortized Emissions (20 years)</i>				<b>48.12</b>

**Source:** CalEEMod Version 2020.4.0.

**Notes:** GHG = greenhouse gas; CO<sub>2</sub> = carbon dioxide; CH<sub>4</sub> = methane; N<sub>2</sub>O = nitrous oxide; CO<sub>2</sub>e = 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 962.43 MT CO<sub>2</sub>e. When amortized over 20 years, the estimated annual GHG emissions from construction of the Project would be approximately 48 MT CO<sub>2</sub>e per year.

#### Operation

Table 18 shows the estimated annual GHG operational emissions associated with the Project. As discussed above, total annual operational emissions were combined with amortized (20 years) construction emissions and compared to the recommended 900 MT CO<sub>2</sub>e bright-line threshold. As shown in Table 17, implementation of the Project would result in approximately 2,604.30 MT CO<sub>2</sub>e 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*.

**Table 17. Summary of Estimated Annual GHG Emissions**

Emissions Source	MT CO <sub>2</sub>	MT CH <sub>4</sub>	MT N <sub>2</sub> O	MT CO <sub>2</sub> e
Area	232.89	0.01	0.00	234.35
Energy	336.50	0.02	0.00	338.05
Mobile	1,751.89	0.13	0.08	1,778.92
Waste	39.30	2.32	0.00	97.36
Water	84.30	0.72	0.02	107.51
Amortized Construction Emissions (20 years)				48.12
<b>Total Project Emissions</b>				<b>2,604.30</b>
<i>Brightline Threshold</i>				900
<b>Exceeds Threshold?</b>				<b>Yes</b>

**Source:** See Appendix A for complete results.

**Notes:** GHG = greenhouse gas; MT = metric tons; CO<sub>2</sub> = carbon dioxide; CH<sub>4</sub> = methane; N<sub>2</sub>O = nitrous oxide; CO<sub>2</sub>e = carbon dioxide equivalent. <0.01 = reported value is less than 0.01.

Per City guidance, new development projects that emit more than 900 MT CO<sub>2</sub>e annually could have a considerable contribution to cumulative climate change impacts. Given that project-generated operational emissions in 2024 plus amortized project construction emissions are estimated to exceed this bright-line threshold, the project is required to demonstrate consistency with the CAP Consistency Checklist to ensure that the specific emissions targets identified in the City’s CAP can be achieved.

Projects that meet one or more of the following locational criteria are eligible for using the CAP Consistency Checklist:

1. The project site is located within a designated Smart Growth Opportunity Area.
2. The project site is located with ¼ mile of a priority TOD corridor, as identified in the City’s Smart and Sustainable Corridors Plan.
3. The project is consistent with current land use and zoning designations.
4. The project requires amendment of current land use and zoning designations. As demonstrated through a detailed analysis a) consistent with the precedent in the surrounding zoning district and b) subject to third party expert review, the proposed land uses would generate less GHG emissions than those associated with uses allowed under current land use and zoning designations.

The project site is located within a Smart Growth Opportunity Area, is within ¼ mile of a priority TOD corridor, and is consistent with the current land use and zoning designation, as described in detail in Section 2.5.1 of this report. As such, the project is eligible for the CAP Consistency Checklist for assessment of GHG emissions impacts. Table 18 includes the CAP Checklist items and the related project consistency analysis. Please see Appendix C, *CAP Consistency Checklist* for complete details.

**Table 18 Climate Action Plan Consistency Checklist and Project Consistency**

Check List Item	Project Consistency
<p><b>1. On-Site Renewable Energy Supply.</b> If the project meets one or more of the thresholds outlined in Section 3047 of the City’s Zoning Ordinance, will at least 50 percent of the estimated electricity demand be met with on-site renewable emissions-free energy supply (e.g., solar photovoltaic facilities)?</p>	<p><b>Consistent.</b> The project is a residential project that includes more than 25 dwelling units, and is therefore required to comply with the on-site renewable energy supply provisions of the checklist. The proposed project includes roof-top solar PV, which will accommodate at least 50% of energy demand during operation.</p>
<p><b>2. Electric Vehicle Charging Facilities.</b> If the project involves new development that requires at least five (5) parking spaces, will the project comply with the requirements of Section 3048 of the City’s Zoning Ordinance?</p>	<p><b>Consistent.</b> The proposed project includes a total of 526 parking spaces for residences and guests, and is therefore required to comply with the requirements of Section 3048 of the City’s Zoning Ordinance. Per Section 3048, the project will provide 78 electric vehicle parking stalls, 39 of which will be charger quipped facilities.</p>
<p><b>3. Recycled Water Infrastructure.</b> Does the City’s Water Utilities Department require that the project install infrastructure to provide for recycled water service?</p>	<p><b>Not Applicable.</b> The project is not required to use recycled water.</p>
<p><b>4. Transportation Demand Management (TDM).</b> Per Section 3050 of the City’s Zoning Ordinance, does the proposed project expected to generate at least 100 daily employee commute trips, necessitating the preparation and implementation of a TDM Plan?</p>	<p><b>Not Applicable.</b> The project is not expected to generate more than 100 daily employee commute trips, and therefore is not required to prepare a TDM Plan.</p>
<p><b>5. Urban Forestry.</b> Will the project comply with the minimum tree canopy and permeable surface area requirements outlined in Section 3049 of the City’s Zoning Ordinance?</p>	<p><b>Consistent.</b> The proposed project will provide 32% tree canopy coverage and 25.5% permeable surface, which exceeds the requirements outlined in Section 3049 of the City’s Zoning Ordinance.</p>

Source: Appendix C, CAP Consistency Checklist

As shown in Table 18, the proposed project is consistent with the CAP Consistency Checklist adopted by the City to ensure that the emission targets identified in the CAP are achieved. Therefore, the proposed 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 and the impact would be **less than significant**.

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# **Appendix A**

## CalEEMod Outputs and Estimated Emissions



Modera Melrose Unmitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Modera Melrose Unmitigated  
San Diego County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1.75	1000sqft	0.04	1,745.00	0
Enclosed Parking Structure	145.00	Space	0.00	58,000.00	0
Parking Lot	117.30	1000sqft	2.69	117,304.00	0
City Park	2.20	Acre	2.20	95,696.96	0
Health Club	5.21	1000sqft	0.00	5,206.00	0
Recreational Swimming Pool	1.93	1000sqft	0.04	1,927.00	0
Apartments High Rise	33.00	Dwelling Unit	0.25	33,000.00	94
Apartments Mid Rise	290.00	Dwelling Unit	2.16	290,000.00	829
Strip Mall	2.37	1000sqft	0.05	2,365.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	40
<b>Climate Zone</b>	13			<b>Operational Year</b>	2024
<b>Utility Company</b>	San Diego Gas & Electric				
<b>CO2 Intensity (lb/MW hr)</b>	539.98	<b>CH4 Intensity (lb/MW hr)</b>	0.033	<b>N2O Intensity (lb/MW hr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Land use assumptions provided by applicant.

Construction Phase - CalEEMod default assumptions. No demolition required.

Off-road Equipment - Architectural Coating: CalEEMod default assumptions

Modera Melrose Unmitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Off-road Equipment - Building Construction: CalEEMod default assumptions

Off-road Equipment - Demo: CalEEMod default assumptions

Off-road Equipment - Grading: CalEEMod default assumptions

Off-road Equipment - Paving: CalEEMod default assumptions

Off-road Equipment - Site Prep: CalEEMod default assumptions

Trips and VMT - CalEEMod default assumptions. 2 vendor trucks added to phases without default vendor trips to account for water trucks and/or routine deliveries.

On-road Fugitive Dust - CalEEMod default assumptions

Demolition - No demolition required.

Grading - Import quantity provided by applicant.

Architectural Coating - SDAPCD Rule 67.0.1.

Vehicle Trips - Trips consistent with data from 2/15/2022 Linscott Law & Greenspan Local Transportation Study.

Road Dust - CalEEMod default assumptions

Woodstoves - PDF: no wood-burning appliances.

Consumer Products - CalEEMod Default Assumptions

Area Coating - SDAPCD Rule 67.0.1.

Energy Use - CalEEMod default assumptions

Water And Wastewater - Zero'd out outdoor water use for buildings and accounted for in City Park land use which represents overall landscaping.

Solid Waste - CalEEMod default assumptions

Area Mitigation - SDAPCD Rule 67.0.1

Energy Mitigation - PDF: 50% of on-site energy demand will come from PV solar

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	18.15	29.70
tblFireplaces	NumberGas	159.50	261.00
tblFireplaces	NumberWood	11.55	0.00
tblFireplaces	NumberWood	101.50	0.00
tblGrading	MaterialImported	0.00	43,200.00
tblLandUse	LandUseSquareFeet	1,750.00	1,745.00
tblLandUse	LandUseSquareFeet	117,300.00	117,304.00
tblLandUse	LandUseSquareFeet	95,832.00	95,696.96
tblLandUse	LandUseSquareFeet	5,210.00	5,206.00
tblLandUse	LandUseSquareFeet	1,930.00	1,927.00
tblLandUse	LandUseSquareFeet	2,370.00	2,365.00
tblLandUse	LotAcreage	1.30	0.00
tblLandUse	LotAcreage	0.12	0.00
tblLandUse	LotAcreage	0.53	0.25
tblLandUse	LotAcreage	7.63	2.16
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblVehicleTrips	ST_TR	4.53	0.00
tblVehicleTrips	ST_TR	4.91	6.05
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	20.87	0.00

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	ST_TR	42.04	37.50
tblVehicleTrips	SU_TR	3.59	0.00
tblVehicleTrips	SU_TR	4.09	5.04
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	SU_TR	20.43	18.20
tblVehicleTrips	WD_TR	4.45	0.00
tblVehicleTrips	WD_TR	5.44	6.70
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	28.82	0.00
tblVehicleTrips	WD_TR	44.32	39.54
tblWater	OutdoorWaterUseRate	1,355,487.01	0.00
tblWater	OutdoorWaterUseRate	11,911,855.55	0.00
tblWater	OutdoorWaterUseRate	190,633.78	0.00
tblWater	OutdoorWaterUseRate	188,857.41	0.00
tblWater	OutdoorWaterUseRate	107,596.31	0.00
tblWoodstoves	NumberCatalytic	1.65	0.00
tblWoodstoves	NumberCatalytic	14.50	0.00
tblWoodstoves	NumberNoncatalytic	1.65	0.00
tblWoodstoves	NumberNoncatalytic	14.50	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

**2.0 Emissions Summary**

Modera Melrose Unmitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.1 Overall Construction**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.2530	2.2228	2.4468	7.7200e-003	0.4971	0.0779	0.5750	0.1730	0.0730	0.2460	0.0000	716.0260	716.0260	0.0771	0.0505	732.9877
2024	1.1537	0.6828	0.9916	2.4900e-003	0.1160	0.0264	0.1425	0.0312	0.0248	0.0561	0.0000	225.8545	225.8545	0.0282	9.6600e-003	229.4385
<b>Maximum</b>	<b>1.1537</b>	<b>2.2228</b>	<b>2.4468</b>	<b>7.7200e-003</b>	<b>0.4971</b>	<b>0.0779</b>	<b>0.5750</b>	<b>0.1730</b>	<b>0.0730</b>	<b>0.2460</b>	<b>0.0000</b>	<b>716.0260</b>	<b>716.0260</b>	<b>0.0771</b>	<b>0.0505</b>	<b>732.9877</b>

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.2530	2.2228	2.4468	7.7200e-003	0.4971	0.0779	0.5750	0.1730	0.0730	0.2460	0.0000	716.0257	716.0257	0.0771	0.0505	732.9874
2024	1.1537	0.6828	0.9916	2.4900e-003	0.1160	0.0264	0.1425	0.0312	0.0248	0.0561	0.0000	225.8543	225.8543	0.0282	9.6600e-003	229.4384
<b>Maximum</b>	<b>1.1537</b>	<b>2.2228</b>	<b>2.4468</b>	<b>7.7200e-003</b>	<b>0.4971</b>	<b>0.0779</b>	<b>0.5750</b>	<b>0.1730</b>	<b>0.0730</b>	<b>0.2460</b>	<b>0.0000</b>	<b>716.0257</b>	<b>716.0257</b>	<b>0.0771</b>	<b>0.0505</b>	<b>732.9874</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-1-2023	6-30-2023	1.0780	1.0780
2	7-1-2023	9-30-2023	0.6927	0.6927
3	10-1-2023	12-31-2023	0.7025	0.7025
4	1-1-2024	3-31-2024	0.6493	0.6493
5	4-1-2024	6-30-2024	1.1765	1.1765
		Highest	1.1765	1.1765

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5112	0.2254	2.4840	1.3900e-003		0.0293	0.0293		0.0293	0.0293	0.0000	232.8923	232.8923	8.1600e-003	4.2000e-003	234.3473
Energy	0.0132	0.1132	0.0502	7.2000e-004		9.1300e-003	9.1300e-003		9.1300e-003	9.1300e-003	0.0000	542.2401	542.2401	0.0277	5.4500e-003	544.5542
Mobile	0.9624	1.0853	8.9937	0.0190	2.0225	0.0148	2.0373	0.5398	0.0138	0.5536	0.0000	1,751.8916	1,751.8916	0.1261	0.0801	1,778.9213
Waste						0.0000	0.0000		0.0000	0.0000	39.2970	0.0000	39.2970	2.3224	0.0000	97.3567
Water						0.0000	0.0000		0.0000	0.0000	6.9649	77.3387	84.3036	0.7201	0.0175	107.5100
<b>Total</b>	<b>2.4868</b>	<b>1.4239</b>	<b>11.5278</b>	<b>0.0211</b>	<b>2.0225</b>	<b>0.0532</b>	<b>2.0757</b>	<b>0.5398</b>	<b>0.0522</b>	<b>0.5920</b>	<b>46.2619</b>	<b>2,604.3627</b>	<b>2,650.6246</b>	<b>3.2044</b>	<b>0.1072</b>	<b>2,762.6894</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5112	0.2254	2.4840	1.3900e-003		0.0293	0.0293		0.0293	0.0293	0.0000	232.8923	232.8923	8.1600e-003	4.2000e-003	234.3473
Energy	0.0132	0.1132	0.0502	7.2000e-004		9.1300e-003	9.1300e-003		9.1300e-003	9.1300e-003	0.0000	336.4998	336.4998	0.0151	3.9200e-003	338.0453
Mobile	0.9624	1.0853	8.9937	0.0190	2.0225	0.0148	2.0373	0.5398	0.0138	0.5536	0.0000	1,751.8916	1,751.8916	0.1261	0.0801	1,778.9213
Waste						0.0000	0.0000		0.0000	0.0000	39.2970	0.0000	39.2970	2.3224	0.0000	97.3567
Water						0.0000	0.0000		0.0000	0.0000	6.9649	77.3387	84.3036	0.7201	0.0175	107.5100
<b>Total</b>	<b>2.4868</b>	<b>1.4239</b>	<b>11.5278</b>	<b>0.0211</b>	<b>2.0225</b>	<b>0.0532</b>	<b>2.0757</b>	<b>0.5398</b>	<b>0.0522</b>	<b>0.5920</b>	<b>46.2619</b>	<b>2,398.6224</b>	<b>2,444.8843</b>	<b>3.1918</b>	<b>0.1057</b>	<b>2,556.1806</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>7.90</b>	<b>7.76</b>	<b>0.39</b>	<b>1.43</b>	<b>7.47</b>

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/1/2023	4/14/2023	5	10	
2	Grading	Grading	4/15/2023	5/12/2023	5	20	
3	Building Construction	Building Construction	5/13/2023	3/29/2024	5	230	

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

4	Paving	Paving	3/30/2024	4/26/2024	5	20
5	Architectural Coating	Architectural Coating	4/27/2024	5/24/2024	5	20

**Acres of Grading (Site Preparation Phase): 15**

**Acres of Grading (Grading Phase): 20**

**Acres of Paving: 2.69**

**Residential Indoor: 654,075; Residential Outdoor: 218,025; Non-Residential Indoor: 13,974; Non-Residential Outdoor: 4,658; Striped Parking Area: 10,518 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	2.00	5,400.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	351.00	81.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	70.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

**3.2 Site Preparation - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
<b>Total</b>	<b>0.0133</b>	<b>0.1376</b>	<b>0.0912</b>	<b>1.9000e-004</b>	<b>0.0983</b>	<b>6.3300e-003</b>	<b>0.1046</b>	<b>0.0505</b>	<b>5.8200e-003</b>	<b>0.0563</b>	<b>0.0000</b>	<b>16.7254</b>	<b>16.7254</b>	<b>5.4100e-003</b>	<b>0.0000</b>	<b>16.8606</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	4.4000e-004	1.6000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2007	0.2007	1.0000e-005	3.0000e-005	0.2095
Worker	2.4000e-004	1.7000e-004	2.0500e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5711	0.5711	2.0000e-005	2.0000e-005	0.5763
<b>Total</b>	<b>2.5000e-004</b>	<b>6.1000e-004</b>	<b>2.2100e-003</b>	<b>1.0000e-005</b>	<b>7.9000e-004</b>	<b>0.0000</b>	<b>8.0000e-004</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.7718</b>	<b>0.7718</b>	<b>3.0000e-005</b>	<b>5.0000e-005</b>	<b>0.7857</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
<b>Total</b>	<b>0.0133</b>	<b>0.1376</b>	<b>0.0912</b>	<b>1.9000e-004</b>	<b>0.0983</b>	<b>6.3300e-003</b>	<b>0.1046</b>	<b>0.0505</b>	<b>5.8200e-003</b>	<b>0.0563</b>	<b>0.0000</b>	<b>16.7253</b>	<b>16.7253</b>	<b>5.4100e-003</b>	<b>0.0000</b>	<b>16.8606</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	4.4000e-004	1.6000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2007	0.2007	1.0000e-005	3.0000e-005	0.2095
Worker	2.4000e-004	1.7000e-004	2.0500e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5711	0.5711	2.0000e-005	2.0000e-005	0.5763
<b>Total</b>	<b>2.5000e-004</b>	<b>6.1000e-004</b>	<b>2.2100e-003</b>	<b>1.0000e-005</b>	<b>7.9000e-004</b>	<b>0.0000</b>	<b>8.0000e-004</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.7718</b>	<b>0.7718</b>	<b>3.0000e-005</b>	<b>5.0000e-005</b>	<b>0.7857</b>

**3.3 Grading - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0739	0.0000	0.0739	0.0347	0.0000	0.0347	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1794	0.1475	3.0000e-004		7.7500e-003	7.7500e-003		7.1300e-003	7.1300e-003	0.0000	26.0606	26.0606	8.4300e-003	0.0000	26.2713
<b>Total</b>	<b>0.0171</b>	<b>0.1794</b>	<b>0.1475</b>	<b>3.0000e-004</b>	<b>0.0739</b>	<b>7.7500e-003</b>	<b>0.0816</b>	<b>0.0347</b>	<b>7.1300e-003</b>	<b>0.0418</b>	<b>0.0000</b>	<b>26.0606</b>	<b>26.0606</b>	<b>8.4300e-003</b>	<b>0.0000</b>	<b>26.2713</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Grading - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.9600e-003	0.3664	0.0975	1.6200e-003	0.0463	3.0000e-003	0.0493	0.0127	2.8700e-003	0.0156	0.0000	162.0392	162.0392	8.1500e-003	0.0258	169.9224
Vendor	2.0000e-005	8.9000e-004	3.1000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.4013	0.4013	1.0000e-005	6.0000e-005	0.4189
Worker	4.1000e-004	2.8000e-004	3.4200e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9518	0.9518	3.0000e-005	3.0000e-005	0.9605
<b>Total</b>	<b>6.3900e-003</b>	<b>0.3676</b>	<b>0.1012</b>	<b>1.6300e-003</b>	<b>0.0476</b>	<b>3.0200e-003</b>	<b>0.0506</b>	<b>0.0131</b>	<b>2.8900e-003</b>	<b>0.0159</b>	<b>0.0000</b>	<b>163.3924</b>	<b>163.3924</b>	<b>8.1900e-003</b>	<b>0.0259</b>	<b>171.3018</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0739	0.0000	0.0739	0.0347	0.0000	0.0347	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1794	0.1475	3.0000e-004		7.7500e-003	7.7500e-003		7.1300e-003	7.1300e-003	0.0000	26.0606	26.0606	8.4300e-003	0.0000	26.2713
<b>Total</b>	<b>0.0171</b>	<b>0.1794</b>	<b>0.1475</b>	<b>3.0000e-004</b>	<b>0.0739</b>	<b>7.7500e-003</b>	<b>0.0816</b>	<b>0.0347</b>	<b>7.1300e-003</b>	<b>0.0418</b>	<b>0.0000</b>	<b>26.0606</b>	<b>26.0606</b>	<b>8.4300e-003</b>	<b>0.0000</b>	<b>26.2713</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Grading - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.9600e-003	0.3664	0.0975	1.6200e-003	0.0463	3.0000e-003	0.0493	0.0127	2.8700e-003	0.0156	0.0000	162.0392	162.0392	8.1500e-003	0.0258	169.9224
Vendor	2.0000e-005	8.9000e-004	3.1000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.4013	0.4013	1.0000e-005	6.0000e-005	0.4189
Worker	4.1000e-004	2.8000e-004	3.4200e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9518	0.9518	3.0000e-005	3.0000e-005	0.9605
<b>Total</b>	<b>6.3900e-003</b>	<b>0.3676</b>	<b>0.1012</b>	<b>1.6300e-003</b>	<b>0.0476</b>	<b>3.0200e-003</b>	<b>0.0506</b>	<b>0.0131</b>	<b>2.8900e-003</b>	<b>0.0159</b>	<b>0.0000</b>	<b>163.3924</b>	<b>163.3924</b>	<b>8.1900e-003</b>	<b>0.0259</b>	<b>171.3018</b>

**3.4 Building Construction - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1298	1.1868	1.3401	2.2200e-003		0.0577	0.0577		0.0543	0.0543	0.0000	191.2389	191.2389	0.0455	0.0000	192.3762
<b>Total</b>	<b>0.1298</b>	<b>1.1868</b>	<b>1.3401</b>	<b>2.2200e-003</b>		<b>0.0577</b>	<b>0.0577</b>		<b>0.0543</b>	<b>0.0543</b>	<b>0.0000</b>	<b>191.2389</b>	<b>191.2389</b>	<b>0.0455</b>	<b>0.0000</b>	<b>192.3762</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.8400e-003	0.2967	0.1046	1.3700e-003	0.0444	1.7500e-003	0.0461	0.0128	1.6700e-003	0.0145	0.0000	134.0846	134.0846	4.0500e-003	0.0194	139.9757
Worker	0.0783	0.0542	0.6599	2.0000e-003	0.2322	1.2800e-003	0.2335	0.0617	1.1700e-003	0.0629	0.0000	183.7524	183.7524	5.4500e-003	5.1300e-003	185.4164
<b>Total</b>	<b>0.0861</b>	<b>0.3509</b>	<b>0.7645</b>	<b>3.3700e-003</b>	<b>0.2766</b>	<b>3.0300e-003</b>	<b>0.2796</b>	<b>0.0745</b>	<b>2.8400e-003</b>	<b>0.0774</b>	<b>0.0000</b>	<b>317.8370</b>	<b>317.8370</b>	<b>9.5000e-003</b>	<b>0.0246</b>	<b>325.3921</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1298	1.1868	1.3401	2.2200e-003		0.0577	0.0577		0.0543	0.0543	0.0000	191.2387	191.2387	0.0455	0.0000	192.3760
<b>Total</b>	<b>0.1298</b>	<b>1.1868</b>	<b>1.3401</b>	<b>2.2200e-003</b>		<b>0.0577</b>	<b>0.0577</b>		<b>0.0543</b>	<b>0.0543</b>	<b>0.0000</b>	<b>191.2387</b>	<b>191.2387</b>	<b>0.0455</b>	<b>0.0000</b>	<b>192.3760</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2023**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.8400e-003	0.2967	0.1046	1.3700e-003	0.0444	1.7500e-003	0.0461	0.0128	1.6700e-003	0.0145	0.0000	134.0846	134.0846	4.0500e-003	0.0194	139.9757
Worker	0.0783	0.0542	0.6599	2.0000e-003	0.2322	1.2800e-003	0.2335	0.0617	1.1700e-003	0.0629	0.0000	183.7524	183.7524	5.4500e-003	5.1300e-003	185.4164
<b>Total</b>	<b>0.0861</b>	<b>0.3509</b>	<b>0.7645</b>	<b>3.3700e-003</b>	<b>0.2766</b>	<b>3.0300e-003</b>	<b>0.2796</b>	<b>0.0745</b>	<b>2.8400e-003</b>	<b>0.0774</b>	<b>0.0000</b>	<b>317.8370</b>	<b>317.8370</b>	<b>9.5000e-003</b>	<b>0.0246</b>	<b>325.3921</b>

**3.4 Building Construction - 2024**

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0478	0.4369	0.5254	8.8000e-004		0.0199	0.0199		0.0188	0.0188	0.0000	75.3510	75.3510	0.0178	0.0000	75.7964
<b>Total</b>	<b>0.0478</b>	<b>0.4369</b>	<b>0.5254</b>	<b>8.8000e-004</b>		<b>0.0199</b>	<b>0.0199</b>		<b>0.0188</b>	<b>0.0188</b>	<b>0.0000</b>	<b>75.3510</b>	<b>75.3510</b>	<b>0.0178</b>	<b>0.0000</b>	<b>75.7964</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9700e-003	0.1161	0.0403	5.3000e-004	0.0175	6.9000e-004	0.0182	5.0500e-003	6.6000e-004	5.7100e-003	0.0000	51.9012	51.9012	1.6300e-003	7.5200e-003	54.1828
Worker	0.0290	0.0192	0.2429	7.6000e-004	0.0915	4.8000e-004	0.0920	0.0243	4.4000e-004	0.0248	0.0000	70.0168	70.0168	1.9600e-003	1.8900e-003	70.6280
<b>Total</b>	<b>0.0320</b>	<b>0.1353</b>	<b>0.2832</b>	<b>1.2900e-003</b>	<b>0.1090</b>	<b>1.1700e-003</b>	<b>0.1101</b>	<b>0.0294</b>	<b>1.1000e-003</b>	<b>0.0305</b>	<b>0.0000</b>	<b>121.9180</b>	<b>121.9180</b>	<b>3.5900e-003</b>	<b>9.4100e-003</b>	<b>124.8108</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0478	0.4369	0.5254	8.8000e-004		0.0199	0.0199		0.0188	0.0188	0.0000	75.3509	75.3509	0.0178	0.0000	75.7963
<b>Total</b>	<b>0.0478</b>	<b>0.4369</b>	<b>0.5254</b>	<b>8.8000e-004</b>		<b>0.0199</b>	<b>0.0199</b>		<b>0.0188</b>	<b>0.0188</b>	<b>0.0000</b>	<b>75.3509</b>	<b>75.3509</b>	<b>0.0178</b>	<b>0.0000</b>	<b>75.7963</b>

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**3.4 Building Construction - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9700e-003	0.1161	0.0403	5.3000e-004	0.0175	6.9000e-004	0.0182	5.0500e-003	6.6000e-004	5.7100e-003	0.0000	51.9012	51.9012	1.6300e-003	7.5200e-003	54.1828
Worker	0.0290	0.0192	0.2429	7.6000e-004	0.0915	4.8000e-004	0.0920	0.0243	4.4000e-004	0.0248	0.0000	70.0168	70.0168	1.9600e-003	1.8900e-003	70.6280
<b>Total</b>	<b>0.0320</b>	<b>0.1353</b>	<b>0.2832</b>	<b>1.2900e-003</b>	<b>0.1090</b>	<b>1.1700e-003</b>	<b>0.1101</b>	<b>0.0294</b>	<b>1.1000e-003</b>	<b>0.0305</b>	<b>0.0000</b>	<b>121.9180</b>	<b>121.9180</b>	<b>3.5900e-003</b>	<b>9.4100e-003</b>	<b>124.8108</b>

**3.5 Paving - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1885
Paving	3.5200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0134</b>	<b>0.0953</b>	<b>0.1463</b>	<b>2.3000e-004</b>		<b>4.6900e-003</b>	<b>4.6900e-003</b>		<b>4.3100e-003</b>	<b>4.3100e-003</b>	<b>0.0000</b>	<b>20.0265</b>	<b>20.0265</b>	<b>6.4800e-003</b>	<b>0.0000</b>	<b>20.1885</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.5 Paving - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	8.8000e-004	3.1000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3943	0.3943	1.0000e-005	6.0000e-005	0.4117
Worker	3.8000e-004	2.5000e-004	3.1900e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9207	0.9207	3.0000e-005	2.0000e-005	0.9287
<b>Total</b>	<b>4.0000e-004</b>	<b>1.1300e-003</b>	<b>3.5000e-003</b>	<b>1.0000e-005</b>	<b>1.3300e-003</b>	<b>2.0000e-005</b>	<b>1.3500e-003</b>	<b>3.6000e-004</b>	<b>2.0000e-005</b>	<b>3.7000e-004</b>	<b>0.0000</b>	<b>1.3150</b>	<b>1.3150</b>	<b>4.0000e-005</b>	<b>8.0000e-005</b>	<b>1.3404</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1884
Paving	3.5200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0134</b>	<b>0.0953</b>	<b>0.1463</b>	<b>2.3000e-004</b>		<b>4.6900e-003</b>	<b>4.6900e-003</b>		<b>4.3100e-003</b>	<b>4.3100e-003</b>	<b>0.0000</b>	<b>20.0265</b>	<b>20.0265</b>	<b>6.4800e-003</b>	<b>0.0000</b>	<b>20.1884</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.5 Paving - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	8.8000e-004	3.1000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3943	0.3943	1.0000e-005	6.0000e-005	0.4117
Worker	3.8000e-004	2.5000e-004	3.1900e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9207	0.9207	3.0000e-005	2.0000e-005	0.9287
<b>Total</b>	<b>4.0000e-004</b>	<b>1.1300e-003</b>	<b>3.5000e-003</b>	<b>1.0000e-005</b>	<b>1.3300e-003</b>	<b>2.0000e-005</b>	<b>1.3500e-003</b>	<b>3.6000e-004</b>	<b>2.0000e-005</b>	<b>3.7000e-004</b>	<b>0.0000</b>	<b>1.3150</b>	<b>1.3150</b>	<b>4.0000e-005</b>	<b>8.0000e-005</b>	<b>1.3404</b>

**3.6 Architectural Coating - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0565					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
<b>Total</b>	<b>1.0583</b>	<b>0.0122</b>	<b>0.0181</b>	<b>3.0000e-005</b>		<b>6.1000e-004</b>	<b>6.1000e-004</b>		<b>6.1000e-004</b>	<b>6.1000e-004</b>	<b>0.0000</b>	<b>2.5533</b>	<b>2.5533</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>2.5569</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.6 Architectural Coating - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	8.8000e-004	3.1000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3943	0.3943	1.0000e-005	6.0000e-005	0.4117
Worker	1.7800e-003	1.1800e-003	0.0149	5.0000e-005	5.6100e-003	3.0000e-005	5.6400e-003	1.4900e-003	3.0000e-005	1.5200e-003	0.0000	4.2965	4.2965	1.2000e-004	1.2000e-004	4.3340
<b>Total</b>	<b>1.8000e-003</b>	<b>2.0600e-003</b>	<b>0.0152</b>	<b>5.0000e-005</b>	<b>5.7400e-003</b>	<b>4.0000e-005</b>	<b>5.7800e-003</b>	<b>1.5300e-003</b>	<b>4.0000e-005</b>	<b>1.5600e-003</b>	<b>0.0000</b>	<b>4.6908</b>	<b>4.6908</b>	<b>1.3000e-004</b>	<b>1.8000e-004</b>	<b>4.7456</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0565					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
<b>Total</b>	<b>1.0583</b>	<b>0.0122</b>	<b>0.0181</b>	<b>3.0000e-005</b>		<b>6.1000e-004</b>	<b>6.1000e-004</b>		<b>6.1000e-004</b>	<b>6.1000e-004</b>	<b>0.0000</b>	<b>2.5533</b>	<b>2.5533</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>2.5568</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.6 Architectural Coating - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	8.8000e-004	3.1000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3943	0.3943	1.0000e-005	6.0000e-005	0.4117
Worker	1.7800e-003	1.1800e-003	0.0149	5.0000e-005	5.6100e-003	3.0000e-005	5.6400e-003	1.4900e-003	3.0000e-005	1.5200e-003	0.0000	4.2965	4.2965	1.2000e-004	1.2000e-004	4.3340
<b>Total</b>	<b>1.8000e-003</b>	<b>2.0600e-003</b>	<b>0.0152</b>	<b>5.0000e-005</b>	<b>5.7400e-003</b>	<b>4.0000e-005</b>	<b>5.7800e-003</b>	<b>1.5300e-003</b>	<b>4.0000e-005</b>	<b>1.5600e-003</b>	<b>0.0000</b>	<b>4.6908</b>	<b>4.6908</b>	<b>1.3000e-004</b>	<b>1.8000e-004</b>	<b>4.7456</b>

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.9624	1.0853	8.9937	0.0190	2.0225	0.0148	2.0373	0.5398	0.0138	0.5536	0.0000	1,751.8916	1,751.8916	0.1261	0.0801	1,778.9213
Unmitigated	0.9624	1.0853	8.9937	0.0190	2.0225	0.0148	2.0373	0.5398	0.0138	0.5536	0.0000	1,751.8916	1,751.8916	0.1261	0.0801	1,778.9213

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
Apartments Mid Rise	1,943.00	1,754.50	1461.60	5,274,602	5,274,602
City Park	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Strip Mall	93.71	88.88	43.13	132,126	132,126
<b>Total</b>	<b>2,036.71</b>	<b>1,843.38</b>	<b>1,504.73</b>	<b>5,406,727</b>	<b>5,406,727</b>

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Apartments Mid Rise	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
City Park	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Enclosed Parking Structure	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
General Office Building	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Health Club	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Parking Lot	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Recreational Swimming Pool	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Strip Mall	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

Percent of Electricity Use Generated with Renewable Energy

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	205.7403	205.7403	0.0126	1.5200e-003	206.5088
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	411.4807	411.4807	0.0252	3.0500e-003	413.0177
NaturalGas Mitigated	0.0132	0.1132	0.0502	7.2000e-004		9.1300e-003	9.1300e-003		9.1300e-003	9.1300e-003	0.0000	130.7595	130.7595	2.5100e-003	2.4000e-003	131.5365
NaturalGas Unmitigated	0.0132	0.1132	0.0502	7.2000e-004		9.1300e-003	9.1300e-003		9.1300e-003	9.1300e-003	0.0000	130.7595	130.7595	2.5100e-003	2.4000e-003	131.5365

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.2 Energy by Land Use - NaturalGas**

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	240110	1.2900e-003	0.0111	4.7100e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	12.8132	12.8132	2.5000e-004	2.3000e-004	12.8893
Apartments Mid Rise	2.11005e+006	0.0114	0.0972	0.0414	6.2000e-004		7.8600e-003	7.8600e-003		7.8600e-003	7.8600e-003	0.0000	112.6005	112.6005	2.1600e-003	2.0600e-003	113.2697
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	34952.3	1.9000e-004	1.7100e-003	1.4400e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.8652	1.8652	4.0000e-005	3.0000e-005	1.8763
Health Club	59973.1	3.2000e-004	2.9400e-003	2.4700e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.2004	3.2004	6.0000e-005	6.0000e-005	3.2194
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	5250.3	3.0000e-005	2.6000e-004	2.2000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2802	0.2802	1.0000e-005	1.0000e-005	0.2818
<b>Total</b>		<b>0.0132</b>	<b>0.1132</b>	<b>0.0502</b>	<b>7.2000e-004</b>		<b>9.1200e-003</b>	<b>9.1200e-003</b>		<b>9.1200e-003</b>	<b>9.1200e-003</b>	<b>0.0000</b>	<b>130.7595</b>	<b>130.7595</b>	<b>2.5200e-003</b>	<b>2.3900e-003</b>	<b>131.5365</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	240110	1.2900e-003	0.0111	4.7100e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	12.8132	12.8132	2.5000e-004	2.3000e-004	12.8893
Apartments Mid Rise	2.11005e+006	0.0114	0.0972	0.0414	6.2000e-004		7.8600e-003	7.8600e-003		7.8600e-003	7.8600e-003	0.0000	112.6005	112.6005	2.1600e-003	2.0600e-003	113.2697
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	34952.3	1.9000e-004	1.7100e-003	1.4400e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.8652	1.8652	4.0000e-005	3.0000e-005	1.8763
Health Club	59973.1	3.2000e-004	2.9400e-003	2.4700e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.2004	3.2004	6.0000e-005	6.0000e-005	3.2194
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	5250.3	3.0000e-005	2.6000e-004	2.2000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2802	0.2802	1.0000e-005	1.0000e-005	0.2818
<b>Total</b>		<b>0.0132</b>	<b>0.1132</b>	<b>0.0502</b>	<b>7.2000e-004</b>		<b>9.1200e-003</b>	<b>9.1200e-003</b>		<b>9.1200e-003</b>	<b>9.1200e-003</b>	<b>0.0000</b>	<b>130.7595</b>	<b>130.7595</b>	<b>2.5200e-003</b>	<b>2.3900e-003</b>	<b>131.5365</b>

Modera Melrose Unmitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	126725	31.0388	1.9000e-003	2.3000e-004	31.1547
Apartments Mid Rise	1.11364e+006	272.7649	0.0167	2.0200e-003	273.7838
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	304500	74.5814	4.5600e-003	5.5000e-004	74.8600
General Office Building	22580.3	5.5306	3.4000e-004	4.0000e-005	5.5513
Health Club	42585.1	10.4304	6.4000e-004	8.0000e-005	10.4694
Parking Lot	41056.4	10.0560	6.1000e-004	7.0000e-005	10.0935
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	28900.3	7.0786	4.3000e-004	5.0000e-005	7.1050
<b>Total</b>		<b>411.4806</b>	<b>0.0252</b>	<b>3.0400e-003</b>	<b>413.0177</b>

Modera Melrose Unmitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.3 Energy by Land Use - Electricity**

**Mitigated**

Land Use	Electricity Use kWh/yr	Total CO2 MT/yr	CH4 MT/yr	N2O MT/yr	CO2e MT/yr
Apartments High Rise	63362.3	15.5194	9.5000e-004	1.1000e-004	15.5774
Apartments Mid Rise	556820	136.3825	8.3300e-003	1.0100e-003	136.8919
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	152250	37.2907	2.2800e-003	2.8000e-004	37.4300
General Office Building	11290.2	2.7653	1.7000e-004	2.0000e-005	2.7756
Health Club	21292.5	5.2152	3.2000e-004	4.0000e-005	5.2347
Parking Lot	20528.2	5.0280	3.1000e-004	4.0000e-005	5.0468
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	14450.1	3.5393	2.2000e-004	3.0000e-005	3.5525
<b>Total</b>		<b>205.7403</b>	<b>0.0126</b>	<b>1.5300e-003</b>	<b>206.5088</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

Modera Melrose Unmitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5112	0.2254	2.4840	1.3900e-003		0.0293	0.0293		0.0293	0.0293	0.0000	232.8923	232.8923	8.1600e-003	4.2000e-003	234.3473
Unmitigated	1.5112	0.2254	2.4840	1.3900e-003		0.0293	0.0293		0.0293	0.0293	0.0000	232.8923	232.8923	8.1600e-003	4.2000e-003	234.3473

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1057					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3101					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0231	0.1977	0.0841	1.2600e-003		0.0160	0.0160		0.0160	0.0160	0.0000	228.9698	228.9698	4.3900e-003	4.2000e-003	230.3305
Landscaping	0.0723	0.0276	2.3998	1.3000e-004		0.0133	0.0133		0.0133	0.0133	0.0000	3.9225	3.9225	3.7700e-003	0.0000	4.0168
<b>Total</b>	<b>1.5112</b>	<b>0.2254</b>	<b>2.4840</b>	<b>1.3900e-003</b>		<b>0.0293</b>	<b>0.0293</b>		<b>0.0293</b>	<b>0.0293</b>	<b>0.0000</b>	<b>232.8923</b>	<b>232.8923</b>	<b>8.1600e-003</b>	<b>4.2000e-003</b>	<b>234.3473</b>

Modera Melrose Unmitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1057					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3101					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0231	0.1977	0.0841	1.2600e-003		0.0160	0.0160		0.0160	0.0160	0.0000	228.9698	228.9698	4.3900e-003	4.2000e-003	230.3305
Landscaping	0.0723	0.0276	2.3998	1.3000e-004		0.0133	0.0133		0.0133	0.0133	0.0000	3.9225	3.9225	3.7700e-003	0.0000	4.0168
<b>Total</b>	<b>1.5112</b>	<b>0.2254</b>	<b>2.4840</b>	<b>1.3900e-003</b>		<b>0.0293</b>	<b>0.0293</b>		<b>0.0293</b>	<b>0.0293</b>	<b>0.0000</b>	<b>232.8923</b>	<b>232.8923</b>	<b>8.1600e-003</b>	<b>4.2000e-003</b>	<b>234.3473</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

Modera Melrose Unmitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	84.3036	0.7201	0.0175	107.5100
Unmitigated	84.3036	0.7201	0.0175	107.5100

Modera Melrose Unmitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	2.15008 / 0	7.5393	0.0705	1.7100e-003	9.8094
Apartments Mid Rise	18.8947 / 0	66.2541	0.6194	0.0150	86.2035
City Park	0 / 2.62126	7.1329	4.4000e-004	5.0000e-005	7.1596
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	0.311034 / 0	1.0906	0.0102	2.5000e-004	1.4190
Health Club	0.308136 / 0	1.0805	0.0101	2.4000e-004	1.4058
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.114146 / 0.0699606	0.5906	3.7500e-003	9.0000e-005	0.7119
Strip Mall	0.175552 / 0	0.6156	5.7500e-003	1.4000e-004	0.8009
<b>Total</b>		<b>84.3036</b>	<b>0.7201</b>	<b>0.0175</b>	<b>107.5100</b>

Modera Melrose Unmitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**7.2 Water by Land Use**

**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	2.15008 / 0	7.5393	0.0705	1.7100e-003	9.8094
Apartments Mid Rise	18.8947 / 0	66.2541	0.6194	0.0150	86.2035
City Park	0 / 2.62126	7.1329	4.4000e-004	5.0000e-005	7.1596
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	0.311034 / 0	1.0906	0.0102	2.5000e-004	1.4190
Health Club	0.308136 / 0	1.0805	0.0101	2.4000e-004	1.4058
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.114146 / 0.0699606	0.5906	3.7500e-003	9.0000e-005	0.7119
Strip Mall	0.175552 / 0	0.6156	5.7500e-003	1.4000e-004	0.8009
<b>Total</b>		<b>84.3036</b>	<b>0.7201</b>	<b>0.0175</b>	<b>107.5100</b>

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

Modera Melrose Unmitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	39.2970	2.3224	0.0000	97.3567
Unmitigated	39.2970	2.3224	0.0000	97.3567

Modera Melrose Unmitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	15.18	3.0814	0.1821	0.0000	7.6341
Apartments Mid Rise	133.4	27.0790	1.6003	0.0000	67.0871
City Park	0.19	0.0386	2.2800e-003	0.0000	0.0956
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
General Office Building	1.63	0.3309	0.0196	0.0000	0.8197
Health Club	29.7	6.0288	0.3563	0.0000	14.9362
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	11	2.2329	0.1320	0.0000	5.5319
Strip Mall	2.49	0.5055	0.0299	0.0000	1.2522
<b>Total</b>		<b>39.2970</b>	<b>2.3224</b>	<b>0.0000</b>	<b>97.3567</b>

Modera Melrose Unmitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.2 Waste by Land Use**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	15.18	3.0814	0.1821	0.0000	7.6341
Apartments Mid Rise	133.4	27.0790	1.6003	0.0000	67.0871
City Park	0.19	0.0386	2.2800e-003	0.0000	0.0956
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
General Office Building	1.63	0.3309	0.0196	0.0000	0.8197
Health Club	29.7	6.0288	0.3563	0.0000	14.9362
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	11	2.2329	0.1320	0.0000	5.5319
Strip Mall	2.49	0.5055	0.0299	0.0000	1.2522
<b>Total</b>		<b>39.2970</b>	<b>2.3224</b>	<b>0.0000</b>	<b>97.3567</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

Modera Melrose Unmitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Modera Melrose Unmitigated  
San Diego County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1.75	1000sqft	0.04	1,745.00	0
Enclosed Parking Structure	145.00	Space	0.00	58,000.00	0
Parking Lot	117.30	1000sqft	2.69	117,304.00	0
City Park	2.20	Acre	2.20	95,696.96	0
Health Club	5.21	1000sqft	0.00	5,206.00	0
Recreational Swimming Pool	1.93	1000sqft	0.04	1,927.00	0
Apartments High Rise	33.00	Dwelling Unit	0.25	33,000.00	94
Apartments Mid Rise	290.00	Dwelling Unit	2.16	290,000.00	829
Strip Mall	2.37	1000sqft	0.05	2,365.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	40
<b>Climate Zone</b>	13			<b>Operational Year</b>	2024
<b>Utility Company</b>	San Diego Gas & Electric				
<b>CO2 Intensity (lb/MW hr)</b>	539.98	<b>CH4 Intensity (lb/MW hr)</b>	0.033	<b>N2O Intensity (lb/MW hr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Land use assumptions provided by applicant.

Construction Phase - CalEEMod default assumptions. No demolition required.

Off-road Equipment - Architectural Coating: CalEEMod default assumptions

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Off-road Equipment - Building Construction: CalEEMod default assumptions

Off-road Equipment - Demo: CalEEMod default assumptions

Off-road Equipment - Grading: CalEEMod default assumptions

Off-road Equipment - Paving: CalEEMod default assumptions

Off-road Equipment - Site Prep: CalEEMod default assumptions

Trips and VMT - CalEEMod default assumptions. 2 vendor trucks added to phases without default vendor trips to account for water trucks and/or routine deliveries.

On-road Fugitive Dust - CalEEMod default assumptions

Demolition - No demolition required.

Grading - Import quantity provided by applicant.

Architectural Coating - SDAPCD Rule 67.0.1.

Vehicle Trips - Trips consistent with data from 2/15/2022 Linscott Law & Greenspan Local Transportation Study.

Road Dust - CalEEMod default assumptions

Woodstoves - PDF: no wood-burning appliances.

Consumer Products - CalEEMod Default Assumptions

Area Coating - SDAPCD Rule 67.0.1.

Energy Use - CalEEMod default assumptions

Water And Wastewater - Zero'd out outdoor water use for buildings and accounted for in City Park land use which represents overall landscaping.

Solid Waste - CalEEMod default assumptions

Area Mitigation - SDAPCD Rule 67.0.1

Energy Mitigation - PDF: 50% of on-site energy demand will come from PV solar

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	18.15	29.70
tblFireplaces	NumberGas	159.50	261.00
tblFireplaces	NumberWood	11.55	0.00
tblFireplaces	NumberWood	101.50	0.00
tblGrading	MaterialImported	0.00	43,200.00
tblLandUse	LandUseSquareFeet	1,750.00	1,745.00
tblLandUse	LandUseSquareFeet	117,300.00	117,304.00
tblLandUse	LandUseSquareFeet	95,832.00	95,696.96
tblLandUse	LandUseSquareFeet	5,210.00	5,206.00
tblLandUse	LandUseSquareFeet	1,930.00	1,927.00
tblLandUse	LandUseSquareFeet	2,370.00	2,365.00
tblLandUse	LotAcreage	1.30	0.00
tblLandUse	LotAcreage	0.12	0.00
tblLandUse	LotAcreage	0.53	0.25
tblLandUse	LotAcreage	7.63	2.16
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblVehicleTrips	ST_TR	4.53	0.00
tblVehicleTrips	ST_TR	4.91	6.05
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	20.87	0.00

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	ST_TR	42.04	37.50
tblVehicleTrips	SU_TR	3.59	0.00
tblVehicleTrips	SU_TR	4.09	5.04
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	SU_TR	20.43	18.20
tblVehicleTrips	WD_TR	4.45	0.00
tblVehicleTrips	WD_TR	5.44	6.70
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	28.82	0.00
tblVehicleTrips	WD_TR	44.32	39.54
tblWater	OutdoorWaterUseRate	1,355,487.01	0.00
tblWater	OutdoorWaterUseRate	11,911,855.55	0.00
tblWater	OutdoorWaterUseRate	190,633.78	0.00
tblWater	OutdoorWaterUseRate	188,857.41	0.00
tblWater	OutdoorWaterUseRate	107,596.31	0.00
tblWoodstoves	NumberCatalytic	1.65	0.00
tblWoodstoves	NumberCatalytic	14.50	0.00
tblWoodstoves	NumberNoncatalytic	1.65	0.00
tblWoodstoves	NumberNoncatalytic	14.50	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

**2.0 Emissions Summary**

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.1 Overall Construction (Maximum Daily Emission)**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	2.7151	54.7982	25.5376	0.1928	19.8184	1.2673	21.0858	10.1456	1.1660	11.3115	0.0000	20,892.80 21	20,892.80 21	1.8313	2.8516	21,788.35 41
2024	106.0294	17.6401	24.9086	0.0665	3.4320	0.6494	4.0814	0.9227	0.6109	1.5336	0.0000	6,671.507 1	6,671.507 1	0.7274	0.3202	6,785.103 1
<b>Maximum</b>	<b>106.0294</b>	<b>54.7982</b>	<b>25.5376</b>	<b>0.1928</b>	<b>19.8184</b>	<b>1.2673</b>	<b>21.0858</b>	<b>10.1456</b>	<b>1.1660</b>	<b>11.3115</b>	<b>0.0000</b>	<b>20,892.80 21</b>	<b>20,892.80 21</b>	<b>1.8313</b>	<b>2.8516</b>	<b>21,788.35 41</b>

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	2.7151	54.7982	25.5376	0.1928	19.8184	1.2673	21.0858	10.1456	1.1660	11.3115	0.0000	20,892.80 21	20,892.80 21	1.8313	2.8516	21,788.35 41
2024	106.0294	17.6401	24.9086	0.0665	3.4320	0.6494	4.0814	0.9227	0.6109	1.5336	0.0000	6,671.507 1	6,671.507 1	0.7274	0.3202	6,785.103 1
<b>Maximum</b>	<b>106.0294</b>	<b>54.7982</b>	<b>25.5376</b>	<b>0.1928</b>	<b>19.8184</b>	<b>1.2673</b>	<b>21.0858</b>	<b>10.1456</b>	<b>1.1660</b>	<b>11.3115</b>	<b>0.0000</b>	<b>20,892.80 21</b>	<b>20,892.80 21</b>	<b>1.8313</b>	<b>2.8516</b>	<b>21,788.35 41</b>



Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.1253	5.1294	28.7168	0.0322		0.5376	0.5376		0.5376	0.5376	0.0000	6,204.0427	6,204.0427	0.1642	0.1129	6,241.7797
Energy	0.0724	0.6203	0.2751	3.9500e-003		0.0500	0.0500		0.0500	0.0500		789.7953	789.7953	0.0151	0.0145	794.4887
Mobile	5.6755	6.3506	53.0910	0.1090	11.9826	0.0858	12.0684	3.1920	0.0800	3.2719		11,108.9103	11,108.9103	0.8195	0.5163	11,283.2510
<b>Total</b>	<b>14.8732</b>	<b>12.1003</b>	<b>82.0829</b>	<b>0.1451</b>	<b>11.9826</b>	<b>0.6734</b>	<b>12.6560</b>	<b>3.1920</b>	<b>0.6676</b>	<b>3.8596</b>	<b>0.0000</b>	<b>18,102.7484</b>	<b>18,102.7484</b>	<b>0.9988</b>	<b>0.6436</b>	<b>18,319.5194</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.1253	5.1294	28.7168	0.0322		0.5376	0.5376		0.5376	0.5376	0.0000	6,204.0427	6,204.0427	0.1642	0.1129	6,241.7797
Energy	0.0724	0.6203	0.2751	3.9500e-003		0.0500	0.0500		0.0500	0.0500		789.7953	789.7953	0.0151	0.0145	794.4887
Mobile	5.6755	6.3506	53.0910	0.1090	11.9826	0.0858	12.0684	3.1920	0.0800	3.2719		11,108.9103	11,108.9103	0.8195	0.5163	11,283.2510
<b>Total</b>	<b>14.8732</b>	<b>12.1003</b>	<b>82.0829</b>	<b>0.1451</b>	<b>11.9826</b>	<b>0.6734</b>	<b>12.6560</b>	<b>3.1920</b>	<b>0.6676</b>	<b>3.8596</b>	<b>0.0000</b>	<b>18,102.7484</b>	<b>18,102.7484</b>	<b>0.9988</b>	<b>0.6436</b>	<b>18,319.5194</b>

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/1/2023	4/14/2023	5	10	
2	Grading	Grading	4/15/2023	5/12/2023	5	20	
3	Building Construction	Building Construction	5/13/2023	3/29/2024	5	230	
4	Paving	Paving	3/30/2024	4/26/2024	5	20	
5	Architectural Coating	Architectural Coating	4/27/2024	5/24/2024	5	20	

**Acres of Grading (Site Preparation Phase): 15**

**Acres of Grading (Grading Phase): 20**

**Acres of Paving: 2.69**

**Residential Indoor: 654,075; Residential Outdoor: 218,025; Non-Residential Indoor: 13,974; Non-Residential Outdoor: 4,658; Striped Parking Area: 10,518 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	2.00	5,400.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	351.00	81.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	70.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
<b>Total</b>	<b>2.6595</b>	<b>27.5242</b>	<b>18.2443</b>	<b>0.0381</b>	<b>19.6570</b>	<b>1.2660</b>	<b>20.9230</b>	<b>10.1025</b>	<b>1.1647</b>	<b>11.2672</b>		<b>3,687.308 1</b>	<b>3,687.308 1</b>	<b>1.1926</b>		<b>3,717.121 9</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3200e-003	0.0893	0.0318	4.1000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		44.2722	44.2722	1.3300e-003	6.4200e-003	46.2176
Worker	0.0533	0.0344	0.4105	1.2300e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		124.8010	124.8010	3.8100e-003	3.5600e-003	125.9573
<b>Total</b>	<b>0.0557</b>	<b>0.1237</b>	<b>0.4423</b>	<b>1.6400e-003</b>	<b>0.1614</b>	<b>1.3100e-003</b>	<b>0.1627</b>	<b>0.0431</b>	<b>1.2300e-003</b>	<b>0.0444</b>		<b>169.0733</b>	<b>169.0733</b>	<b>5.1400e-003</b>	<b>9.9800e-003</b>	<b>172.1749</b>

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
<b>Total</b>	<b>2.6595</b>	<b>27.5242</b>	<b>18.2443</b>	<b>0.0381</b>	<b>19.6570</b>	<b>1.2660</b>	<b>20.9230</b>	<b>10.1025</b>	<b>1.1647</b>	<b>11.2672</b>	<b>0.0000</b>	<b>3,687.308 1</b>	<b>3,687.308 1</b>	<b>1.1926</b>		<b>3,717.121 9</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3200e-003	0.0893	0.0318	4.1000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		44.2722	44.2722	1.3300e-003	6.4200e-003	46.2176
Worker	0.0533	0.0344	0.4105	1.2300e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		124.8010	124.8010	3.8100e-003	3.5600e-003	125.9573
<b>Total</b>	<b>0.0557</b>	<b>0.1237</b>	<b>0.4423</b>	<b>1.6400e-003</b>	<b>0.1614</b>	<b>1.3100e-003</b>	<b>0.1627</b>	<b>0.0431</b>	<b>1.2300e-003</b>	<b>0.0444</b>		<b>169.0733</b>	<b>169.0733</b>	<b>5.1400e-003</b>	<b>9.9800e-003</b>	<b>172.1749</b>

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Grading - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.3861	0.0000	7.3861	3.4707	0.0000	3.4707			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
<b>Total</b>	<b>1.7109</b>	<b>17.9359</b>	<b>14.7507</b>	<b>0.0297</b>	<b>7.3861</b>	<b>0.7749</b>	<b>8.1610</b>	<b>3.4707</b>	<b>0.7129</b>	<b>4.1836</b>		<b>2,872.6910</b>	<b>2,872.6910</b>	<b>0.9291</b>		<b>2,895.9182</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.5748	36.7444	9.8233	0.1617	4.7224	0.3003	5.0227	1.2944	0.2874	1.5818			17,871.8380	17,871.8380	0.8977	2.8422	18,741.2540
Vendor	2.3200e-003	0.0893	0.0318	4.1000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003			44.2722	44.2722	1.3300e-003	6.4200e-003	46.2176
Worker	0.0445	0.0286	0.3421	1.0300e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333			104.0008	104.0008	3.1800e-003	2.9700e-003	104.9644
<b>Total</b>	<b>0.6216</b>	<b>36.8623</b>	<b>10.1972</b>	<b>0.1632</b>	<b>4.8591</b>	<b>0.3015</b>	<b>5.1607</b>	<b>1.3310</b>	<b>0.2885</b>	<b>1.6194</b>			<b>18,020.1111</b>	<b>18,020.1111</b>	<b>0.9022</b>	<b>2.8516</b>	<b>18,892.4360</b>

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Grading - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.3861	0.0000	7.3861	3.4707	0.0000	3.4707			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
<b>Total</b>	<b>1.7109</b>	<b>17.9359</b>	<b>14.7507</b>	<b>0.0297</b>	<b>7.3861</b>	<b>0.7749</b>	<b>8.1610</b>	<b>3.4707</b>	<b>0.7129</b>	<b>4.1836</b>	<b>0.0000</b>	<b>2,872.6910</b>	<b>2,872.6910</b>	<b>0.9291</b>		<b>2,895.9182</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5748	36.7444	9.8233	0.1617	4.7224	0.3003	5.0227	1.2944	0.2874	1.5818		17,871.8380	17,871.8380	0.8977	2.8422	18,741.2540
Vendor	2.3200e-003	0.0893	0.0318	4.1000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		44.2722	44.2722	1.3300e-003	6.4200e-003	46.2176
Worker	0.0445	0.0286	0.3421	1.0300e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		104.0008	104.0008	3.1800e-003	2.9700e-003	104.9644
<b>Total</b>	<b>0.6216</b>	<b>36.8623</b>	<b>10.1972</b>	<b>0.1632</b>	<b>4.8591</b>	<b>0.3015</b>	<b>5.1607</b>	<b>1.3310</b>	<b>0.2885</b>	<b>1.6194</b>		<b>18,020.1111</b>	<b>18,020.1111</b>	<b>0.9022</b>	<b>2.8516</b>	<b>18,892.4360</b>

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>		<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0941	3.6184	1.2891	0.0166	0.5486	0.0213	0.5698	0.1579	0.0203	0.1783		1,793.0258	1,793.0258	0.0540	0.2599	1,871.8125
Worker	1.0401	0.6699	8.0045	0.0241	2.8834	0.0155	2.8988	0.7648	0.0142	0.7790		2,433.6196	2,433.6196	0.0744	0.0694	2,456.1676
<b>Total</b>	<b>1.1342</b>	<b>4.2883</b>	<b>9.2936</b>	<b>0.0407</b>	<b>3.4320</b>	<b>0.0367</b>	<b>3.4687</b>	<b>0.9227</b>	<b>0.0346</b>	<b>0.9573</b>		<b>4,226.6454</b>	<b>4,226.6454</b>	<b>0.1284</b>	<b>0.3293</b>	<b>4,327.9801</b>

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>	<b>0.0000</b>	<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0941	3.6184	1.2891	0.0166	0.5486	0.0213	0.5698	0.1579	0.0203	0.1783		1,793.0258	1,793.0258	0.0540	0.2599	1,871.8125
Worker	1.0401	0.6699	8.0045	0.0241	2.8834	0.0155	2.8988	0.7648	0.0142	0.7790		2,433.6196	2,433.6196	0.0744	0.0694	2,456.1676
<b>Total</b>	<b>1.1342</b>	<b>4.2883</b>	<b>9.2936</b>	<b>0.0407</b>	<b>3.4320</b>	<b>0.0367</b>	<b>3.4687</b>	<b>0.9227</b>	<b>0.0346</b>	<b>0.9573</b>		<b>4,226.6454</b>	<b>4,226.6454</b>	<b>0.1284</b>	<b>0.3293</b>	<b>4,327.9801</b>

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>		<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0903	3.5940	1.2597	0.0163	0.5486	0.0214	0.5700	0.1579	0.0204	0.1784		1,761.8366	1,761.8366	0.0552	0.2553	1,839.2981
Worker	0.9791	0.6023	7.4821	0.0233	2.8834	0.0147	2.8981	0.7648	0.0135	0.7784		2,353.9716	2,353.9716	0.0678	0.0649	2,374.9973
<b>Total</b>	<b>1.0694</b>	<b>4.1963</b>	<b>8.7418</b>	<b>0.0396</b>	<b>3.4320</b>	<b>0.0361</b>	<b>3.4680</b>	<b>0.9227</b>	<b>0.0340</b>	<b>0.9567</b>		<b>4,115.8082</b>	<b>4,115.8082</b>	<b>0.1230</b>	<b>0.3202</b>	<b>4,214.2954</b>

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>	<b>0.0000</b>	<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0903	3.5940	1.2597	0.0163	0.5486	0.0214	0.5700	0.1579	0.0204	0.1784		1,761.8366	1,761.8366	0.0552	0.2553	1,839.2981
Worker	0.9791	0.6023	7.4821	0.0233	2.8834	0.0147	2.8981	0.7648	0.0135	0.7784		2,353.9716	2,353.9716	0.0678	0.0649	2,374.9973
<b>Total</b>	<b>1.0694</b>	<b>4.1963</b>	<b>8.7418</b>	<b>0.0396</b>	<b>3.4320</b>	<b>0.0361</b>	<b>3.4680</b>	<b>0.9227</b>	<b>0.0340</b>	<b>0.9567</b>		<b>4,115.8082</b>	<b>4,115.8082</b>	<b>0.1230</b>	<b>0.3202</b>	<b>4,214.2954</b>

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.5 Paving - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.3524					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.3406</b>	<b>9.5246</b>	<b>14.6258</b>	<b>0.0228</b>		<b>0.4685</b>	<b>0.4685</b>		<b>0.4310</b>	<b>0.4310</b>		<b>2,207.547 2</b>	<b>2,207.547 2</b>	<b>0.7140</b>		<b>2,225.396 3</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2300e-003	0.0887	0.0311	4.0000e-004	0.0136	5.3000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		43.5021	43.5021	1.3600e-003	6.3000e-003	45.4148
Worker	0.0418	0.0257	0.3198	1.0000e-003	0.1232	6.3000e-004	0.1239	0.0327	5.8000e-004	0.0333		100.5971	100.5971	2.9000e-003	2.7700e-003	101.4956
<b>Total</b>	<b>0.0441</b>	<b>0.1145</b>	<b>0.3509</b>	<b>1.4000e-003</b>	<b>0.1368</b>	<b>1.1600e-003</b>	<b>0.1379</b>	<b>0.0366</b>	<b>1.0800e-003</b>	<b>0.0377</b>		<b>144.0992</b>	<b>144.0992</b>	<b>4.2600e-003</b>	<b>9.0700e-003</b>	<b>146.9104</b>

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.5 Paving - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.3524					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.3406</b>	<b>9.5246</b>	<b>14.6258</b>	<b>0.0228</b>		<b>0.4685</b>	<b>0.4685</b>		<b>0.4310</b>	<b>0.4310</b>	<b>0.0000</b>	<b>2,207.547 2</b>	<b>2,207.547 2</b>	<b>0.7140</b>		<b>2,225.396 3</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2300e-003	0.0887	0.0311	4.0000e-004	0.0136	5.3000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		43.5021	43.5021	1.3600e-003	6.3000e-003	45.4148
Worker	0.0418	0.0257	0.3198	1.0000e-003	0.1232	6.3000e-004	0.1239	0.0327	5.8000e-004	0.0333		100.5971	100.5971	2.9000e-003	2.7700e-003	101.4956
<b>Total</b>	<b>0.0441</b>	<b>0.1145</b>	<b>0.3509</b>	<b>1.4000e-003</b>	<b>0.1368</b>	<b>1.1600e-003</b>	<b>0.1379</b>	<b>0.0366</b>	<b>1.0800e-003</b>	<b>0.0377</b>		<b>144.0992</b>	<b>144.0992</b>	<b>4.2600e-003</b>	<b>9.0700e-003</b>	<b>146.9104</b>

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.6 Architectural Coating - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	105.6511					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>105.8319</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2300e-003	0.0887	0.0311	4.0000e-004	0.0136	5.3000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		43.5021	43.5021	1.3600e-003	6.3000e-003	45.4148
Worker	0.1953	0.1201	1.4922	4.6400e-003	0.5750	2.9300e-003	0.5780	0.1525	2.7000e-003	0.1552		469.4530	469.4530	0.0135	0.0129	473.6462
<b>Total</b>	<b>0.1975</b>	<b>0.2089</b>	<b>1.5233</b>	<b>5.0400e-003</b>	<b>0.5886</b>	<b>3.4600e-003</b>	<b>0.5920</b>	<b>0.1564</b>	<b>3.2000e-003</b>	<b>0.1596</b>		<b>512.9552</b>	<b>512.9552</b>	<b>0.0149</b>	<b>0.0192</b>	<b>519.0610</b>

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.6 Architectural Coating - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	105.6511					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>105.8319</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2300e-003	0.0887	0.0311	4.0000e-004	0.0136	5.3000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		43.5021	43.5021	1.3600e-003	6.3000e-003	45.4148
Worker	0.1953	0.1201	1.4922	4.6400e-003	0.5750	2.9300e-003	0.5780	0.1525	2.7000e-003	0.1552		469.4530	469.4530	0.0135	0.0129	473.6462
<b>Total</b>	<b>0.1975</b>	<b>0.2089</b>	<b>1.5233</b>	<b>5.0400e-003</b>	<b>0.5886</b>	<b>3.4600e-003</b>	<b>0.5920</b>	<b>0.1564</b>	<b>3.2000e-003</b>	<b>0.1596</b>		<b>512.9552</b>	<b>512.9552</b>	<b>0.0149</b>	<b>0.0192</b>	<b>519.0610</b>

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.6755	6.3506	53.0910	0.1090	11.9826	0.0858	12.0684	3.1920	0.0800	3.2719		11,108.9103	11,108.9103	0.8195	0.5163	11,283.2510
Unmitigated	5.6755	6.3506	53.0910	0.1090	11.9826	0.0858	12.0684	3.1920	0.0800	3.2719		11,108.9103	11,108.9103	0.8195	0.5163	11,283.2510

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
Apartments Mid Rise	1,943.00	1,754.50	1461.60	5,274,602	5,274,602
City Park	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Strip Mall	93.71	88.88	43.13	132,126	132,126
<b>Total</b>	<b>2,036.71</b>	<b>1,843.38</b>	<b>1,504.73</b>	<b>5,406,727</b>	<b>5,406,727</b>

**4.3 Trip Type Information**

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Apartments Mid Rise	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
City Park	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Enclosed Parking Structure	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
General Office Building	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Health Club	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Parking Lot	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Recreational Swimming Pool	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Strip Mall	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

Percent of Electricity Use Generated with Renewable Energy

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0724	0.6203	0.2751	3.9500e-003		0.0500	0.0500		0.0500	0.0500		789.7953	789.7953	0.0151	0.0145	794.4887
NaturalGas Unmitigated	0.0724	0.6203	0.2751	3.9500e-003		0.0500	0.0500		0.0500	0.0500		789.7953	789.7953	0.0151	0.0145	794.4887

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	657.835	7.0900e-003	0.0606	0.0258	3.9000e-004		4.9000e-003	4.9000e-003		4.9000e-003	4.9000e-003		77.3923	77.3923	1.4800e-003	1.4200e-003	77.8522
Apartments Mid Rise	5780.97	0.0623	0.5328	0.2267	3.4000e-003		0.0431	0.0431		0.0431	0.0431		680.1143	680.1143	0.0130	0.0125	684.1558
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	95.7599	1.0300e-003	9.3900e-003	7.8900e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		11.2659	11.2659	2.2000e-004	2.1000e-004	11.3328
Health Club	164.31	1.7700e-003	0.0161	0.0135	1.0000e-004		1.2200e-003	1.2200e-003		1.2200e-003	1.2200e-003		19.3306	19.3306	3.7000e-004	3.5000e-004	19.4455
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	14.3844	1.6000e-004	1.4100e-003	1.1800e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		1.6923	1.6923	3.0000e-005	3.0000e-005	1.7023
<b>Total</b>		<b>0.0724</b>	<b>0.6203</b>	<b>0.2751</b>	<b>3.9600e-003</b>		<b>0.0500</b>	<b>0.0500</b>		<b>0.0500</b>	<b>0.0500</b>		<b>789.7953</b>	<b>789.7953</b>	<b>0.0151</b>	<b>0.0145</b>	<b>794.4887</b>

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	0.657835	7.0900e-003	0.0606	0.0258	3.9000e-004		4.9000e-003	4.9000e-003		4.9000e-003	4.9000e-003		77.3923	77.3923	1.4800e-003	1.4200e-003	77.8522
Apartments Mid Rise	5.78097	0.0623	0.5328	0.2267	3.4000e-003		0.0431	0.0431		0.0431	0.0431		680.1143	680.1143	0.0130	0.0125	684.1558
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0.0957599	1.0300e-003	9.3900e-003	7.8900e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		11.2659	11.2659	2.2000e-004	2.1000e-004	11.3328
Health Club	0.16431	1.7700e-003	0.0161	0.0135	1.0000e-004		1.2200e-003	1.2200e-003		1.2200e-003	1.2200e-003		19.3306	19.3306	3.7000e-004	3.5000e-004	19.4455
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.0143844	1.6000e-004	1.4100e-003	1.1800e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		1.6923	1.6923	3.0000e-005	3.0000e-005	1.7023
<b>Total</b>		<b>0.0724</b>	<b>0.6203</b>	<b>0.2751</b>	<b>3.9600e-003</b>		<b>0.0500</b>	<b>0.0500</b>		<b>0.0500</b>	<b>0.0500</b>		<b>789.7953</b>	<b>789.7953</b>	<b>0.0151</b>	<b>0.0145</b>	<b>794.4887</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.1253	5.1294	28.7168	0.0322		0.5376	0.5376		0.5376	0.5376	0.0000	6,204.0427	6,204.0427	0.1642	0.1129	6,241.7797
Unmitigated	9.1253	5.1294	28.7168	0.0322		0.5376	0.5376		0.5376	0.5376	0.0000	6,204.0427	6,204.0427	0.1642	0.1129	6,241.7797

**6.2 Area by SubCategory**

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5789					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.5643	4.8222	2.0520	0.0308		0.3899	0.3899		0.3899	0.3899	0.0000	6,156.0000	6,156.0000	0.1180	0.1129	6,192.5820
Landscaping	0.8035	0.3072	26.6648	1.4100e-003		0.1477	0.1477		0.1477	0.1477		48.0427	48.0427	0.0462		49.1977
<b>Total</b>	<b>9.1253</b>	<b>5.1294</b>	<b>28.7168</b>	<b>0.0322</b>		<b>0.5376</b>	<b>0.5376</b>		<b>0.5376</b>	<b>0.5376</b>	<b>0.0000</b>	<b>6,204.0427</b>	<b>6,204.0427</b>	<b>0.1642</b>	<b>0.1129</b>	<b>6,241.7797</b>

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5789					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.5643	4.8222	2.0520	0.0308		0.3899	0.3899		0.3899	0.3899	0.0000	6,156.0000	6,156.0000	0.1180	0.1129	6,192.5820
Landscaping	0.8035	0.3072	26.6648	1.4100e-003		0.1477	0.1477		0.1477	0.1477		48.0427	48.0427	0.0462		49.1977
<b>Total</b>	<b>9.1253</b>	<b>5.1294</b>	<b>28.7168</b>	<b>0.0322</b>		<b>0.5376</b>	<b>0.5376</b>		<b>0.5376</b>	<b>0.5376</b>	<b>0.0000</b>	<b>6,204.0427</b>	<b>6,204.0427</b>	<b>0.1642</b>	<b>0.1129</b>	<b>6,241.7797</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

Modera Melrose Unmitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Modera Melrose Unmitigated  
San Diego County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1.75	1000sqft	0.04	1,745.00	0
Enclosed Parking Structure	145.00	Space	0.00	58,000.00	0
Parking Lot	117.30	1000sqft	2.69	117,304.00	0
City Park	2.20	Acre	2.20	95,696.96	0
Health Club	5.21	1000sqft	0.00	5,206.00	0
Recreational Swimming Pool	1.93	1000sqft	0.04	1,927.00	0
Apartments High Rise	33.00	Dwelling Unit	0.25	33,000.00	94
Apartments Mid Rise	290.00	Dwelling Unit	2.16	290,000.00	829
Strip Mall	2.37	1000sqft	0.05	2,365.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	40
<b>Climate Zone</b>	13			<b>Operational Year</b>	2024
<b>Utility Company</b>	San Diego Gas & Electric				
<b>CO2 Intensity (lb/MW hr)</b>	539.98	<b>CH4 Intensity (lb/MW hr)</b>	0.033	<b>N2O Intensity (lb/MW hr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Land use assumptions provided by applicant.

Construction Phase - CalEEMod default assumptions. No demolition required.

Off-road Equipment - Architectural Coating: CalEEMod default assumptions

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Off-road Equipment - Building Construction: CalEEMod default assumptions

Off-road Equipment - Demo: CalEEMod default assumptions

Off-road Equipment - Grading: CalEEMod default assumptions

Off-road Equipment - Paving: CalEEMod default assumptions

Off-road Equipment - Site Prep: CalEEMod default assumptions

Trips and VMT - CalEEMod default assumptions. 2 vendor trucks added to phases without default vendor trips to account for water trucks and/or routine deliveries.

On-road Fugitive Dust - CalEEMod default assumptions

Demolition - No demolition required.

Grading - Import quantity provided by applicant.

Architectural Coating - SDAPCD Rule 67.0.1.

Vehicle Trips - Trips consistent with data from 2/15/2022 Linscott Law & Greenspan Local Transportation Study.

Road Dust - CalEEMod default assumptions

Woodstoves - PDF: no wood-burning appliances.

Consumer Products - CalEEMod Default Assumptions

Area Coating - SDAPCD Rule 67.0.1.

Energy Use - CalEEMod default assumptions

Water And Wastewater - Zero'd out outdoor water use for buildings and accounted for in City Park land use which represents overall landscaping.

Solid Waste - CalEEMod default assumptions

Area Mitigation - SDAPCD Rule 67.0.1

Energy Mitigation - PDF: 50% of on-site energy demand will come from PV solar

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	18.15	29.70
tblFireplaces	NumberGas	159.50	261.00
tblFireplaces	NumberWood	11.55	0.00
tblFireplaces	NumberWood	101.50	0.00
tblGrading	MaterialImported	0.00	43,200.00
tblLandUse	LandUseSquareFeet	1,750.00	1,745.00
tblLandUse	LandUseSquareFeet	117,300.00	117,304.00
tblLandUse	LandUseSquareFeet	95,832.00	95,696.96
tblLandUse	LandUseSquareFeet	5,210.00	5,206.00
tblLandUse	LandUseSquareFeet	1,930.00	1,927.00
tblLandUse	LandUseSquareFeet	2,370.00	2,365.00
tblLandUse	LotAcreage	1.30	0.00
tblLandUse	LotAcreage	0.12	0.00
tblLandUse	LotAcreage	0.53	0.25
tblLandUse	LotAcreage	7.63	2.16
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblVehicleTrips	ST_TR	4.53	0.00
tblVehicleTrips	ST_TR	4.91	6.05
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	20.87	0.00

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	ST_TR	42.04	37.50
tblVehicleTrips	SU_TR	3.59	0.00
tblVehicleTrips	SU_TR	4.09	5.04
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	SU_TR	20.43	18.20
tblVehicleTrips	WD_TR	4.45	0.00
tblVehicleTrips	WD_TR	5.44	6.70
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	28.82	0.00
tblVehicleTrips	WD_TR	44.32	39.54
tblWater	OutdoorWaterUseRate	1,355,487.01	0.00
tblWater	OutdoorWaterUseRate	11,911,855.55	0.00
tblWater	OutdoorWaterUseRate	190,633.78	0.00
tblWater	OutdoorWaterUseRate	188,857.41	0.00
tblWater	OutdoorWaterUseRate	107,596.31	0.00
tblWoodstoves	NumberCatalytic	1.65	0.00
tblWoodstoves	NumberCatalytic	14.50	0.00
tblWoodstoves	NumberNoncatalytic	1.65	0.00
tblWoodstoves	NumberNoncatalytic	14.50	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

**2.0 Emissions Summary**

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.1 Overall Construction (Maximum Daily Emission)**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	2.7110	53.3669	25.9190	0.1927	19.8184	1.2673	21.0858	10.1456	1.1660	11.3115	0.0000	20,881.4382	20,881.4382	1.8332	2.8485	21,776.1119
2024	106.0138	17.4280	25.2474	0.0679	3.4320	0.6493	4.0813	0.9227	0.6108	1.5335	0.0000	6,805.5138	6,805.5138	0.7234	0.3147	6,917.3801
<b>Maximum</b>	<b>106.0138</b>	<b>53.3669</b>	<b>25.9190</b>	<b>0.1927</b>	<b>19.8184</b>	<b>1.2673</b>	<b>21.0858</b>	<b>10.1456</b>	<b>1.1660</b>	<b>11.3115</b>	<b>0.0000</b>	<b>20,881.4382</b>	<b>20,881.4382</b>	<b>1.8332</b>	<b>2.8485</b>	<b>21,776.1119</b>

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	2.7110	53.3669	25.9190	0.1927	19.8184	1.2673	21.0858	10.1456	1.1660	11.3115	0.0000	20,881.4381	20,881.4381	1.8332	2.8485	21,776.1119
2024	106.0138	17.4280	25.2474	0.0679	3.4320	0.6493	4.0813	0.9227	0.6108	1.5335	0.0000	6,805.5138	6,805.5138	0.7234	0.3147	6,917.3801
<b>Maximum</b>	<b>106.0138</b>	<b>53.3669</b>	<b>25.9190</b>	<b>0.1927</b>	<b>19.8184</b>	<b>1.2673</b>	<b>21.0858</b>	<b>10.1456</b>	<b>1.1660</b>	<b>11.3115</b>	<b>0.0000</b>	<b>20,881.4381</b>	<b>20,881.4381</b>	<b>1.8332</b>	<b>2.8485</b>	<b>21,776.1119</b>



Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.1253	5.1294	28.7168	0.0322		0.5376	0.5376		0.5376	0.5376	0.0000	6,204.0427	6,204.0427	0.1642	0.1129	6,241.7797
Energy	0.0724	0.6203	0.2751	3.9500e-003		0.0500	0.0500		0.0500	0.0500		789.7953	789.7953	0.0151	0.0145	794.4887
Mobile	5.8070	5.8595	51.7631	0.1140	11.9826	0.0857	12.0684	3.1920	0.0799	3.2719		11,612.2206	11,612.2206	0.7746	0.4900	11,777.5916
<b>Total</b>	<b>15.0047</b>	<b>11.6092</b>	<b>80.7550</b>	<b>0.1501</b>	<b>11.9826</b>	<b>0.6734</b>	<b>12.6560</b>	<b>3.1920</b>	<b>0.6676</b>	<b>3.8596</b>	<b>0.0000</b>	<b>18,606.0586</b>	<b>18,606.0586</b>	<b>0.9539</b>	<b>0.6173</b>	<b>18,813.8600</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.1253	5.1294	28.7168	0.0322		0.5376	0.5376		0.5376	0.5376	0.0000	6,204.0427	6,204.0427	0.1642	0.1129	6,241.7797
Energy	0.0724	0.6203	0.2751	3.9500e-003		0.0500	0.0500		0.0500	0.0500		789.7953	789.7953	0.0151	0.0145	794.4887
Mobile	5.8070	5.8595	51.7631	0.1140	11.9826	0.0857	12.0684	3.1920	0.0799	3.2719		11,612.2206	11,612.2206	0.7746	0.4900	11,777.5916
<b>Total</b>	<b>15.0047</b>	<b>11.6092</b>	<b>80.7550</b>	<b>0.1501</b>	<b>11.9826</b>	<b>0.6734</b>	<b>12.6560</b>	<b>3.1920</b>	<b>0.6676</b>	<b>3.8596</b>	<b>0.0000</b>	<b>18,606.0586</b>	<b>18,606.0586</b>	<b>0.9539</b>	<b>0.6173</b>	<b>18,813.8600</b>

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/1/2023	4/14/2023	5	10	
2	Grading	Grading	4/15/2023	5/12/2023	5	20	
3	Building Construction	Building Construction	5/13/2023	3/29/2024	5	230	
4	Paving	Paving	3/30/2024	4/26/2024	5	20	
5	Architectural Coating	Architectural Coating	4/27/2024	5/24/2024	5	20	

**Acres of Grading (Site Preparation Phase): 15**

**Acres of Grading (Grading Phase): 20**

**Acres of Paving: 2.69**

**Residential Indoor: 654,075; Residential Outdoor: 218,025; Non-Residential Indoor: 13,974; Non-Residential Outdoor: 4,658; Striped Parking Area: 10,518 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	2.00	5,400.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	351.00	81.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	70.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
<b>Total</b>	<b>2.6595</b>	<b>27.5242</b>	<b>18.2443</b>	<b>0.0381</b>	<b>19.6570</b>	<b>1.2660</b>	<b>20.9230</b>	<b>10.1025</b>	<b>1.1647</b>	<b>11.2672</b>		<b>3,687.308 1</b>	<b>3,687.308 1</b>	<b>1.1926</b>		<b>3,717.121 9</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3900e-003	0.0857	0.0309	4.1000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		44.2094	44.2094	1.3400e-003	6.4000e-003	46.1504
Worker	0.0492	0.0306	0.4320	1.3100e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		132.0595	132.0595	3.5800e-003	3.2900e-003	133.1300
<b>Total</b>	<b>0.0516</b>	<b>0.1163</b>	<b>0.4629</b>	<b>1.7200e-003</b>	<b>0.1614</b>	<b>1.3100e-003</b>	<b>0.1627</b>	<b>0.0431</b>	<b>1.2300e-003</b>	<b>0.0444</b>		<b>176.2689</b>	<b>176.2689</b>	<b>4.9200e-003</b>	<b>9.6900e-003</b>	<b>179.2805</b>

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
<b>Total</b>	<b>2.6595</b>	<b>27.5242</b>	<b>18.2443</b>	<b>0.0381</b>	<b>19.6570</b>	<b>1.2660</b>	<b>20.9230</b>	<b>10.1025</b>	<b>1.1647</b>	<b>11.2672</b>	<b>0.0000</b>	<b>3,687.308 1</b>	<b>3,687.308 1</b>	<b>1.1926</b>		<b>3,717.121 9</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3900e-003	0.0857	0.0309	4.1000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		44.2094	44.2094	1.3400e-003	6.4000e-003	46.1504
Worker	0.0492	0.0306	0.4320	1.3100e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		132.0595	132.0595	3.5800e-003	3.2900e-003	133.1300
<b>Total</b>	<b>0.0516</b>	<b>0.1163</b>	<b>0.4629</b>	<b>1.7200e-003</b>	<b>0.1614</b>	<b>1.3100e-003</b>	<b>0.1627</b>	<b>0.0431</b>	<b>1.2300e-003</b>	<b>0.0444</b>		<b>176.2689</b>	<b>176.2689</b>	<b>4.9200e-003</b>	<b>9.6900e-003</b>	<b>179.2805</b>

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Grading - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.3861	0.0000	7.3861	3.4707	0.0000	3.4707			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
<b>Total</b>	<b>1.7109</b>	<b>17.9359</b>	<b>14.7507</b>	<b>0.0297</b>	<b>7.3861</b>	<b>0.7749</b>	<b>8.1610</b>	<b>3.4707</b>	<b>0.7129</b>	<b>4.1836</b>		<b>2,872.6910</b>	<b>2,872.6910</b>	<b>0.9291</b>		<b>2,895.9182</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6115	35.3198	9.7024	0.1616	4.7224	0.2998	5.0221	1.2944	0.2868	1.5812		17,854.4882	17,854.4882	0.8998	2.8393	18,723.1016
Vendor	2.3900e-003	0.0857	0.0309	4.1000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		44.2094	44.2094	1.3400e-003	6.4000e-003	46.1504
Worker	0.0410	0.0255	0.3600	1.0900e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		110.0496	110.0496	2.9800e-003	2.7400e-003	110.9417
<b>Total</b>	<b>0.6548</b>	<b>35.4310</b>	<b>10.0933</b>	<b>0.1631</b>	<b>4.8591</b>	<b>0.3009</b>	<b>5.1601</b>	<b>1.3310</b>	<b>0.2879</b>	<b>1.6189</b>		<b>18,008.7472</b>	<b>18,008.7472</b>	<b>0.9041</b>	<b>2.8485</b>	<b>18,880.1937</b>

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Grading - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.3861	0.0000	7.3861	3.4707	0.0000	3.4707			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
<b>Total</b>	<b>1.7109</b>	<b>17.9359</b>	<b>14.7507</b>	<b>0.0297</b>	<b>7.3861</b>	<b>0.7749</b>	<b>8.1610</b>	<b>3.4707</b>	<b>0.7129</b>	<b>4.1836</b>	<b>0.0000</b>	<b>2,872.6910</b>	<b>2,872.6910</b>	<b>0.9291</b>		<b>2,895.9182</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6115	35.3198	9.7024	0.1616	4.7224	0.2998	5.0221	1.2944	0.2868	1.5812		17,854.4882	17,854.4882	0.8998	2.8393	18,723.1016
Vendor	2.3900e-003	0.0857	0.0309	4.1000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		44.2094	44.2094	1.3400e-003	6.4000e-003	46.1504
Worker	0.0410	0.0255	0.3600	1.0900e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		110.0496	110.0496	2.9800e-003	2.7400e-003	110.9417
<b>Total</b>	<b>0.6548</b>	<b>35.4310</b>	<b>10.0933</b>	<b>0.1631</b>	<b>4.8591</b>	<b>0.3009</b>	<b>5.1601</b>	<b>1.3310</b>	<b>0.2879</b>	<b>1.6189</b>		<b>18,008.7472</b>	<b>18,008.7472</b>	<b>0.9041</b>	<b>2.8485</b>	<b>18,880.1937</b>

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>		<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0968	3.4723	1.2513	0.0166	0.5486	0.0212	0.5697	0.1579	0.0202	0.1782		1,790.4803	1,790.4803	0.0543	0.2593	1,869.0928
Worker	0.9592	0.5957	8.4237	0.0255	2.8834	0.0155	2.8988	0.7648	0.0142	0.7790		2,575.1608	2,575.1608	0.0698	0.0642	2,596.0355
<b>Total</b>	<b>1.0560</b>	<b>4.0680</b>	<b>9.6750</b>	<b>0.0421</b>	<b>3.4320</b>	<b>0.0366</b>	<b>3.4686</b>	<b>0.9227</b>	<b>0.0345</b>	<b>0.9572</b>		<b>4,365.6411</b>	<b>4,365.6411</b>	<b>0.1241</b>	<b>0.3234</b>	<b>4,465.1283</b>

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>	<b>0.0000</b>	<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0968	3.4723	1.2513	0.0166	0.5486	0.0212	0.5697	0.1579	0.0202	0.1782		1,790.4803	1,790.4803	0.0543	0.2593	1,869.0928
Worker	0.9592	0.5957	8.4237	0.0255	2.8834	0.0155	2.8988	0.7648	0.0142	0.7790		2,575.1608	2,575.1608	0.0698	0.0642	2,596.0355
<b>Total</b>	<b>1.0560</b>	<b>4.0680</b>	<b>9.6750</b>	<b>0.0421</b>	<b>3.4320</b>	<b>0.0366</b>	<b>3.4686</b>	<b>0.9227</b>	<b>0.0345</b>	<b>0.9572</b>		<b>4,365.6411</b>	<b>4,365.6411</b>	<b>0.1241</b>	<b>0.3234</b>	<b>4,465.1283</b>

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>		<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0932	3.4486	1.2220	0.0163	0.5486	0.0213	0.5699	0.1579	0.0203	0.1783		1,759.2638	1,759.2638	0.0555	0.2547	1,836.5560
Worker	0.9007	0.5356	7.8586	0.0246	2.8834	0.0147	2.8981	0.7648	0.0135	0.7784		2,490.5510	2,490.5510	0.0635	0.0600	2,510.0165
<b>Total</b>	<b>0.9938</b>	<b>3.9842</b>	<b>9.0806</b>	<b>0.0409</b>	<b>3.4320</b>	<b>0.0360</b>	<b>3.4679</b>	<b>0.9227</b>	<b>0.0339</b>	<b>0.9566</b>		<b>4,249.8149</b>	<b>4,249.8149</b>	<b>0.1190</b>	<b>0.3147</b>	<b>4,346.5725</b>

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>	<b>0.0000</b>	<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0932	3.4486	1.2220	0.0163	0.5486	0.0213	0.5699	0.1579	0.0203	0.1783		1,759.2638	1,759.2638	0.0555	0.2547	1,836.5560
Worker	0.9007	0.5356	7.8586	0.0246	2.8834	0.0147	2.8981	0.7648	0.0135	0.7784		2,490.5510	2,490.5510	0.0635	0.0600	2,510.0165
<b>Total</b>	<b>0.9938</b>	<b>3.9842</b>	<b>9.0806</b>	<b>0.0409</b>	<b>3.4320</b>	<b>0.0360</b>	<b>3.4679</b>	<b>0.9227</b>	<b>0.0339</b>	<b>0.9566</b>		<b>4,249.8149</b>	<b>4,249.8149</b>	<b>0.1190</b>	<b>0.3147</b>	<b>4,346.5725</b>

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.5 Paving - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.3524					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.3406</b>	<b>9.5246</b>	<b>14.6258</b>	<b>0.0228</b>		<b>0.4685</b>	<b>0.4685</b>		<b>0.4310</b>	<b>0.4310</b>		<b>2,207.547 2</b>	<b>2,207.547 2</b>	<b>0.7140</b>		<b>2,225.396 3</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3000e-003	0.0852	0.0302	4.0000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		43.4386	43.4386	1.3700e-003	6.2900e-003	45.3471
Worker	0.0385	0.0229	0.3358	1.0500e-003	0.1232	6.3000e-004	0.1239	0.0327	5.8000e-004	0.0333		106.4338	106.4338	2.7100e-003	2.5600e-003	107.2657
<b>Total</b>	<b>0.0408</b>	<b>0.1080</b>	<b>0.3660</b>	<b>1.4500e-003</b>	<b>0.1368</b>	<b>1.1500e-003</b>	<b>0.1379</b>	<b>0.0366</b>	<b>1.0800e-003</b>	<b>0.0377</b>		<b>149.8724</b>	<b>149.8724</b>	<b>4.0800e-003</b>	<b>8.8500e-003</b>	<b>152.6127</b>

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.5 Paving - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.3524					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.3406</b>	<b>9.5246</b>	<b>14.6258</b>	<b>0.0228</b>		<b>0.4685</b>	<b>0.4685</b>		<b>0.4310</b>	<b>0.4310</b>	<b>0.0000</b>	<b>2,207.547 2</b>	<b>2,207.547 2</b>	<b>0.7140</b>		<b>2,225.396 3</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3000e-003	0.0852	0.0302	4.0000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		43.4386	43.4386	1.3700e-003	6.2900e-003	45.3471
Worker	0.0385	0.0229	0.3358	1.0500e-003	0.1232	6.3000e-004	0.1239	0.0327	5.8000e-004	0.0333		106.4338	106.4338	2.7100e-003	2.5600e-003	107.2657
<b>Total</b>	<b>0.0408</b>	<b>0.1080</b>	<b>0.3660</b>	<b>1.4500e-003</b>	<b>0.1368</b>	<b>1.1500e-003</b>	<b>0.1379</b>	<b>0.0366</b>	<b>1.0800e-003</b>	<b>0.0377</b>		<b>149.8724</b>	<b>149.8724</b>	<b>4.0800e-003</b>	<b>8.8500e-003</b>	<b>152.6127</b>

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.6 Architectural Coating - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	105.6511					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>105.8319</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3000e-003	0.0852	0.0302	4.0000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		43.4386	43.4386	1.3700e-003	6.2900e-003	45.3471
Worker	0.1796	0.1068	1.5672	4.9100e-003	0.5750	2.9300e-003	0.5780	0.1525	2.7000e-003	0.1552		496.6911	496.6911	0.0127	0.0120	500.5731
<b>Total</b>	<b>0.1819</b>	<b>0.1920</b>	<b>1.5974</b>	<b>5.3100e-003</b>	<b>0.5886</b>	<b>3.4500e-003</b>	<b>0.5920</b>	<b>0.1564</b>	<b>3.2000e-003</b>	<b>0.1596</b>		<b>540.1297</b>	<b>540.1297</b>	<b>0.0140</b>	<b>0.0183</b>	<b>545.9202</b>

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.6 Architectural Coating - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	105.6511					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>105.8319</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3000e-003	0.0852	0.0302	4.0000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		43.4386	43.4386	1.3700e-003	6.2900e-003	45.3471
Worker	0.1796	0.1068	1.5672	4.9100e-003	0.5750	2.9300e-003	0.5780	0.1525	2.7000e-003	0.1552		496.6911	496.6911	0.0127	0.0120	500.5731
<b>Total</b>	<b>0.1819</b>	<b>0.1920</b>	<b>1.5974</b>	<b>5.3100e-003</b>	<b>0.5886</b>	<b>3.4500e-003</b>	<b>0.5920</b>	<b>0.1564</b>	<b>3.2000e-003</b>	<b>0.1596</b>		<b>540.1297</b>	<b>540.1297</b>	<b>0.0140</b>	<b>0.0183</b>	<b>545.9202</b>

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.8070	5.8595	51.7631	0.1140	11.9826	0.0857	12.0684	3.1920	0.0799	3.2719		11,612.22 06	11,612.22 06	0.7746	0.4900	11,777.59 16
Unmitigated	5.8070	5.8595	51.7631	0.1140	11.9826	0.0857	12.0684	3.1920	0.0799	3.2719		11,612.22 06	11,612.22 06	0.7746	0.4900	11,777.59 16

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
Apartments Mid Rise	1,943.00	1,754.50	1461.60	5,274,602	5,274,602
City Park	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Strip Mall	93.71	88.88	43.13	132,126	132,126
<b>Total</b>	<b>2,036.71</b>	<b>1,843.38</b>	<b>1,504.73</b>	<b>5,406,727</b>	<b>5,406,727</b>

**4.3 Trip Type Information**

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Apartments Mid Rise	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
City Park	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Enclosed Parking Structure	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
General Office Building	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Health Club	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Parking Lot	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Recreational Swimming Pool	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Strip Mall	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

Percent of Electricity Use Generated with Renewable Energy

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0724	0.6203	0.2751	3.9500e-003		0.0500	0.0500		0.0500	0.0500		789.7953	789.7953	0.0151	0.0145	794.4887
NaturalGas Unmitigated	0.0724	0.6203	0.2751	3.9500e-003		0.0500	0.0500		0.0500	0.0500		789.7953	789.7953	0.0151	0.0145	794.4887

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	657.835	7.0900e-003	0.0606	0.0258	3.9000e-004		4.9000e-003	4.9000e-003		4.9000e-003	4.9000e-003		77.3923	77.3923	1.4800e-003	1.4200e-003	77.8522
Apartments Mid Rise	5780.97	0.0623	0.5328	0.2267	3.4000e-003		0.0431	0.0431		0.0431	0.0431		680.1143	680.1143	0.0130	0.0125	684.1558
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	95.7599	1.0300e-003	9.3900e-003	7.8900e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		11.2659	11.2659	2.2000e-004	2.1000e-004	11.3328
Health Club	164.31	1.7700e-003	0.0161	0.0135	1.0000e-004		1.2200e-003	1.2200e-003		1.2200e-003	1.2200e-003		19.3306	19.3306	3.7000e-004	3.5000e-004	19.4455
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	14.3844	1.6000e-004	1.4100e-003	1.1800e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		1.6923	1.6923	3.0000e-005	3.0000e-005	1.7023
<b>Total</b>		<b>0.0724</b>	<b>0.6203</b>	<b>0.2751</b>	<b>3.9600e-003</b>		<b>0.0500</b>	<b>0.0500</b>		<b>0.0500</b>	<b>0.0500</b>		<b>789.7953</b>	<b>789.7953</b>	<b>0.0151</b>	<b>0.0145</b>	<b>794.4887</b>

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	0.657835	7.0900e-003	0.0606	0.0258	3.9000e-004		4.9000e-003	4.9000e-003		4.9000e-003	4.9000e-003		77.3923	77.3923	1.4800e-003	1.4200e-003	77.8522
Apartments Mid Rise	5.78097	0.0623	0.5328	0.2267	3.4000e-003		0.0431	0.0431		0.0431	0.0431		680.1143	680.1143	0.0130	0.0125	684.1558
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0.0957599	1.0300e-003	9.3900e-003	7.8900e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		11.2659	11.2659	2.2000e-004	2.1000e-004	11.3328
Health Club	0.16431	1.7700e-003	0.0161	0.0135	1.0000e-004		1.2200e-003	1.2200e-003		1.2200e-003	1.2200e-003		19.3306	19.3306	3.7000e-004	3.5000e-004	19.4455
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.0143844	1.6000e-004	1.4100e-003	1.1800e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		1.6923	1.6923	3.0000e-005	3.0000e-005	1.7023
<b>Total</b>		<b>0.0724</b>	<b>0.6203</b>	<b>0.2751</b>	<b>3.9600e-003</b>		<b>0.0500</b>	<b>0.0500</b>		<b>0.0500</b>	<b>0.0500</b>		<b>789.7953</b>	<b>789.7953</b>	<b>0.0151</b>	<b>0.0145</b>	<b>794.4887</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.1253	5.1294	28.7168	0.0322		0.5376	0.5376		0.5376	0.5376	0.0000	6,204.0427	6,204.0427	0.1642	0.1129	6,241.7797
Unmitigated	9.1253	5.1294	28.7168	0.0322		0.5376	0.5376		0.5376	0.5376	0.0000	6,204.0427	6,204.0427	0.1642	0.1129	6,241.7797

**6.2 Area by SubCategory**

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5789					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.5643	4.8222	2.0520	0.0308		0.3899	0.3899		0.3899	0.3899	0.0000	6,156.0000	6,156.0000	0.1180	0.1129	6,192.5820
Landscaping	0.8035	0.3072	26.6648	1.4100e-003		0.1477	0.1477		0.1477	0.1477		48.0427	48.0427	0.0462		49.1977
<b>Total</b>	<b>9.1253</b>	<b>5.1294</b>	<b>28.7168</b>	<b>0.0322</b>		<b>0.5376</b>	<b>0.5376</b>		<b>0.5376</b>	<b>0.5376</b>	<b>0.0000</b>	<b>6,204.0427</b>	<b>6,204.0427</b>	<b>0.1642</b>	<b>0.1129</b>	<b>6,241.7797</b>

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5789					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.5643	4.8222	2.0520	0.0308		0.3899	0.3899		0.3899	0.3899	0.0000	6,156.0000	6,156.0000	0.1180	0.1129	6,192.5820
Landscaping	0.8035	0.3072	26.6648	1.4100e-003		0.1477	0.1477		0.1477	0.1477		48.0427	48.0427	0.0462		49.1977
<b>Total</b>	<b>9.1253</b>	<b>5.1294</b>	<b>28.7168</b>	<b>0.0322</b>		<b>0.5376</b>	<b>0.5376</b>		<b>0.5376</b>	<b>0.5376</b>	<b>0.0000</b>	<b>6,204.0427</b>	<b>6,204.0427</b>	<b>0.1642</b>	<b>0.1129</b>	<b>6,241.7797</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

Modera Melrose Unmitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Modera Melrose Mitigated  
San Diego County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1.75	1000sqft	0.04	1,745.00	0
Enclosed Parking Structure	145.00	Space	0.00	58,000.00	0
Parking Lot	117.30	1000sqft	2.69	117,304.00	0
City Park	2.20	Acre	2.20	95,696.96	0
Health Club	5.21	1000sqft	0.00	5,206.00	0
Recreational Swimming Pool	1.93	1000sqft	0.04	1,927.00	0
Apartments High Rise	33.00	Dwelling Unit	0.25	33,000.00	94
Apartments Mid Rise	290.00	Dwelling Unit	2.16	290,000.00	829
Strip Mall	2.37	1000sqft	0.05	2,365.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	40
<b>Climate Zone</b>	13			<b>Operational Year</b>	2024
<b>Utility Company</b>	San Diego Gas & Electric				
<b>CO2 Intensity (lb/MW hr)</b>	539.98	<b>CH4 Intensity (lb/MW hr)</b>	0.033	<b>N2O Intensity (lb/MW hr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Land use assumptions provided by applicant.

Construction Phase - CalEEMod default assumptions. No demolition required.

Off-road Equipment - Architectural Coating: CalEEMod default assumptions

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Off-road Equipment - Building Construction: CalEEMod default assumptions

Off-road Equipment - Demo: CalEEMod default assumptions

Off-road Equipment - Grading: CalEEMod default assumptions

Off-road Equipment - Paving: CalEEMod default assumptions

Off-road Equipment - Site Prep: CalEEMod default assumptions

Trips and VMT - CalEEMod default assumptions. 2 vendor trucks added to phases without default vendor trips to account for water trucks and/or routine deliveries.

On-road Fugitive Dust - CalEEMod default assumptions

Demolition - No demolition required.

Grading - Import quantity provided by applicant.

Architectural Coating - SDAPCD Rule 67.0.1 for parking. Mitigation: use of low-VOC paints (<30 g/L).

Vehicle Trips - Trips consistent with data from 2/15/2022 Linscott Law & Greenspan Local Transportation Study.

Road Dust - CalEEMod default assumptions

Woodstoves - PDF: no wood-burning appliances.

Consumer Products - CalEEMod Default Assumptions

Area Coating - SDAPCD Rule 67.0.1.

Energy Use - CalEEMod default assumptions

Water And Wastewater - Zero'd out outdoor water use for buildings and accounted for in City Park land use which represents overall landscaping.

Solid Waste - CalEEMod default assumptions

Construction Off-road Equipment Mitigation - Tier4i mitigation for HRA impact

Area Mitigation - SDAPCD Rule 67.0.1

Energy Mitigation - PDF: 50% of on-site energy demand will come from PV solar

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	30.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	30.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	30.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	30.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	18.15	29.70

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblFireplaces	NumberGas	159.50	261.00
tblFireplaces	NumberWood	11.55	0.00
tblFireplaces	NumberWood	101.50	0.00
tblGrading	MaterialImported	0.00	43,200.00
tblLandUse	LandUseSquareFeet	1,750.00	1,745.00
tblLandUse	LandUseSquareFeet	117,300.00	117,304.00
tblLandUse	LandUseSquareFeet	95,832.00	95,696.96
tblLandUse	LandUseSquareFeet	5,210.00	5,206.00
tblLandUse	LandUseSquareFeet	1,930.00	1,927.00
tblLandUse	LandUseSquareFeet	2,370.00	2,365.00
tblLandUse	LotAcreage	1.30	0.00
tblLandUse	LotAcreage	0.12	0.00
tblLandUse	LotAcreage	0.53	0.25
tblLandUse	LotAcreage	7.63	2.16
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblVehicleTrips	ST_TR	4.53	0.00
tblVehicleTrips	ST_TR	4.91	6.05
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	ST_TR	42.04	37.50
tblVehicleTrips	SU_TR	3.59	0.00
tblVehicleTrips	SU_TR	4.09	5.04
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	0.70	0.00

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	SU_TR	20.43	18.20
tblVehicleTrips	WD_TR	4.45	0.00
tblVehicleTrips	WD_TR	5.44	6.70
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	28.82	0.00
tblVehicleTrips	WD_TR	44.32	39.54
tblWater	OutdoorWaterUseRate	1,355,487.01	0.00
tblWater	OutdoorWaterUseRate	11,911,855.55	0.00
tblWater	OutdoorWaterUseRate	190,633.78	0.00
tblWater	OutdoorWaterUseRate	188,857.41	0.00
tblWater	OutdoorWaterUseRate	107,596.31	0.00
tblWoodstoves	NumberCatalytic	1.65	0.00
tblWoodstoves	NumberCatalytic	14.50	0.00
tblWoodstoves	NumberNoncatalytic	1.65	0.00
tblWoodstoves	NumberNoncatalytic	14.50	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

**2.0 Emissions Summary**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.1 Overall Construction**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.2530	2.2228	2.4468	7.7200e-003	0.4971	0.0779	0.5750	0.1730	0.0730	0.2460	0.0000	716.0260	716.0260	0.0771	0.0505	732.9877
2024	0.7409	0.6828	0.9916	2.4900e-003	0.1160	0.0264	0.1425	0.0312	0.0248	0.0561	0.0000	225.8545	225.8545	0.0282	9.6600e-003	229.4385
<b>Maximum</b>	<b>0.7409</b>	<b>2.2228</b>	<b>2.4468</b>	<b>7.7200e-003</b>	<b>0.4971</b>	<b>0.0779</b>	<b>0.5750</b>	<b>0.1730</b>	<b>0.0730</b>	<b>0.2460</b>	<b>0.0000</b>	<b>716.0260</b>	<b>716.0260</b>	<b>0.0771</b>	<b>0.0505</b>	<b>732.9877</b>

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1697	1.8246	2.6444	7.7200e-003	0.4971	0.0184	0.5155	0.1730	0.0177	0.1907	0.0000	716.0257	716.0257	0.0771	0.0505	732.9874
2024	0.7088	0.5950	1.0795	2.4900e-003	0.1160	4.4000e-003	0.1205	0.0312	4.3300e-003	0.0356	0.0000	225.8543	225.8543	0.0282	9.6600e-003	229.4384
<b>Maximum</b>	<b>0.7088</b>	<b>1.8246</b>	<b>2.6444</b>	<b>7.7200e-003</b>	<b>0.4971</b>	<b>0.0184</b>	<b>0.5155</b>	<b>0.1730</b>	<b>0.0177</b>	<b>0.1907</b>	<b>0.0000</b>	<b>716.0257</b>	<b>716.0257</b>	<b>0.0771</b>	<b>0.0505</b>	<b>732.9874</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	11.60	16.73	-8.30	0.00	0.00	78.19	11.37	0.00	77.46	25.08	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-1-2023	6-30-2023	1.0780	0.8918
2	7-1-2023	9-30-2023	0.6927	0.5434
3	10-1-2023	12-31-2023	0.7025	0.5533
4	1-1-2024	3-31-2024	0.6493	0.5362
5	4-1-2024	6-30-2024	0.7637	0.7595
		Highest	1.0780	0.8918

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5112	0.2254	2.4840	1.3900e-003		0.0293	0.0293		0.0293	0.0293	0.0000	232.8923	232.8923	8.1600e-003	4.2000e-003	234.3473
Energy	0.0132	0.1132	0.0502	7.2000e-004		9.1300e-003	9.1300e-003		9.1300e-003	9.1300e-003	0.0000	542.2401	542.2401	0.0277	5.4500e-003	544.5542
Mobile	0.9624	1.0853	8.9937	0.0190	2.0225	0.0148	2.0373	0.5398	0.0138	0.5536	0.0000	1,751.8916	1,751.8916	0.1261	0.0801	1,778.9213
Waste						0.0000	0.0000		0.0000	0.0000	39.2970	0.0000	39.2970	2.3224	0.0000	97.3567
Water						0.0000	0.0000		0.0000	0.0000	6.9649	77.3387	84.3036	0.7201	0.0175	107.5100
<b>Total</b>	<b>2.4868</b>	<b>1.4239</b>	<b>11.5278</b>	<b>0.0211</b>	<b>2.0225</b>	<b>0.0532</b>	<b>2.0757</b>	<b>0.5398</b>	<b>0.0522</b>	<b>0.5920</b>	<b>46.2619</b>	<b>2,604.3627</b>	<b>2,650.6246</b>	<b>3.2044</b>	<b>0.1072</b>	<b>2,762.6894</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5112	0.2254	2.4840	1.3900e-003		0.0293	0.0293		0.0293	0.0293	0.0000	232.8923	232.8923	8.1600e-003	4.2000e-003	234.3473
Energy	0.0132	0.1132	0.0502	7.2000e-004		9.1300e-003	9.1300e-003		9.1300e-003	9.1300e-003	0.0000	336.4998	336.4998	0.0151	3.9200e-003	338.0453
Mobile	0.9624	1.0853	8.9937	0.0190	2.0225	0.0148	2.0373	0.5398	0.0138	0.5536	0.0000	1,751.8916	1,751.8916	0.1261	0.0801	1,778.9213
Waste						0.0000	0.0000		0.0000	0.0000	39.2970	0.0000	39.2970	2.3224	0.0000	97.3567
Water						0.0000	0.0000		0.0000	0.0000	6.9649	77.3387	84.3036	0.7201	0.0175	107.5100
<b>Total</b>	<b>2.4868</b>	<b>1.4239</b>	<b>11.5278</b>	<b>0.0211</b>	<b>2.0225</b>	<b>0.0532</b>	<b>2.0757</b>	<b>0.5398</b>	<b>0.0522</b>	<b>0.5920</b>	<b>46.2619</b>	<b>2,398.6224</b>	<b>2,444.8843</b>	<b>3.1918</b>	<b>0.1057</b>	<b>2,556.1806</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>7.90</b>	<b>7.76</b>	<b>0.39</b>	<b>1.43</b>	<b>7.47</b>

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/1/2023	4/14/2023	5	10	
2	Grading	Grading	4/15/2023	5/12/2023	5	20	
3	Building Construction	Building Construction	5/13/2023	3/29/2024	5	230	

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4	Paving	Paving	3/30/2024	4/26/2024	5	20
5	Architectural Coating	Architectural Coating	4/27/2024	5/24/2024	5	20

**Acres of Grading (Site Preparation Phase): 15**

**Acres of Grading (Grading Phase): 20**

**Acres of Paving: 2.69**

**Residential Indoor: 654,075; Residential Outdoor: 218,025; Non-Residential Indoor: 13,974; Non-Residential Outdoor: 4,658; Striped Parking Area: 10,518 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	2.00	5,400.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	351.00	81.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	70.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

**3.2 Site Preparation - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
<b>Total</b>	<b>0.0133</b>	<b>0.1376</b>	<b>0.0912</b>	<b>1.9000e-004</b>	<b>0.0983</b>	<b>6.3300e-003</b>	<b>0.1046</b>	<b>0.0505</b>	<b>5.8200e-003</b>	<b>0.0563</b>	<b>0.0000</b>	<b>16.7254</b>	<b>16.7254</b>	<b>5.4100e-003</b>	<b>0.0000</b>	<b>16.8606</b>

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**3.2 Site Preparation - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	4.4000e-004	1.6000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2007	0.2007	1.0000e-005	3.0000e-005	0.2095
Worker	2.4000e-004	1.7000e-004	2.0500e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5711	0.5711	2.0000e-005	2.0000e-005	0.5763
<b>Total</b>	<b>2.5000e-004</b>	<b>6.1000e-004</b>	<b>2.2100e-003</b>	<b>1.0000e-005</b>	<b>7.9000e-004</b>	<b>0.0000</b>	<b>8.0000e-004</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.7718</b>	<b>0.7718</b>	<b>3.0000e-005</b>	<b>5.0000e-005</b>	<b>0.7857</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.5700e-003	0.0974	0.1041	1.9000e-004		2.6100e-003	2.6100e-003		2.4200e-003	2.4200e-003	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
<b>Total</b>	<b>7.5700e-003</b>	<b>0.0974</b>	<b>0.1041</b>	<b>1.9000e-004</b>	<b>0.0983</b>	<b>2.6100e-003</b>	<b>0.1009</b>	<b>0.0505</b>	<b>2.4200e-003</b>	<b>0.0529</b>	<b>0.0000</b>	<b>16.7253</b>	<b>16.7253</b>	<b>5.4100e-003</b>	<b>0.0000</b>	<b>16.8606</b>

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**3.2 Site Preparation - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	4.4000e-004	1.6000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2007	0.2007	1.0000e-005	3.0000e-005	0.2095
Worker	2.4000e-004	1.7000e-004	2.0500e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5711	0.5711	2.0000e-005	2.0000e-005	0.5763
<b>Total</b>	<b>2.5000e-004</b>	<b>6.1000e-004</b>	<b>2.2100e-003</b>	<b>1.0000e-005</b>	<b>7.9000e-004</b>	<b>0.0000</b>	<b>8.0000e-004</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.7718</b>	<b>0.7718</b>	<b>3.0000e-005</b>	<b>5.0000e-005</b>	<b>0.7857</b>

**3.3 Grading - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0739	0.0000	0.0739	0.0347	0.0000	0.0347	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1794	0.1475	3.0000e-004		7.7500e-003	7.7500e-003		7.1300e-003	7.1300e-003	0.0000	26.0606	26.0606	8.4300e-003	0.0000	26.2713
<b>Total</b>	<b>0.0171</b>	<b>0.1794</b>	<b>0.1475</b>	<b>3.0000e-004</b>	<b>0.0739</b>	<b>7.7500e-003</b>	<b>0.0816</b>	<b>0.0347</b>	<b>7.1300e-003</b>	<b>0.0418</b>	<b>0.0000</b>	<b>26.0606</b>	<b>26.0606</b>	<b>8.4300e-003</b>	<b>0.0000</b>	<b>26.2713</b>

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**3.3 Grading - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.9600e-003	0.3664	0.0975	1.6200e-003	0.0463	3.0000e-003	0.0493	0.0127	2.8700e-003	0.0156	0.0000	162.0392	162.0392	8.1500e-003	0.0258	169.9224
Vendor	2.0000e-005	8.9000e-004	3.1000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.4013	0.4013	1.0000e-005	6.0000e-005	0.4189
Worker	4.1000e-004	2.8000e-004	3.4200e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9518	0.9518	3.0000e-005	3.0000e-005	0.9605
<b>Total</b>	<b>6.3900e-003</b>	<b>0.3676</b>	<b>0.1012</b>	<b>1.6300e-003</b>	<b>0.0476</b>	<b>3.0200e-003</b>	<b>0.0506</b>	<b>0.0131</b>	<b>2.8900e-003</b>	<b>0.0159</b>	<b>0.0000</b>	<b>163.3924</b>	<b>163.3924</b>	<b>8.1900e-003</b>	<b>0.0259</b>	<b>171.3018</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0739	0.0000	0.0739	0.0347	0.0000	0.0347	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.9300e-003	0.1277	0.1828	3.0000e-004		2.0200e-003	2.0200e-003		1.8900e-003	1.8900e-003	0.0000	26.0606	26.0606	8.4300e-003	0.0000	26.2713
<b>Total</b>	<b>7.9300e-003</b>	<b>0.1277</b>	<b>0.1828</b>	<b>3.0000e-004</b>	<b>0.0739</b>	<b>2.0200e-003</b>	<b>0.0759</b>	<b>0.0347</b>	<b>1.8900e-003</b>	<b>0.0366</b>	<b>0.0000</b>	<b>26.0606</b>	<b>26.0606</b>	<b>8.4300e-003</b>	<b>0.0000</b>	<b>26.2713</b>

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**3.3 Grading - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.9600e-003	0.3664	0.0975	1.6200e-003	0.0463	3.0000e-003	0.0493	0.0127	2.8700e-003	0.0156	0.0000	162.0392	162.0392	8.1500e-003	0.0258	169.9224
Vendor	2.0000e-005	8.9000e-004	3.1000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.4013	0.4013	1.0000e-005	6.0000e-005	0.4189
Worker	4.1000e-004	2.8000e-004	3.4200e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9518	0.9518	3.0000e-005	3.0000e-005	0.9605
<b>Total</b>	<b>6.3900e-003</b>	<b>0.3676</b>	<b>0.1012</b>	<b>1.6300e-003</b>	<b>0.0476</b>	<b>3.0200e-003</b>	<b>0.0506</b>	<b>0.0131</b>	<b>2.8900e-003</b>	<b>0.0159</b>	<b>0.0000</b>	<b>163.3924</b>	<b>163.3924</b>	<b>8.1900e-003</b>	<b>0.0259</b>	<b>171.3018</b>

**3.4 Building Construction - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1298	1.1868	1.3401	2.2200e-003		0.0577	0.0577		0.0543	0.0543	0.0000	191.2389	191.2389	0.0455	0.0000	192.3762
<b>Total</b>	<b>0.1298</b>	<b>1.1868</b>	<b>1.3401</b>	<b>2.2200e-003</b>		<b>0.0577</b>	<b>0.0577</b>		<b>0.0543</b>	<b>0.0543</b>	<b>0.0000</b>	<b>191.2389</b>	<b>191.2389</b>	<b>0.0455</b>	<b>0.0000</b>	<b>192.3762</b>

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**3.4 Building Construction - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.8400e-003	0.2967	0.1046	1.3700e-003	0.0444	1.7500e-003	0.0461	0.0128	1.6700e-003	0.0145	0.0000	134.0846	134.0846	4.0500e-003	0.0194	139.9757
Worker	0.0783	0.0542	0.6599	2.0000e-003	0.2322	1.2800e-003	0.2335	0.0617	1.1700e-003	0.0629	0.0000	183.7524	183.7524	5.4500e-003	5.1300e-003	185.4164
<b>Total</b>	<b>0.0861</b>	<b>0.3509</b>	<b>0.7645</b>	<b>3.3700e-003</b>	<b>0.2766</b>	<b>3.0300e-003</b>	<b>0.2796</b>	<b>0.0745</b>	<b>2.8400e-003</b>	<b>0.0774</b>	<b>0.0000</b>	<b>317.8370</b>	<b>317.8370</b>	<b>9.5000e-003</b>	<b>0.0246</b>	<b>325.3921</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0614	0.8804	1.4895	2.2200e-003		7.6700e-003	7.6700e-003		7.6700e-003	7.6700e-003	0.0000	191.2387	191.2387	0.0455	0.0000	192.3760
<b>Total</b>	<b>0.0614</b>	<b>0.8804</b>	<b>1.4895</b>	<b>2.2200e-003</b>		<b>7.6700e-003</b>	<b>7.6700e-003</b>		<b>7.6700e-003</b>	<b>7.6700e-003</b>	<b>0.0000</b>	<b>191.2387</b>	<b>191.2387</b>	<b>0.0455</b>	<b>0.0000</b>	<b>192.3760</b>

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**3.4 Building Construction - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.8400e-003	0.2967	0.1046	1.3700e-003	0.0444	1.7500e-003	0.0461	0.0128	1.6700e-003	0.0145	0.0000	134.0846	134.0846	4.0500e-003	0.0194	139.9757
Worker	0.0783	0.0542	0.6599	2.0000e-003	0.2322	1.2800e-003	0.2335	0.0617	1.1700e-003	0.0629	0.0000	183.7524	183.7524	5.4500e-003	5.1300e-003	185.4164
<b>Total</b>	<b>0.0861</b>	<b>0.3509</b>	<b>0.7645</b>	<b>3.3700e-003</b>	<b>0.2766</b>	<b>3.0300e-003</b>	<b>0.2796</b>	<b>0.0745</b>	<b>2.8400e-003</b>	<b>0.0774</b>	<b>0.0000</b>	<b>317.8370</b>	<b>317.8370</b>	<b>9.5000e-003</b>	<b>0.0246</b>	<b>325.3921</b>

**3.4 Building Construction - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0478	0.4369	0.5254	8.8000e-004		0.0199	0.0199		0.0188	0.0188	0.0000	75.3510	75.3510	0.0178	0.0000	75.7964
<b>Total</b>	<b>0.0478</b>	<b>0.4369</b>	<b>0.5254</b>	<b>8.8000e-004</b>		<b>0.0199</b>	<b>0.0199</b>		<b>0.0188</b>	<b>0.0188</b>	<b>0.0000</b>	<b>75.3510</b>	<b>75.3510</b>	<b>0.0178</b>	<b>0.0000</b>	<b>75.7964</b>

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**3.4 Building Construction - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9700e-003	0.1161	0.0403	5.3000e-004	0.0175	6.9000e-004	0.0182	5.0500e-003	6.6000e-004	5.7100e-003	0.0000	51.9012	51.9012	1.6300e-003	7.5200e-003	54.1828
Worker	0.0290	0.0192	0.2429	7.6000e-004	0.0915	4.8000e-004	0.0920	0.0243	4.4000e-004	0.0248	0.0000	70.0168	70.0168	1.9600e-003	1.8900e-003	70.6280
<b>Total</b>	<b>0.0320</b>	<b>0.1353</b>	<b>0.2832</b>	<b>1.2900e-003</b>	<b>0.1090</b>	<b>1.1700e-003</b>	<b>0.1101</b>	<b>0.0294</b>	<b>1.1000e-003</b>	<b>0.0305</b>	<b>0.0000</b>	<b>121.9180</b>	<b>121.9180</b>	<b>3.5900e-003</b>	<b>9.4100e-003</b>	<b>124.8108</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0236	0.3455	0.5863	8.8000e-004		2.7700e-003	2.7700e-003		2.7700e-003	2.7700e-003	0.0000	75.3509	75.3509	0.0178	0.0000	75.7963
<b>Total</b>	<b>0.0236</b>	<b>0.3455</b>	<b>0.5863</b>	<b>8.8000e-004</b>		<b>2.7700e-003</b>	<b>2.7700e-003</b>		<b>2.7700e-003</b>	<b>2.7700e-003</b>	<b>0.0000</b>	<b>75.3509</b>	<b>75.3509</b>	<b>0.0178</b>	<b>0.0000</b>	<b>75.7963</b>

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**3.4 Building Construction - 2024**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9700e-003	0.1161	0.0403	5.3000e-004	0.0175	6.9000e-004	0.0182	5.0500e-003	6.6000e-004	5.7100e-003	0.0000	51.9012	51.9012	1.6300e-003	7.5200e-003	54.1828
Worker	0.0290	0.0192	0.2429	7.6000e-004	0.0915	4.8000e-004	0.0920	0.0243	4.4000e-004	0.0248	0.0000	70.0168	70.0168	1.9600e-003	1.8900e-003	70.6280
<b>Total</b>	<b>0.0320</b>	<b>0.1353</b>	<b>0.2832</b>	<b>1.2900e-003</b>	<b>0.1090</b>	<b>1.1700e-003</b>	<b>0.1101</b>	<b>0.0294</b>	<b>1.1000e-003</b>	<b>0.0305</b>	<b>0.0000</b>	<b>121.9180</b>	<b>121.9180</b>	<b>3.5900e-003</b>	<b>9.4100e-003</b>	<b>124.8108</b>

**3.5 Paving - 2024**

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1885
Paving	3.5200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0134</b>	<b>0.0953</b>	<b>0.1463</b>	<b>2.3000e-004</b>		<b>4.6900e-003</b>	<b>4.6900e-003</b>		<b>4.3100e-003</b>	<b>4.3100e-003</b>	<b>0.0000</b>	<b>20.0265</b>	<b>20.0265</b>	<b>6.4800e-003</b>	<b>0.0000</b>	<b>20.1885</b>

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**3.5 Paving - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	8.8000e-004	3.1000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3943	0.3943	1.0000e-005	6.0000e-005	0.4117
Worker	3.8000e-004	2.5000e-004	3.1900e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9207	0.9207	3.0000e-005	2.0000e-005	0.9287
<b>Total</b>	<b>4.0000e-004</b>	<b>1.1300e-003</b>	<b>3.5000e-003</b>	<b>1.0000e-005</b>	<b>1.3300e-003</b>	<b>2.0000e-005</b>	<b>1.3500e-003</b>	<b>3.6000e-004</b>	<b>2.0000e-005</b>	<b>3.7000e-004</b>	<b>0.0000</b>	<b>1.3150</b>	<b>1.3150</b>	<b>4.0000e-005</b>	<b>8.0000e-005</b>	<b>1.3404</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.3400e-003	0.1004	0.1730	2.3000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1884
Paving	3.5200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>6.8600e-003</b>	<b>0.1004</b>	<b>0.1730</b>	<b>2.3000e-004</b>		<b>3.7000e-004</b>	<b>3.7000e-004</b>		<b>3.7000e-004</b>	<b>3.7000e-004</b>	<b>0.0000</b>	<b>20.0265</b>	<b>20.0265</b>	<b>6.4800e-003</b>	<b>0.0000</b>	<b>20.1884</b>

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**3.5 Paving - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	8.8000e-004	3.1000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3943	0.3943	1.0000e-005	6.0000e-005	0.4117
Worker	3.8000e-004	2.5000e-004	3.1900e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9207	0.9207	3.0000e-005	2.0000e-005	0.9287
<b>Total</b>	<b>4.0000e-004</b>	<b>1.1300e-003</b>	<b>3.5000e-003</b>	<b>1.0000e-005</b>	<b>1.3300e-003</b>	<b>2.0000e-005</b>	<b>1.3500e-003</b>	<b>3.6000e-004</b>	<b>2.0000e-005</b>	<b>3.7000e-004</b>	<b>0.0000</b>	<b>1.3150</b>	<b>1.3150</b>	<b>4.0000e-005</b>	<b>8.0000e-005</b>	<b>1.3404</b>

**3.6 Architectural Coating - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6437					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
<b>Total</b>	<b>0.6455</b>	<b>0.0122</b>	<b>0.0181</b>	<b>3.0000e-005</b>		<b>6.1000e-004</b>	<b>6.1000e-004</b>		<b>6.1000e-004</b>	<b>6.1000e-004</b>	<b>0.0000</b>	<b>2.5533</b>	<b>2.5533</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>2.5569</b>

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**3.6 Architectural Coating - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	8.8000e-004	3.1000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3943	0.3943	1.0000e-005	6.0000e-005	0.4117
Worker	1.7800e-003	1.1800e-003	0.0149	5.0000e-005	5.6100e-003	3.0000e-005	5.6400e-003	1.4900e-003	3.0000e-005	1.5200e-003	0.0000	4.2965	4.2965	1.2000e-004	1.2000e-004	4.3340
<b>Total</b>	<b>1.8000e-003</b>	<b>2.0600e-003</b>	<b>0.0152</b>	<b>5.0000e-005</b>	<b>5.7400e-003</b>	<b>4.0000e-005</b>	<b>5.7800e-003</b>	<b>1.5300e-003</b>	<b>4.0000e-005</b>	<b>1.5600e-003</b>	<b>0.0000</b>	<b>4.6908</b>	<b>4.6908</b>	<b>1.3000e-004</b>	<b>1.8000e-004</b>	<b>4.7456</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6437					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4000e-004	0.0106	0.0183	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
<b>Total</b>	<b>0.6442</b>	<b>0.0106</b>	<b>0.0183</b>	<b>3.0000e-005</b>		<b>4.0000e-005</b>	<b>4.0000e-005</b>		<b>4.0000e-005</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>2.5533</b>	<b>2.5533</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>2.5568</b>

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**3.6 Architectural Coating - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	8.8000e-004	3.1000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3943	0.3943	1.0000e-005	6.0000e-005	0.4117
Worker	1.7800e-003	1.1800e-003	0.0149	5.0000e-005	5.6100e-003	3.0000e-005	5.6400e-003	1.4900e-003	3.0000e-005	1.5200e-003	0.0000	4.2965	4.2965	1.2000e-004	1.2000e-004	4.3340
<b>Total</b>	<b>1.8000e-003</b>	<b>2.0600e-003</b>	<b>0.0152</b>	<b>5.0000e-005</b>	<b>5.7400e-003</b>	<b>4.0000e-005</b>	<b>5.7800e-003</b>	<b>1.5300e-003</b>	<b>4.0000e-005</b>	<b>1.5600e-003</b>	<b>0.0000</b>	<b>4.6908</b>	<b>4.6908</b>	<b>1.3000e-004</b>	<b>1.8000e-004</b>	<b>4.7456</b>

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.9624	1.0853	8.9937	0.0190	2.0225	0.0148	2.0373	0.5398	0.0138	0.5536	0.0000	1,751.8916	1,751.8916	0.1261	0.0801	1,778.9213
Unmitigated	0.9624	1.0853	8.9937	0.0190	2.0225	0.0148	2.0373	0.5398	0.0138	0.5536	0.0000	1,751.8916	1,751.8916	0.1261	0.0801	1,778.9213

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
Apartments Mid Rise	1,943.00	1,754.50	1461.60	5,274,602	5,274,602
City Park	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Strip Mall	93.71	88.88	43.13	132,126	132,126
<b>Total</b>	<b>2,036.71</b>	<b>1,843.38</b>	<b>1,504.73</b>	<b>5,406,727</b>	<b>5,406,727</b>

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

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Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Apartments Mid Rise	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
City Park	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Enclosed Parking Structure	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
General Office Building	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Health Club	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Parking Lot	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Recreational Swimming Pool	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Strip Mall	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

Percent of Electricity Use Generated with Renewable Energy

Modera Melrose Mitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	205.7403	205.7403	0.0126	1.5200e-003	206.5088
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	411.4807	411.4807	0.0252	3.0500e-003	413.0177
NaturalGas Mitigated	0.0132	0.1132	0.0502	7.2000e-004		9.1300e-003	9.1300e-003		9.1300e-003	9.1300e-003	0.0000	130.7595	130.7595	2.5100e-003	2.4000e-003	131.5365
NaturalGas Unmitigated	0.0132	0.1132	0.0502	7.2000e-004		9.1300e-003	9.1300e-003		9.1300e-003	9.1300e-003	0.0000	130.7595	130.7595	2.5100e-003	2.4000e-003	131.5365

Modera Melrose Mitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.2 Energy by Land Use - NaturalGas**

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	240110	1.2900e-003	0.0111	4.7100e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	12.8132	12.8132	2.5000e-004	2.3000e-004	12.8893
Apartments Mid Rise	2.11005e+006	0.0114	0.0972	0.0414	6.2000e-004		7.8600e-003	7.8600e-003		7.8600e-003	7.8600e-003	0.0000	112.6005	112.6005	2.1600e-003	2.0600e-003	113.2697
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	34952.3	1.9000e-004	1.7100e-003	1.4400e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.8652	1.8652	4.0000e-005	3.0000e-005	1.8763
Health Club	59973.1	3.2000e-004	2.9400e-003	2.4700e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.2004	3.2004	6.0000e-005	6.0000e-005	3.2194
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	5250.3	3.0000e-005	2.6000e-004	2.2000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2802	0.2802	1.0000e-005	1.0000e-005	0.2818
<b>Total</b>		<b>0.0132</b>	<b>0.1132</b>	<b>0.0502</b>	<b>7.2000e-004</b>		<b>9.1200e-003</b>	<b>9.1200e-003</b>		<b>9.1200e-003</b>	<b>9.1200e-003</b>	<b>0.0000</b>	<b>130.7595</b>	<b>130.7595</b>	<b>2.5200e-003</b>	<b>2.3900e-003</b>	<b>131.5365</b>

Modera Melrose Mitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	240110	1.2900e-003	0.0111	4.7100e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	12.8132	12.8132	2.5000e-004	2.3000e-004	12.8893
Apartments Mid Rise	2.11005e+006	0.0114	0.0972	0.0414	6.2000e-004		7.8600e-003	7.8600e-003		7.8600e-003	7.8600e-003	0.0000	112.6005	112.6005	2.1600e-003	2.0600e-003	113.2697
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	34952.3	1.9000e-004	1.7100e-003	1.4400e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.8652	1.8652	4.0000e-005	3.0000e-005	1.8763
Health Club	59973.1	3.2000e-004	2.9400e-003	2.4700e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.2004	3.2004	6.0000e-005	6.0000e-005	3.2194
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	5250.3	3.0000e-005	2.6000e-004	2.2000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2802	0.2802	1.0000e-005	1.0000e-005	0.2818
<b>Total</b>		<b>0.0132</b>	<b>0.1132</b>	<b>0.0502</b>	<b>7.2000e-004</b>		<b>9.1200e-003</b>	<b>9.1200e-003</b>		<b>9.1200e-003</b>	<b>9.1200e-003</b>	<b>0.0000</b>	<b>130.7595</b>	<b>130.7595</b>	<b>2.5200e-003</b>	<b>2.3900e-003</b>	<b>131.5365</b>

Modera Melrose Mitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	126725	31.0388	1.9000e-003	2.3000e-004	31.1547
Apartments Mid Rise	1.11364e+006	272.7649	0.0167	2.0200e-003	273.7838
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	304500	74.5814	4.5600e-003	5.5000e-004	74.8600
General Office Building	22580.3	5.5306	3.4000e-004	4.0000e-005	5.5513
Health Club	42585.1	10.4304	6.4000e-004	8.0000e-005	10.4694
Parking Lot	41056.4	10.0560	6.1000e-004	7.0000e-005	10.0935
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	28900.3	7.0786	4.3000e-004	5.0000e-005	7.1050
<b>Total</b>		<b>411.4806</b>	<b>0.0252</b>	<b>3.0400e-003</b>	<b>413.0177</b>

Modera Melrose Mitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.3 Energy by Land Use - Electricity**

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	63362.3	15.5194	9.5000e-004	1.1000e-004	15.5774
Apartments Mid Rise	556820	136.3825	8.3300e-003	1.0100e-003	136.8919
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	152250	37.2907	2.2800e-003	2.8000e-004	37.4300
General Office Building	11290.2	2.7653	1.7000e-004	2.0000e-005	2.7756
Health Club	21292.5	5.2152	3.2000e-004	4.0000e-005	5.2347
Parking Lot	20528.2	5.0280	3.1000e-004	4.0000e-005	5.0468
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	14450.1	3.5393	2.2000e-004	3.0000e-005	3.5525
<b>Total</b>		<b>205.7403</b>	<b>0.0126</b>	<b>1.5300e-003</b>	<b>206.5088</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

Modera Melrose Mitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5112	0.2254	2.4840	1.3900e-003		0.0293	0.0293		0.0293	0.0293	0.0000	232.8923	232.8923	8.1600e-003	4.2000e-003	234.3473
Unmitigated	1.5112	0.2254	2.4840	1.3900e-003		0.0293	0.0293		0.0293	0.0293	0.0000	232.8923	232.8923	8.1600e-003	4.2000e-003	234.3473

**6.2 Area by SubCategory**

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1057					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3101					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0231	0.1977	0.0841	1.2600e-003		0.0160	0.0160		0.0160	0.0160	0.0000	228.9698	228.9698	4.3900e-003	4.2000e-003	230.3305
Landscaping	0.0723	0.0276	2.3998	1.3000e-004		0.0133	0.0133		0.0133	0.0133	0.0000	3.9225	3.9225	3.7700e-003	0.0000	4.0168
<b>Total</b>	<b>1.5112</b>	<b>0.2254</b>	<b>2.4840</b>	<b>1.3900e-003</b>		<b>0.0293</b>	<b>0.0293</b>		<b>0.0293</b>	<b>0.0293</b>	<b>0.0000</b>	<b>232.8923</b>	<b>232.8923</b>	<b>8.1600e-003</b>	<b>4.2000e-003</b>	<b>234.3473</b>

Modera Melrose Mitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1057					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3101					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0231	0.1977	0.0841	1.2600e-003		0.0160	0.0160		0.0160	0.0160	0.0000	228.9698	228.9698	4.3900e-003	4.2000e-003	230.3305
Landscaping	0.0723	0.0276	2.3998	1.3000e-004		0.0133	0.0133		0.0133	0.0133	0.0000	3.9225	3.9225	3.7700e-003	0.0000	4.0168
<b>Total</b>	<b>1.5112</b>	<b>0.2254</b>	<b>2.4840</b>	<b>1.3900e-003</b>		<b>0.0293</b>	<b>0.0293</b>		<b>0.0293</b>	<b>0.0293</b>	<b>0.0000</b>	<b>232.8923</b>	<b>232.8923</b>	<b>8.1600e-003</b>	<b>4.2000e-003</b>	<b>234.3473</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

Modera Melrose Mitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	84.3036	0.7201	0.0175	107.5100
Unmitigated	84.3036	0.7201	0.0175	107.5100

Modera Melrose Mitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	2.15008 / 0	7.5393	0.0705	1.7100e-003	9.8094
Apartments Mid Rise	18.8947 / 0	66.2541	0.6194	0.0150	86.2035
City Park	0 / 2.62126	7.1329	4.4000e-004	5.0000e-005	7.1596
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	0.311034 / 0	1.0906	0.0102	2.5000e-004	1.4190
Health Club	0.308136 / 0	1.0805	0.0101	2.4000e-004	1.4058
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.114146 / 0.0699606	0.5906	3.7500e-003	9.0000e-005	0.7119
Strip Mall	0.175552 / 0	0.6156	5.7500e-003	1.4000e-004	0.8009
<b>Total</b>		<b>84.3036</b>	<b>0.7201</b>	<b>0.0175</b>	<b>107.5100</b>

Modera Melrose Mitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**7.2 Water by Land Use**

**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	2.15008 / 0	7.5393	0.0705	1.7100e-003	9.8094
Apartments Mid Rise	18.8947 / 0	66.2541	0.6194	0.0150	86.2035
City Park	0 / 2.62126	7.1329	4.4000e-004	5.0000e-005	7.1596
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	0.311034 / 0	1.0906	0.0102	2.5000e-004	1.4190
Health Club	0.308136 / 0	1.0805	0.0101	2.4000e-004	1.4058
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.114146 / 0.0699606	0.5906	3.7500e-003	9.0000e-005	0.7119
Strip Mall	0.175552 / 0	0.6156	5.7500e-003	1.4000e-004	0.8009
<b>Total</b>		<b>84.3036</b>	<b>0.7201</b>	<b>0.0175</b>	<b>107.5100</b>

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

Modera Melrose Mitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	39.2970	2.3224	0.0000	97.3567
Unmitigated	39.2970	2.3224	0.0000	97.3567

Modera Melrose Mitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	15.18	3.0814	0.1821	0.0000	7.6341
Apartments Mid Rise	133.4	27.0790	1.6003	0.0000	67.0871
City Park	0.19	0.0386	2.2800e-003	0.0000	0.0956
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
General Office Building	1.63	0.3309	0.0196	0.0000	0.8197
Health Club	29.7	6.0288	0.3563	0.0000	14.9362
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	11	2.2329	0.1320	0.0000	5.5319
Strip Mall	2.49	0.5055	0.0299	0.0000	1.2522
<b>Total</b>		<b>39.2970</b>	<b>2.3224</b>	<b>0.0000</b>	<b>97.3567</b>

Modera Melrose Mitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.2 Waste by Land Use**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	15.18	3.0814	0.1821	0.0000	7.6341
Apartments Mid Rise	133.4	27.0790	1.6003	0.0000	67.0871
City Park	0.19	0.0386	2.2800e-003	0.0000	0.0956
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
General Office Building	1.63	0.3309	0.0196	0.0000	0.8197
Health Club	29.7	6.0288	0.3563	0.0000	14.9362
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	11	2.2329	0.1320	0.0000	5.5319
Strip Mall	2.49	0.5055	0.0299	0.0000	1.2522
<b>Total</b>		<b>39.2970</b>	<b>2.3224</b>	<b>0.0000</b>	<b>97.3567</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

Modera Melrose Mitigated - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Modera Melrose Mitigated  
San Diego County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1.75	1000sqft	0.04	1,745.00	0
Enclosed Parking Structure	145.00	Space	0.00	58,000.00	0
Parking Lot	117.30	1000sqft	2.69	117,304.00	0
City Park	2.20	Acre	2.20	95,696.96	0
Health Club	5.21	1000sqft	0.00	5,206.00	0
Recreational Swimming Pool	1.93	1000sqft	0.04	1,927.00	0
Apartments High Rise	33.00	Dwelling Unit	0.25	33,000.00	94
Apartments Mid Rise	290.00	Dwelling Unit	2.16	290,000.00	829
Strip Mall	2.37	1000sqft	0.05	2,365.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	40
<b>Climate Zone</b>	13			<b>Operational Year</b>	2024
<b>Utility Company</b>	San Diego Gas & Electric				
<b>CO2 Intensity (lb/MW hr)</b>	539.98	<b>CH4 Intensity (lb/MW hr)</b>	0.033	<b>N2O Intensity (lb/MW hr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Land use assumptions provided by applicant.

Construction Phase - CalEEMod default assumptions. No demolition required.

Off-road Equipment - Architectural Coating: CalEEMod default assumptions

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Off-road Equipment - Building Construction: CalEEMod default assumptions

Off-road Equipment - Demo: CalEEMod default assumptions

Off-road Equipment - Grading: CalEEMod default assumptions

Off-road Equipment - Paving: CalEEMod default assumptions

Off-road Equipment - Site Prep: CalEEMod default assumptions

Trips and VMT - CalEEMod default assumptions. 2 vendor trucks added to phases without default vendor trips to account for water trucks and/or routine deliveries.

On-road Fugitive Dust - CalEEMod default assumptions

Demolition - No demolition required.

Grading - Import quantity provided by applicant.

Architectural Coating - SDAPCD Rule 67.0.1 for parking. Mitigation: use of low-VOC paints (<30 g/L).

Vehicle Trips - Trips consistent with data from 2/15/2022 Linscott Law & Greenspan Local Transportation Study.

Road Dust - CalEEMod default assumptions

Woodstoves - PDF: no wood-burning appliances.

Consumer Products - CalEEMod Default Assumptions

Area Coating - SDAPCD Rule 67.0.1.

Energy Use - CalEEMod default assumptions

Water And Wastewater - Zero'd out outdoor water use for buildings and accounted for in City Park land use which represents overall landscaping.

Solid Waste - CalEEMod default assumptions

Construction Off-road Equipment Mitigation - Tier4i mitigation for HRA impact

Area Mitigation - SDAPCD Rule 67.0.1

Energy Mitigation - PDF: 50% of on-site energy demand will come from PV solar

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	30.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	30.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	30.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	30.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	18.15	29.70

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblFireplaces	NumberGas	159.50	261.00
tblFireplaces	NumberWood	11.55	0.00
tblFireplaces	NumberWood	101.50	0.00
tblGrading	MaterialImported	0.00	43,200.00
tblLandUse	LandUseSquareFeet	1,750.00	1,745.00
tblLandUse	LandUseSquareFeet	117,300.00	117,304.00
tblLandUse	LandUseSquareFeet	95,832.00	95,696.96
tblLandUse	LandUseSquareFeet	5,210.00	5,206.00
tblLandUse	LandUseSquareFeet	1,930.00	1,927.00
tblLandUse	LandUseSquareFeet	2,370.00	2,365.00
tblLandUse	LotAcreage	1.30	0.00
tblLandUse	LotAcreage	0.12	0.00
tblLandUse	LotAcreage	0.53	0.25
tblLandUse	LotAcreage	7.63	2.16
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblVehicleTrips	ST_TR	4.53	0.00
tblVehicleTrips	ST_TR	4.91	6.05
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	ST_TR	42.04	37.50
tblVehicleTrips	SU_TR	3.59	0.00
tblVehicleTrips	SU_TR	4.09	5.04
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	0.70	0.00

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	SU_TR	20.43	18.20
tblVehicleTrips	WD_TR	4.45	0.00
tblVehicleTrips	WD_TR	5.44	6.70
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	28.82	0.00
tblVehicleTrips	WD_TR	44.32	39.54
tblWater	OutdoorWaterUseRate	1,355,487.01	0.00
tblWater	OutdoorWaterUseRate	11,911,855.55	0.00
tblWater	OutdoorWaterUseRate	190,633.78	0.00
tblWater	OutdoorWaterUseRate	188,857.41	0.00
tblWater	OutdoorWaterUseRate	107,596.31	0.00
tblWoodstoves	NumberCatalytic	1.65	0.00
tblWoodstoves	NumberCatalytic	14.50	0.00
tblWoodstoves	NumberNoncatalytic	1.65	0.00
tblWoodstoves	NumberNoncatalytic	14.50	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

**2.0 Emissions Summary**

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Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.1 Overall Construction (Maximum Daily Emission)**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	2.7151	54.7982	25.5376	0.1928	19.8184	1.2673	21.0858	10.1456	1.1660	11.3115	0.0000	20,892.80 21	20,892.80 21	1.8313	2.8516	21,788.35 41
2024	64.7439	17.6401	24.9086	0.0665	3.4320	0.6494	4.0814	0.9227	0.6109	1.5336	0.0000	6,671.507 1	6,671.507 1	0.7274	0.3202	6,785.103 1
<b>Maximum</b>	<b>64.7439</b>	<b>54.7982</b>	<b>25.5376</b>	<b>0.1928</b>	<b>19.8184</b>	<b>1.2673</b>	<b>21.0858</b>	<b>10.1456</b>	<b>1.1660</b>	<b>11.3115</b>	<b>0.0000</b>	<b>20,892.80 21</b>	<b>20,892.80 21</b>	<b>1.8313</b>	<b>2.8516</b>	<b>21,788.35 41</b>

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	1.8783	49.6347	28.4757	0.1928	19.8184	0.5239	20.3423	10.1456	0.4853	10.6308	0.0000	20,892.80 21	20,892.80 21	1.8313	2.8516	21,788.35 41
2024	64.6177	14.8281	26.7824	0.0665	3.4320	0.1214	3.5534	0.9227	0.1193	1.0420	0.0000	6,671.507 1	6,671.507 1	0.7274	0.3202	6,785.103 1
<b>Maximum</b>	<b>64.6177</b>	<b>49.6347</b>	<b>28.4757</b>	<b>0.1928</b>	<b>19.8184</b>	<b>0.5239</b>	<b>20.3423</b>	<b>10.1456</b>	<b>0.4853</b>	<b>10.6308</b>	<b>0.0000</b>	<b>20,892.80 21</b>	<b>20,892.80 21</b>	<b>1.8313</b>	<b>2.8516</b>	<b>21,788.35 41</b>

## Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	1.43	11.01	-9.54	0.00	0.00	66.33	5.05	0.00	65.97	9.13	0.00	0.00	0.00	0.00	0.00	0.00

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.1253	5.1294	28.7168	0.0322		0.5376	0.5376		0.5376	0.5376	0.0000	6,204.0427	6,204.0427	0.1642	0.1129	6,241.7797
Energy	0.0724	0.6203	0.2751	3.9500e-003		0.0500	0.0500		0.0500	0.0500		789.7953	789.7953	0.0151	0.0145	794.4887
Mobile	5.6755	6.3506	53.0910	0.1090	11.9826	0.0858	12.0684	3.1920	0.0800	3.2719		11,108.9103	11,108.9103	0.8195	0.5163	11,283.2510
<b>Total</b>	<b>14.8732</b>	<b>12.1003</b>	<b>82.0829</b>	<b>0.1451</b>	<b>11.9826</b>	<b>0.6734</b>	<b>12.6560</b>	<b>3.1920</b>	<b>0.6676</b>	<b>3.8596</b>	<b>0.0000</b>	<b>18,102.7484</b>	<b>18,102.7484</b>	<b>0.9988</b>	<b>0.6436</b>	<b>18,319.5194</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.1253	5.1294	28.7168	0.0322		0.5376	0.5376		0.5376	0.5376	0.0000	6,204.0427	6,204.0427	0.1642	0.1129	6,241.7797
Energy	0.0724	0.6203	0.2751	3.9500e-003		0.0500	0.0500		0.0500	0.0500		789.7953	789.7953	0.0151	0.0145	794.4887
Mobile	5.6755	6.3506	53.0910	0.1090	11.9826	0.0858	12.0684	3.1920	0.0800	3.2719		11,108.9103	11,108.9103	0.8195	0.5163	11,283.2510
<b>Total</b>	<b>14.8732</b>	<b>12.1003</b>	<b>82.0829</b>	<b>0.1451</b>	<b>11.9826</b>	<b>0.6734</b>	<b>12.6560</b>	<b>3.1920</b>	<b>0.6676</b>	<b>3.8596</b>	<b>0.0000</b>	<b>18,102.7484</b>	<b>18,102.7484</b>	<b>0.9988</b>	<b>0.6436</b>	<b>18,319.5194</b>

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/1/2023	4/14/2023	5	10	
2	Grading	Grading	4/15/2023	5/12/2023	5	20	
3	Building Construction	Building Construction	5/13/2023	3/29/2024	5	230	
4	Paving	Paving	3/30/2024	4/26/2024	5	20	
5	Architectural Coating	Architectural Coating	4/27/2024	5/24/2024	5	20	

**Acres of Grading (Site Preparation Phase): 15**

**Acres of Grading (Grading Phase): 20**

**Acres of Paving: 2.69**

**Residential Indoor: 654,075; Residential Outdoor: 218,025; Non-Residential Indoor: 13,974; Non-Residential Outdoor: 4,658; Striped Parking Area: 10,518 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	2.00	5,400.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	351.00	81.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	70.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
<b>Total</b>	<b>2.6595</b>	<b>27.5242</b>	<b>18.2443</b>	<b>0.0381</b>	<b>19.6570</b>	<b>1.2660</b>	<b>20.9230</b>	<b>10.1025</b>	<b>1.1647</b>	<b>11.2672</b>		<b>3,687.308 1</b>	<b>3,687.308 1</b>	<b>1.1926</b>		<b>3,717.121 9</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3200e-003	0.0893	0.0318	4.1000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		44.2722	44.2722	1.3300e-003	6.4200e-003	46.2176
Worker	0.0533	0.0344	0.4105	1.2300e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		124.8010	124.8010	3.8100e-003	3.5600e-003	125.9573
<b>Total</b>	<b>0.0557</b>	<b>0.1237</b>	<b>0.4423</b>	<b>1.6400e-003</b>	<b>0.1614</b>	<b>1.3100e-003</b>	<b>0.1627</b>	<b>0.0431</b>	<b>1.2300e-003</b>	<b>0.0444</b>		<b>169.0733</b>	<b>169.0733</b>	<b>5.1400e-003</b>	<b>9.9800e-003</b>	<b>172.1749</b>

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	1.5146	19.4809	20.8237	0.0381		0.5226	0.5226		0.4840	0.4840	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
<b>Total</b>	<b>1.5146</b>	<b>19.4809</b>	<b>20.8237</b>	<b>0.0381</b>	<b>19.6570</b>	<b>0.5226</b>	<b>20.1796</b>	<b>10.1025</b>	<b>0.4840</b>	<b>10.5865</b>	<b>0.0000</b>	<b>3,687.308 1</b>	<b>3,687.308 1</b>	<b>1.1926</b>		<b>3,717.121 9</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3200e-003	0.0893	0.0318	4.1000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		44.2722	44.2722	1.3300e-003	6.4200e-003	46.2176
Worker	0.0533	0.0344	0.4105	1.2300e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		124.8010	124.8010	3.8100e-003	3.5600e-003	125.9573
<b>Total</b>	<b>0.0557</b>	<b>0.1237</b>	<b>0.4423</b>	<b>1.6400e-003</b>	<b>0.1614</b>	<b>1.3100e-003</b>	<b>0.1627</b>	<b>0.0431</b>	<b>1.2300e-003</b>	<b>0.0444</b>		<b>169.0733</b>	<b>169.0733</b>	<b>5.1400e-003</b>	<b>9.9800e-003</b>	<b>172.1749</b>

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Grading - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.3861	0.0000	7.3861	3.4707	0.0000	3.4707			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
<b>Total</b>	<b>1.7109</b>	<b>17.9359</b>	<b>14.7507</b>	<b>0.0297</b>	<b>7.3861</b>	<b>0.7749</b>	<b>8.1610</b>	<b>3.4707</b>	<b>0.7129</b>	<b>4.1836</b>		<b>2,872.6910</b>	<b>2,872.6910</b>	<b>0.9291</b>		<b>2,895.9182</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5748	36.7444	9.8233	0.1617	4.7224	0.3003	5.0227	1.2944	0.2874	1.5818		17,871.8380	17,871.8380	0.8977	2.8422	18,741.2540
Vendor	2.3200e-003	0.0893	0.0318	4.1000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		44.2722	44.2722	1.3300e-003	6.4200e-003	46.2176
Worker	0.0445	0.0286	0.3421	1.0300e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		104.0008	104.0008	3.1800e-003	2.9700e-003	104.9644
<b>Total</b>	<b>0.6216</b>	<b>36.8623</b>	<b>10.1972</b>	<b>0.1632</b>	<b>4.8591</b>	<b>0.3015</b>	<b>5.1607</b>	<b>1.3310</b>	<b>0.2885</b>	<b>1.6194</b>		<b>18,020.1111</b>	<b>18,020.1111</b>	<b>0.9022</b>	<b>2.8516</b>	<b>18,892.4360</b>

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Grading - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.3861	0.0000	7.3861	3.4707	0.0000	3.4707			0.0000			0.0000
Off-Road	0.7926	12.7724	18.2785	0.0297		0.2019	0.2019		0.1891	0.1891	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
<b>Total</b>	<b>0.7926</b>	<b>12.7724</b>	<b>18.2785</b>	<b>0.0297</b>	<b>7.3861</b>	<b>0.2019</b>	<b>7.5880</b>	<b>3.4707</b>	<b>0.1891</b>	<b>3.6598</b>	<b>0.0000</b>	<b>2,872.6910</b>	<b>2,872.6910</b>	<b>0.9291</b>		<b>2,895.9182</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5748	36.7444	9.8233	0.1617	4.7224	0.3003	5.0227	1.2944	0.2874	1.5818		17,871.8380	17,871.8380	0.8977	2.8422	18,741.2540
Vendor	2.3200e-003	0.0893	0.0318	4.1000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		44.2722	44.2722	1.3300e-003	6.4200e-003	46.2176
Worker	0.0445	0.0286	0.3421	1.0300e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		104.0008	104.0008	3.1800e-003	2.9700e-003	104.9644
<b>Total</b>	<b>0.6216</b>	<b>36.8623</b>	<b>10.1972</b>	<b>0.1632</b>	<b>4.8591</b>	<b>0.3015</b>	<b>5.1607</b>	<b>1.3310</b>	<b>0.2885</b>	<b>1.6194</b>		<b>18,020.1111</b>	<b>18,020.1111</b>	<b>0.9022</b>	<b>2.8516</b>	<b>18,892.4360</b>

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>		<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0941	3.6184	1.2891	0.0166	0.5486	0.0213	0.5698	0.1579	0.0203	0.1783		1,793.0258	1,793.0258	0.0540	0.2599	1,871.8125
Worker	1.0401	0.6699	8.0045	0.0241	2.8834	0.0155	2.8988	0.7648	0.0142	0.7790		2,433.6196	2,433.6196	0.0744	0.0694	2,456.1676
<b>Total</b>	<b>1.1342</b>	<b>4.2883</b>	<b>9.2936</b>	<b>0.0407</b>	<b>3.4320</b>	<b>0.0367</b>	<b>3.4687</b>	<b>0.9227</b>	<b>0.0346</b>	<b>0.9573</b>		<b>4,226.6454</b>	<b>4,226.6454</b>	<b>0.1284</b>	<b>0.3293</b>	<b>4,327.9801</b>

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7441	10.6716	18.0549	0.0269		0.0930	0.0930		0.0930	0.0930	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>0.7441</b>	<b>10.6716</b>	<b>18.0549</b>	<b>0.0269</b>		<b>0.0930</b>	<b>0.0930</b>		<b>0.0930</b>	<b>0.0930</b>	<b>0.0000</b>	<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0941	3.6184	1.2891	0.0166	0.5486	0.0213	0.5698	0.1579	0.0203	0.1783		1,793.0258	1,793.0258	0.0540	0.2599	1,871.8125
Worker	1.0401	0.6699	8.0045	0.0241	2.8834	0.0155	2.8988	0.7648	0.0142	0.7790		2,433.6196	2,433.6196	0.0744	0.0694	2,456.1676
<b>Total</b>	<b>1.1342</b>	<b>4.2883</b>	<b>9.2936</b>	<b>0.0407</b>	<b>3.4320</b>	<b>0.0367</b>	<b>3.4687</b>	<b>0.9227</b>	<b>0.0346</b>	<b>0.9573</b>		<b>4,226.6454</b>	<b>4,226.6454</b>	<b>0.1284</b>	<b>0.3293</b>	<b>4,327.9801</b>

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>		<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0903	3.5940	1.2597	0.0163	0.5486	0.0214	0.5700	0.1579	0.0204	0.1784		1,761.8366	1,761.8366	0.0552	0.2553	1,839.2981
Worker	0.9791	0.6023	7.4821	0.0233	2.8834	0.0147	2.8981	0.7648	0.0135	0.7784		2,353.9716	2,353.9716	0.0678	0.0649	2,374.9973
<b>Total</b>	<b>1.0694</b>	<b>4.1963</b>	<b>8.7418</b>	<b>0.0396</b>	<b>3.4320</b>	<b>0.0361</b>	<b>3.4680</b>	<b>0.9227</b>	<b>0.0340</b>	<b>0.9567</b>		<b>4,115.8082</b>	<b>4,115.8082</b>	<b>0.1230</b>	<b>0.3202</b>	<b>4,214.2954</b>

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7255	10.6318	18.0406	0.0270		0.0853	0.0853		0.0853	0.0853	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>0.7255</b>	<b>10.6318</b>	<b>18.0406</b>	<b>0.0270</b>		<b>0.0853</b>	<b>0.0853</b>		<b>0.0853</b>	<b>0.0853</b>	<b>0.0000</b>	<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0903	3.5940	1.2597	0.0163	0.5486	0.0214	0.5700	0.1579	0.0204	0.1784		1,761.8366	1,761.8366	0.0552	0.2553	1,839.2981
Worker	0.9791	0.6023	7.4821	0.0233	2.8834	0.0147	2.8981	0.7648	0.0135	0.7784		2,353.9716	2,353.9716	0.0678	0.0649	2,374.9973
<b>Total</b>	<b>1.0694</b>	<b>4.1963</b>	<b>8.7418</b>	<b>0.0396</b>	<b>3.4320</b>	<b>0.0361</b>	<b>3.4680</b>	<b>0.9227</b>	<b>0.0340</b>	<b>0.9567</b>		<b>4,115.8082</b>	<b>4,115.8082</b>	<b>0.1230</b>	<b>0.3202</b>	<b>4,214.2954</b>

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.5 Paving - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.3524					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.3406</b>	<b>9.5246</b>	<b>14.6258</b>	<b>0.0228</b>		<b>0.4685</b>	<b>0.4685</b>		<b>0.4310</b>	<b>0.4310</b>		<b>2,207.547 2</b>	<b>2,207.547 2</b>	<b>0.7140</b>		<b>2,225.396 3</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2300e-003	0.0887	0.0311	4.0000e-004	0.0136	5.3000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		43.5021	43.5021	1.3600e-003	6.3000e-003	45.4148
Worker	0.0418	0.0257	0.3198	1.0000e-003	0.1232	6.3000e-004	0.1239	0.0327	5.8000e-004	0.0333		100.5971	100.5971	2.9000e-003	2.7700e-003	101.4956
<b>Total</b>	<b>0.0441</b>	<b>0.1145</b>	<b>0.3509</b>	<b>1.4000e-003</b>	<b>0.1368</b>	<b>1.1600e-003</b>	<b>0.1379</b>	<b>0.0366</b>	<b>1.0800e-003</b>	<b>0.0377</b>		<b>144.0992</b>	<b>144.0992</b>	<b>4.2600e-003</b>	<b>9.0700e-003</b>	<b>146.9104</b>

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.5 Paving - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3341	10.0395	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.3524					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.6865</b>	<b>10.0395</b>	<b>17.2957</b>	<b>0.0228</b>		<b>0.0374</b>	<b>0.0374</b>		<b>0.0374</b>	<b>0.0374</b>	<b>0.0000</b>	<b>2,207.547 2</b>	<b>2,207.547 2</b>	<b>0.7140</b>		<b>2,225.396 3</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2300e-003	0.0887	0.0311	4.0000e-004	0.0136	5.3000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		43.5021	43.5021	1.3600e-003	6.3000e-003	45.4148
Worker	0.0418	0.0257	0.3198	1.0000e-003	0.1232	6.3000e-004	0.1239	0.0327	5.8000e-004	0.0333		100.5971	100.5971	2.9000e-003	2.7700e-003	101.4956
<b>Total</b>	<b>0.0441</b>	<b>0.1145</b>	<b>0.3509</b>	<b>1.4000e-003</b>	<b>0.1368</b>	<b>1.1600e-003</b>	<b>0.1379</b>	<b>0.0366</b>	<b>1.0800e-003</b>	<b>0.0377</b>		<b>144.0992</b>	<b>144.0992</b>	<b>4.2600e-003</b>	<b>9.0700e-003</b>	<b>146.9104</b>

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.6 Architectural Coating - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	64.3657					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>64.5465</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2300e-003	0.0887	0.0311	4.0000e-004	0.0136	5.3000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		43.5021	43.5021	1.3600e-003	6.3000e-003	45.4148
Worker	0.1953	0.1201	1.4922	4.6400e-003	0.5750	2.9300e-003	0.5780	0.1525	2.7000e-003	0.1552		469.4530	469.4530	0.0135	0.0129	473.6462
<b>Total</b>	<b>0.1975</b>	<b>0.2089</b>	<b>1.5233</b>	<b>5.0400e-003</b>	<b>0.5886</b>	<b>3.4600e-003</b>	<b>0.5920</b>	<b>0.1564</b>	<b>3.2000e-003</b>	<b>0.1596</b>		<b>512.9552</b>	<b>512.9552</b>	<b>0.0149</b>	<b>0.0192</b>	<b>519.0610</b>

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.6 Architectural Coating - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	64.3657					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0545	1.0598	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>64.4202</b>	<b>1.0598</b>	<b>1.8324</b>	<b>2.9700e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2300e-003	0.0887	0.0311	4.0000e-004	0.0136	5.3000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		43.5021	43.5021	1.3600e-003	6.3000e-003	45.4148
Worker	0.1953	0.1201	1.4922	4.6400e-003	0.5750	2.9300e-003	0.5780	0.1525	2.7000e-003	0.1552		469.4530	469.4530	0.0135	0.0129	473.6462
<b>Total</b>	<b>0.1975</b>	<b>0.2089</b>	<b>1.5233</b>	<b>5.0400e-003</b>	<b>0.5886</b>	<b>3.4600e-003</b>	<b>0.5920</b>	<b>0.1564</b>	<b>3.2000e-003</b>	<b>0.1596</b>		<b>512.9552</b>	<b>512.9552</b>	<b>0.0149</b>	<b>0.0192</b>	<b>519.0610</b>

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.6755	6.3506	53.0910	0.1090	11.9826	0.0858	12.0684	3.1920	0.0800	3.2719		11,108.9103	11,108.9103	0.8195	0.5163	11,283.2510
Unmitigated	5.6755	6.3506	53.0910	0.1090	11.9826	0.0858	12.0684	3.1920	0.0800	3.2719		11,108.9103	11,108.9103	0.8195	0.5163	11,283.2510

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
Apartments Mid Rise	1,943.00	1,754.50	1461.60	5,274,602	5,274,602
City Park	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Strip Mall	93.71	88.88	43.13	132,126	132,126
<b>Total</b>	<b>2,036.71</b>	<b>1,843.38</b>	<b>1,504.73</b>	<b>5,406,727</b>	<b>5,406,727</b>

**4.3 Trip Type Information**

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Apartments Mid Rise	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
City Park	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Enclosed Parking Structure	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
General Office Building	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Health Club	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Parking Lot	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Recreational Swimming Pool	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Strip Mall	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

Percent of Electricity Use Generated with Renewable Energy

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0724	0.6203	0.2751	3.9500e-003		0.0500	0.0500		0.0500	0.0500		789.7953	789.7953	0.0151	0.0145	794.4887
NaturalGas Unmitigated	0.0724	0.6203	0.2751	3.9500e-003		0.0500	0.0500		0.0500	0.0500		789.7953	789.7953	0.0151	0.0145	794.4887

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	657.835	7.0900e-003	0.0606	0.0258	3.9000e-004		4.9000e-003	4.9000e-003		4.9000e-003	4.9000e-003		77.3923	77.3923	1.4800e-003	1.4200e-003	77.8522
Apartments Mid Rise	5780.97	0.0623	0.5328	0.2267	3.4000e-003		0.0431	0.0431		0.0431	0.0431		680.1143	680.1143	0.0130	0.0125	684.1558
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	95.7599	1.0300e-003	9.3900e-003	7.8900e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		11.2659	11.2659	2.2000e-004	2.1000e-004	11.3328
Health Club	164.31	1.7700e-003	0.0161	0.0135	1.0000e-004		1.2200e-003	1.2200e-003		1.2200e-003	1.2200e-003		19.3306	19.3306	3.7000e-004	3.5000e-004	19.4455
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	14.3844	1.6000e-004	1.4100e-003	1.1800e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		1.6923	1.6923	3.0000e-005	3.0000e-005	1.7023
<b>Total</b>		<b>0.0724</b>	<b>0.6203</b>	<b>0.2751</b>	<b>3.9600e-003</b>		<b>0.0500</b>	<b>0.0500</b>		<b>0.0500</b>	<b>0.0500</b>		<b>789.7953</b>	<b>789.7953</b>	<b>0.0151</b>	<b>0.0145</b>	<b>794.4887</b>

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	0.657835	7.0900e-003	0.0606	0.0258	3.9000e-004		4.9000e-003	4.9000e-003		4.9000e-003	4.9000e-003		77.3923	77.3923	1.4800e-003	1.4200e-003	77.8522
Apartments Mid Rise	5.78097	0.0623	0.5328	0.2267	3.4000e-003		0.0431	0.0431		0.0431	0.0431		680.1143	680.1143	0.0130	0.0125	684.1558
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0.0957599	1.0300e-003	9.3900e-003	7.8900e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		11.2659	11.2659	2.2000e-004	2.1000e-004	11.3328
Health Club	0.16431	1.7700e-003	0.0161	0.0135	1.0000e-004		1.2200e-003	1.2200e-003		1.2200e-003	1.2200e-003		19.3306	19.3306	3.7000e-004	3.5000e-004	19.4455
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.0143844	1.6000e-004	1.4100e-003	1.1800e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		1.6923	1.6923	3.0000e-005	3.0000e-005	1.7023
<b>Total</b>		<b>0.0724</b>	<b>0.6203</b>	<b>0.2751</b>	<b>3.9600e-003</b>		<b>0.0500</b>	<b>0.0500</b>		<b>0.0500</b>	<b>0.0500</b>		<b>789.7953</b>	<b>789.7953</b>	<b>0.0151</b>	<b>0.0145</b>	<b>794.4887</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.1253	5.1294	28.7168	0.0322		0.5376	0.5376		0.5376	0.5376	0.0000	6,204.0427	6,204.0427	0.1642	0.1129	6,241.7797
Unmitigated	9.1253	5.1294	28.7168	0.0322		0.5376	0.5376		0.5376	0.5376	0.0000	6,204.0427	6,204.0427	0.1642	0.1129	6,241.7797

**6.2 Area by SubCategory**

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5789					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.5643	4.8222	2.0520	0.0308		0.3899	0.3899		0.3899	0.3899	0.0000	6,156.0000	6,156.0000	0.1180	0.1129	6,192.5820
Landscaping	0.8035	0.3072	26.6648	1.4100e-003		0.1477	0.1477		0.1477	0.1477		48.0427	48.0427	0.0462		49.1977
<b>Total</b>	<b>9.1253</b>	<b>5.1294</b>	<b>28.7168</b>	<b>0.0322</b>		<b>0.5376</b>	<b>0.5376</b>		<b>0.5376</b>	<b>0.5376</b>	<b>0.0000</b>	<b>6,204.0427</b>	<b>6,204.0427</b>	<b>0.1642</b>	<b>0.1129</b>	<b>6,241.7797</b>

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5789					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.5643	4.8222	2.0520	0.0308		0.3899	0.3899		0.3899	0.3899	0.0000	6,156.0000	6,156.0000	0.1180	0.1129	6,192.5820
Landscaping	0.8035	0.3072	26.6648	1.4100e-003		0.1477	0.1477		0.1477	0.1477		48.0427	48.0427	0.0462		49.1977
<b>Total</b>	<b>9.1253</b>	<b>5.1294</b>	<b>28.7168</b>	<b>0.0322</b>		<b>0.5376</b>	<b>0.5376</b>		<b>0.5376</b>	<b>0.5376</b>	<b>0.0000</b>	<b>6,204.0427</b>	<b>6,204.0427</b>	<b>0.1642</b>	<b>0.1129</b>	<b>6,241.7797</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

Modera Melrose Mitigated - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Modera Melrose Mitigated  
San Diego County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1.75	1000sqft	0.04	1,745.00	0
Enclosed Parking Structure	145.00	Space	0.00	58,000.00	0
Parking Lot	117.30	1000sqft	2.69	117,304.00	0
City Park	2.20	Acre	2.20	95,696.96	0
Health Club	5.21	1000sqft	0.00	5,206.00	0
Recreational Swimming Pool	1.93	1000sqft	0.04	1,927.00	0
Apartments High Rise	33.00	Dwelling Unit	0.25	33,000.00	94
Apartments Mid Rise	290.00	Dwelling Unit	2.16	290,000.00	829
Strip Mall	2.37	1000sqft	0.05	2,365.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	40
<b>Climate Zone</b>	13			<b>Operational Year</b>	2024
<b>Utility Company</b>	San Diego Gas & Electric				
<b>CO2 Intensity (lb/MW hr)</b>	539.98	<b>CH4 Intensity (lb/MW hr)</b>	0.033	<b>N2O Intensity (lb/MW hr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Land use assumptions provided by applicant.

Construction Phase - CalEEMod default assumptions. No demolition required.

Off-road Equipment - Architectural Coating: CalEEMod default assumptions

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Off-road Equipment - Building Construction: CalEEMod default assumptions

Off-road Equipment - Demo: CalEEMod default assumptions

Off-road Equipment - Grading: CalEEMod default assumptions

Off-road Equipment - Paving: CalEEMod default assumptions

Off-road Equipment - Site Prep: CalEEMod default assumptions

Trips and VMT - CalEEMod default assumptions. 2 vendor trucks added to phases without default vendor trips to account for water trucks and/or routine deliveries.

On-road Fugitive Dust - CalEEMod default assumptions

Demolition - No demolition required.

Grading - Import quantity provided by applicant.

Architectural Coating - SDAPCD Rule 67.0.1 for parking. Mitigation: use of low-VOC paints (<30 g/L).

Vehicle Trips - Trips consistent with data from 2/15/2022 Linscott Law & Greenspan Local Transportation Study.

Road Dust - CalEEMod default assumptions

Woodstoves - PDF: no wood-burning appliances.

Consumer Products - CalEEMod Default Assumptions

Area Coating - SDAPCD Rule 67.0.1.

Energy Use - CalEEMod default assumptions

Water And Wastewater - Zero'd out outdoor water use for buildings and accounted for in City Park land use which represents overall landscaping.

Solid Waste - CalEEMod default assumptions

Construction Off-road Equipment Mitigation - Tier4i mitigation for HRA impact

Area Mitigation - SDAPCD Rule 67.0.1

Energy Mitigation - PDF: 50% of on-site energy demand will come from PV solar

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	30.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	30.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	30.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	30.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	18.15	29.70

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblFireplaces	NumberGas	159.50	261.00
tblFireplaces	NumberWood	11.55	0.00
tblFireplaces	NumberWood	101.50	0.00
tblGrading	MaterialImported	0.00	43,200.00
tblLandUse	LandUseSquareFeet	1,750.00	1,745.00
tblLandUse	LandUseSquareFeet	117,300.00	117,304.00
tblLandUse	LandUseSquareFeet	95,832.00	95,696.96
tblLandUse	LandUseSquareFeet	5,210.00	5,206.00
tblLandUse	LandUseSquareFeet	1,930.00	1,927.00
tblLandUse	LandUseSquareFeet	2,370.00	2,365.00
tblLandUse	LotAcreage	1.30	0.00
tblLandUse	LotAcreage	0.12	0.00
tblLandUse	LotAcreage	0.53	0.25
tblLandUse	LotAcreage	7.63	2.16
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblVehicleTrips	ST_TR	4.53	0.00
tblVehicleTrips	ST_TR	4.91	6.05
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	ST_TR	42.04	37.50
tblVehicleTrips	SU_TR	3.59	0.00
tblVehicleTrips	SU_TR	4.09	5.04
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	0.70	0.00

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	SU_TR	20.43	18.20
tblVehicleTrips	WD_TR	4.45	0.00
tblVehicleTrips	WD_TR	5.44	6.70
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	28.82	0.00
tblVehicleTrips	WD_TR	44.32	39.54
tblWater	OutdoorWaterUseRate	1,355,487.01	0.00
tblWater	OutdoorWaterUseRate	11,911,855.55	0.00
tblWater	OutdoorWaterUseRate	190,633.78	0.00
tblWater	OutdoorWaterUseRate	188,857.41	0.00
tblWater	OutdoorWaterUseRate	107,596.31	0.00
tblWoodstoves	NumberCatalytic	1.65	0.00
tblWoodstoves	NumberCatalytic	14.50	0.00
tblWoodstoves	NumberNoncatalytic	1.65	0.00
tblWoodstoves	NumberNoncatalytic	14.50	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

**2.0 Emissions Summary**

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Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.1 Overall Construction (Maximum Daily Emission)**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	2.7110	53.3669	25.9190	0.1927	19.8184	1.2673	21.0858	10.1456	1.1660	11.3115	0.0000	20,881.43 82	20,881.43 82	1.8332	2.8485	21,776.11 19
2024	64.7284	17.4280	25.2474	0.0679	3.4320	0.6493	4.0813	0.9227	0.6108	1.5335	0.0000	6,805.513 8	6,805.513 8	0.7234	0.3147	6,917.380 1
<b>Maximum</b>	<b>64.7284</b>	<b>53.3669</b>	<b>25.9190</b>	<b>0.1927</b>	<b>19.8184</b>	<b>1.2673</b>	<b>21.0858</b>	<b>10.1456</b>	<b>1.1660</b>	<b>11.3115</b>	<b>0.0000</b>	<b>20,881.43 82</b>	<b>20,881.43 82</b>	<b>1.8332</b>	<b>2.8485</b>	<b>21,776.11 19</b>

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	1.8001	48.2034	28.3718	0.1927	19.8184	0.5239	20.3423	10.1456	0.4853	10.6308	0.0000	20,881.43 81	20,881.43 81	1.8332	2.8485	21,776.11 19
2024	64.6021	14.6160	27.1212	0.0679	3.4320	0.1213	3.5533	0.9227	0.1192	1.0420	0.0000	6,805.513 8	6,805.513 8	0.7234	0.3147	6,917.380 1
<b>Maximum</b>	<b>64.6021</b>	<b>48.2034</b>	<b>28.3718</b>	<b>0.1927</b>	<b>19.8184</b>	<b>0.5239</b>	<b>20.3423</b>	<b>10.1456</b>	<b>0.4853</b>	<b>10.6308</b>	<b>0.0000</b>	<b>20,881.43 81</b>	<b>20,881.43 81</b>	<b>1.8332</b>	<b>2.8485</b>	<b>21,776.11 19</b>

## Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	1.54	11.27	-8.46	0.00	0.00	66.34	5.05	0.00	65.98	9.13	0.00	0.00	0.00	0.00	0.00	0.00

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.1253	5.1294	28.7168	0.0322		0.5376	0.5376		0.5376	0.5376	0.0000	6,204.0427	6,204.0427	0.1642	0.1129	6,241.7797
Energy	0.0724	0.6203	0.2751	3.9500e-003		0.0500	0.0500		0.0500	0.0500		789.7953	789.7953	0.0151	0.0145	794.4887
Mobile	5.8070	5.8595	51.7631	0.1140	11.9826	0.0857	12.0684	3.1920	0.0799	3.2719		11,612.2206	11,612.2206	0.7746	0.4900	11,777.5916
<b>Total</b>	<b>15.0047</b>	<b>11.6092</b>	<b>80.7550</b>	<b>0.1501</b>	<b>11.9826</b>	<b>0.6734</b>	<b>12.6560</b>	<b>3.1920</b>	<b>0.6676</b>	<b>3.8596</b>	<b>0.0000</b>	<b>18,606.0586</b>	<b>18,606.0586</b>	<b>0.9539</b>	<b>0.6173</b>	<b>18,813.8600</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.1253	5.1294	28.7168	0.0322		0.5376	0.5376		0.5376	0.5376	0.0000	6,204.0427	6,204.0427	0.1642	0.1129	6,241.7797
Energy	0.0724	0.6203	0.2751	3.9500e-003		0.0500	0.0500		0.0500	0.0500		789.7953	789.7953	0.0151	0.0145	794.4887
Mobile	5.8070	5.8595	51.7631	0.1140	11.9826	0.0857	12.0684	3.1920	0.0799	3.2719		11,612.2206	11,612.2206	0.7746	0.4900	11,777.5916
<b>Total</b>	<b>15.0047</b>	<b>11.6092</b>	<b>80.7550</b>	<b>0.1501</b>	<b>11.9826</b>	<b>0.6734</b>	<b>12.6560</b>	<b>3.1920</b>	<b>0.6676</b>	<b>3.8596</b>	<b>0.0000</b>	<b>18,606.0586</b>	<b>18,606.0586</b>	<b>0.9539</b>	<b>0.6173</b>	<b>18,813.8600</b>

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/1/2023	4/14/2023	5	10	
2	Grading	Grading	4/15/2023	5/12/2023	5	20	
3	Building Construction	Building Construction	5/13/2023	3/29/2024	5	230	
4	Paving	Paving	3/30/2024	4/26/2024	5	20	
5	Architectural Coating	Architectural Coating	4/27/2024	5/24/2024	5	20	

**Acres of Grading (Site Preparation Phase): 15**

**Acres of Grading (Grading Phase): 20**

**Acres of Paving: 2.69**

**Residential Indoor: 654,075; Residential Outdoor: 218,025; Non-Residential Indoor: 13,974; Non-Residential Outdoor: 4,658; Striped Parking Area: 10,518 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	2.00	5,400.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	351.00	81.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	70.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
<b>Total</b>	<b>2.6595</b>	<b>27.5242</b>	<b>18.2443</b>	<b>0.0381</b>	<b>19.6570</b>	<b>1.2660</b>	<b>20.9230</b>	<b>10.1025</b>	<b>1.1647</b>	<b>11.2672</b>		<b>3,687.308 1</b>	<b>3,687.308 1</b>	<b>1.1926</b>		<b>3,717.121 9</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3900e-003	0.0857	0.0309	4.1000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		44.2094	44.2094	1.3400e-003	6.4000e-003	46.1504
Worker	0.0492	0.0306	0.4320	1.3100e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		132.0595	132.0595	3.5800e-003	3.2900e-003	133.1300
<b>Total</b>	<b>0.0516</b>	<b>0.1163</b>	<b>0.4629</b>	<b>1.7200e-003</b>	<b>0.1614</b>	<b>1.3100e-003</b>	<b>0.1627</b>	<b>0.0431</b>	<b>1.2300e-003</b>	<b>0.0444</b>		<b>176.2689</b>	<b>176.2689</b>	<b>4.9200e-003</b>	<b>9.6900e-003</b>	<b>179.2805</b>

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	1.5146	19.4809	20.8237	0.0381		0.5226	0.5226		0.4840	0.4840	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
<b>Total</b>	<b>1.5146</b>	<b>19.4809</b>	<b>20.8237</b>	<b>0.0381</b>	<b>19.6570</b>	<b>0.5226</b>	<b>20.1796</b>	<b>10.1025</b>	<b>0.4840</b>	<b>10.5865</b>	<b>0.0000</b>	<b>3,687.308 1</b>	<b>3,687.308 1</b>	<b>1.1926</b>		<b>3,717.121 9</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3900e-003	0.0857	0.0309	4.1000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		44.2094	44.2094	1.3400e-003	6.4000e-003	46.1504
Worker	0.0492	0.0306	0.4320	1.3100e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		132.0595	132.0595	3.5800e-003	3.2900e-003	133.1300
<b>Total</b>	<b>0.0516</b>	<b>0.1163</b>	<b>0.4629</b>	<b>1.7200e-003</b>	<b>0.1614</b>	<b>1.3100e-003</b>	<b>0.1627</b>	<b>0.0431</b>	<b>1.2300e-003</b>	<b>0.0444</b>		<b>176.2689</b>	<b>176.2689</b>	<b>4.9200e-003</b>	<b>9.6900e-003</b>	<b>179.2805</b>

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Grading - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.3861	0.0000	7.3861	3.4707	0.0000	3.4707			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
<b>Total</b>	<b>1.7109</b>	<b>17.9359</b>	<b>14.7507</b>	<b>0.0297</b>	<b>7.3861</b>	<b>0.7749</b>	<b>8.1610</b>	<b>3.4707</b>	<b>0.7129</b>	<b>4.1836</b>		<b>2,872.6910</b>	<b>2,872.6910</b>	<b>0.9291</b>		<b>2,895.9182</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6115	35.3198	9.7024	0.1616	4.7224	0.2998	5.0221	1.2944	0.2868	1.5812		17,854.4882	17,854.4882	0.8998	2.8393	18,723.1016
Vendor	2.3900e-003	0.0857	0.0309	4.1000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		44.2094	44.2094	1.3400e-003	6.4000e-003	46.1504
Worker	0.0410	0.0255	0.3600	1.0900e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		110.0496	110.0496	2.9800e-003	2.7400e-003	110.9417
<b>Total</b>	<b>0.6548</b>	<b>35.4310</b>	<b>10.0933</b>	<b>0.1631</b>	<b>4.8591</b>	<b>0.3009</b>	<b>5.1601</b>	<b>1.3310</b>	<b>0.2879</b>	<b>1.6189</b>		<b>18,008.7472</b>	<b>18,008.7472</b>	<b>0.9041</b>	<b>2.8485</b>	<b>18,880.1937</b>

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Grading - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.3861	0.0000	7.3861	3.4707	0.0000	3.4707			0.0000			0.0000
Off-Road	0.7926	12.7724	18.2785	0.0297		0.2019	0.2019		0.1891	0.1891	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
<b>Total</b>	<b>0.7926</b>	<b>12.7724</b>	<b>18.2785</b>	<b>0.0297</b>	<b>7.3861</b>	<b>0.2019</b>	<b>7.5880</b>	<b>3.4707</b>	<b>0.1891</b>	<b>3.6598</b>	<b>0.0000</b>	<b>2,872.6910</b>	<b>2,872.6910</b>	<b>0.9291</b>		<b>2,895.9182</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6115	35.3198	9.7024	0.1616	4.7224	0.2998	5.0221	1.2944	0.2868	1.5812		17,854.4882	17,854.4882	0.8998	2.8393	18,723.1016
Vendor	2.3900e-003	0.0857	0.0309	4.1000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		44.2094	44.2094	1.3400e-003	6.4000e-003	46.1504
Worker	0.0410	0.0255	0.3600	1.0900e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		110.0496	110.0496	2.9800e-003	2.7400e-003	110.9417
<b>Total</b>	<b>0.6548</b>	<b>35.4310</b>	<b>10.0933</b>	<b>0.1631</b>	<b>4.8591</b>	<b>0.3009</b>	<b>5.1601</b>	<b>1.3310</b>	<b>0.2879</b>	<b>1.6189</b>		<b>18,008.7472</b>	<b>18,008.7472</b>	<b>0.9041</b>	<b>2.8485</b>	<b>18,880.1937</b>

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>		<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0968	3.4723	1.2513	0.0166	0.5486	0.0212	0.5697	0.1579	0.0202	0.1782		1,790.4803	1,790.4803	0.0543	0.2593	1,869.0928
Worker	0.9592	0.5957	8.4237	0.0255	2.8834	0.0155	2.8988	0.7648	0.0142	0.7790		2,575.1608	2,575.1608	0.0698	0.0642	2,596.0355
<b>Total</b>	<b>1.0560</b>	<b>4.0680</b>	<b>9.6750</b>	<b>0.0421</b>	<b>3.4320</b>	<b>0.0366</b>	<b>3.4686</b>	<b>0.9227</b>	<b>0.0345</b>	<b>0.9572</b>		<b>4,365.6411</b>	<b>4,365.6411</b>	<b>0.1241</b>	<b>0.3234</b>	<b>4,465.1283</b>

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7441	10.6716	18.0549	0.0269		0.0930	0.0930		0.0930	0.0930	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>0.7441</b>	<b>10.6716</b>	<b>18.0549</b>	<b>0.0269</b>		<b>0.0930</b>	<b>0.0930</b>		<b>0.0930</b>	<b>0.0930</b>	<b>0.0000</b>	<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0968	3.4723	1.2513	0.0166	0.5486	0.0212	0.5697	0.1579	0.0202	0.1782		1,790.4803	1,790.4803	0.0543	0.2593	1,869.0928
Worker	0.9592	0.5957	8.4237	0.0255	2.8834	0.0155	2.8988	0.7648	0.0142	0.7790		2,575.1608	2,575.1608	0.0698	0.0642	2,596.0355
<b>Total</b>	<b>1.0560</b>	<b>4.0680</b>	<b>9.6750</b>	<b>0.0421</b>	<b>3.4320</b>	<b>0.0366</b>	<b>3.4686</b>	<b>0.9227</b>	<b>0.0345</b>	<b>0.9572</b>		<b>4,365.6411</b>	<b>4,365.6411</b>	<b>0.1241</b>	<b>0.3234</b>	<b>4,465.1283</b>

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>		<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0932	3.4486	1.2220	0.0163	0.5486	0.0213	0.5699	0.1579	0.0203	0.1783		1,759.2638	1,759.2638	0.0555	0.2547	1,836.5560
Worker	0.9007	0.5356	7.8586	0.0246	2.8834	0.0147	2.8981	0.7648	0.0135	0.7784		2,490.5510	2,490.5510	0.0635	0.0600	2,510.0165
<b>Total</b>	<b>0.9938</b>	<b>3.9842</b>	<b>9.0806</b>	<b>0.0409</b>	<b>3.4320</b>	<b>0.0360</b>	<b>3.4679</b>	<b>0.9227</b>	<b>0.0339</b>	<b>0.9566</b>		<b>4,249.8149</b>	<b>4,249.8149</b>	<b>0.1190</b>	<b>0.3147</b>	<b>4,346.5725</b>

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Building Construction - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7255	10.6318	18.0406	0.0270		0.0853	0.0853		0.0853	0.0853	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>0.7255</b>	<b>10.6318</b>	<b>18.0406</b>	<b>0.0270</b>		<b>0.0853</b>	<b>0.0853</b>		<b>0.0853</b>	<b>0.0853</b>	<b>0.0000</b>	<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0932	3.4486	1.2220	0.0163	0.5486	0.0213	0.5699	0.1579	0.0203	0.1783		1,759.2638	1,759.2638	0.0555	0.2547	1,836.5560
Worker	0.9007	0.5356	7.8586	0.0246	2.8834	0.0147	2.8981	0.7648	0.0135	0.7784		2,490.5510	2,490.5510	0.0635	0.0600	2,510.0165
<b>Total</b>	<b>0.9938</b>	<b>3.9842</b>	<b>9.0806</b>	<b>0.0409</b>	<b>3.4320</b>	<b>0.0360</b>	<b>3.4679</b>	<b>0.9227</b>	<b>0.0339</b>	<b>0.9566</b>		<b>4,249.8149</b>	<b>4,249.8149</b>	<b>0.1190</b>	<b>0.3147</b>	<b>4,346.5725</b>

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.5 Paving - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.3524					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.3406</b>	<b>9.5246</b>	<b>14.6258</b>	<b>0.0228</b>		<b>0.4685</b>	<b>0.4685</b>		<b>0.4310</b>	<b>0.4310</b>		<b>2,207.547 2</b>	<b>2,207.547 2</b>	<b>0.7140</b>		<b>2,225.396 3</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3000e-003	0.0852	0.0302	4.0000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		43.4386	43.4386	1.3700e-003	6.2900e-003	45.3471
Worker	0.0385	0.0229	0.3358	1.0500e-003	0.1232	6.3000e-004	0.1239	0.0327	5.8000e-004	0.0333		106.4338	106.4338	2.7100e-003	2.5600e-003	107.2657
<b>Total</b>	<b>0.0408</b>	<b>0.1080</b>	<b>0.3660</b>	<b>1.4500e-003</b>	<b>0.1368</b>	<b>1.1500e-003</b>	<b>0.1379</b>	<b>0.0366</b>	<b>1.0800e-003</b>	<b>0.0377</b>		<b>149.8724</b>	<b>149.8724</b>	<b>4.0800e-003</b>	<b>8.8500e-003</b>	<b>152.6127</b>

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.5 Paving - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3341	10.0395	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.3524					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.6865</b>	<b>10.0395</b>	<b>17.2957</b>	<b>0.0228</b>		<b>0.0374</b>	<b>0.0374</b>		<b>0.0374</b>	<b>0.0374</b>	<b>0.0000</b>	<b>2,207.547 2</b>	<b>2,207.547 2</b>	<b>0.7140</b>		<b>2,225.396 3</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3000e-003	0.0852	0.0302	4.0000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		43.4386	43.4386	1.3700e-003	6.2900e-003	45.3471
Worker	0.0385	0.0229	0.3358	1.0500e-003	0.1232	6.3000e-004	0.1239	0.0327	5.8000e-004	0.0333		106.4338	106.4338	2.7100e-003	2.5600e-003	107.2657
<b>Total</b>	<b>0.0408</b>	<b>0.1080</b>	<b>0.3660</b>	<b>1.4500e-003</b>	<b>0.1368</b>	<b>1.1500e-003</b>	<b>0.1379</b>	<b>0.0366</b>	<b>1.0800e-003</b>	<b>0.0377</b>		<b>149.8724</b>	<b>149.8724</b>	<b>4.0800e-003</b>	<b>8.8500e-003</b>	<b>152.6127</b>

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.6 Architectural Coating - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	64.3657					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>64.5465</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3000e-003	0.0852	0.0302	4.0000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		43.4386	43.4386	1.3700e-003	6.2900e-003	45.3471
Worker	0.1796	0.1068	1.5672	4.9100e-003	0.5750	2.9300e-003	0.5780	0.1525	2.7000e-003	0.1552		496.6911	496.6911	0.0127	0.0120	500.5731
<b>Total</b>	<b>0.1819</b>	<b>0.1920</b>	<b>1.5974</b>	<b>5.3100e-003</b>	<b>0.5886</b>	<b>3.4500e-003</b>	<b>0.5920</b>	<b>0.1564</b>	<b>3.2000e-003</b>	<b>0.1596</b>		<b>540.1297</b>	<b>540.1297</b>	<b>0.0140</b>	<b>0.0183</b>	<b>545.9202</b>

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.6 Architectural Coating - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	64.3657					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0545	1.0598	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>64.4202</b>	<b>1.0598</b>	<b>1.8324</b>	<b>2.9700e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3000e-003	0.0852	0.0302	4.0000e-004	0.0136	5.2000e-004	0.0141	3.9000e-003	5.0000e-004	4.4000e-003		43.4386	43.4386	1.3700e-003	6.2900e-003	45.3471
Worker	0.1796	0.1068	1.5672	4.9100e-003	0.5750	2.9300e-003	0.5780	0.1525	2.7000e-003	0.1552		496.6911	496.6911	0.0127	0.0120	500.5731
<b>Total</b>	<b>0.1819</b>	<b>0.1920</b>	<b>1.5974</b>	<b>5.3100e-003</b>	<b>0.5886</b>	<b>3.4500e-003</b>	<b>0.5920</b>	<b>0.1564</b>	<b>3.2000e-003</b>	<b>0.1596</b>		<b>540.1297</b>	<b>540.1297</b>	<b>0.0140</b>	<b>0.0183</b>	<b>545.9202</b>

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.8070	5.8595	51.7631	0.1140	11.9826	0.0857	12.0684	3.1920	0.0799	3.2719		11,612.22 06	11,612.22 06	0.7746	0.4900	11,777.59 16
Unmitigated	5.8070	5.8595	51.7631	0.1140	11.9826	0.0857	12.0684	3.1920	0.0799	3.2719		11,612.22 06	11,612.22 06	0.7746	0.4900	11,777.59 16

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
Apartments Mid Rise	1,943.00	1,754.50	1461.60	5,274,602	5,274,602
City Park	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Strip Mall	93.71	88.88	43.13	132,126	132,126
<b>Total</b>	<b>2,036.71</b>	<b>1,843.38</b>	<b>1,504.73</b>	<b>5,406,727</b>	<b>5,406,727</b>

**4.3 Trip Type Information**

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Apartments Mid Rise	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
City Park	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Enclosed Parking Structure	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
General Office Building	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Health Club	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Parking Lot	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Recreational Swimming Pool	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Strip Mall	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

Percent of Electricity Use Generated with Renewable Energy

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0724	0.6203	0.2751	3.9500e-003		0.0500	0.0500		0.0500	0.0500		789.7953	789.7953	0.0151	0.0145	794.4887
NaturalGas Unmitigated	0.0724	0.6203	0.2751	3.9500e-003		0.0500	0.0500		0.0500	0.0500		789.7953	789.7953	0.0151	0.0145	794.4887

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	657.835	7.0900e-003	0.0606	0.0258	3.9000e-004		4.9000e-003	4.9000e-003		4.9000e-003	4.9000e-003		77.3923	77.3923	1.4800e-003	1.4200e-003	77.8522
Apartments Mid Rise	5780.97	0.0623	0.5328	0.2267	3.4000e-003		0.0431	0.0431		0.0431	0.0431		680.1143	680.1143	0.0130	0.0125	684.1558
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	95.7599	1.0300e-003	9.3900e-003	7.8900e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		11.2659	11.2659	2.2000e-004	2.1000e-004	11.3328
Health Club	164.31	1.7700e-003	0.0161	0.0135	1.0000e-004		1.2200e-003	1.2200e-003		1.2200e-003	1.2200e-003		19.3306	19.3306	3.7000e-004	3.5000e-004	19.4455
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	14.3844	1.6000e-004	1.4100e-003	1.1800e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		1.6923	1.6923	3.0000e-005	3.0000e-005	1.7023
<b>Total</b>		<b>0.0724</b>	<b>0.6203</b>	<b>0.2751</b>	<b>3.9600e-003</b>		<b>0.0500</b>	<b>0.0500</b>		<b>0.0500</b>	<b>0.0500</b>		<b>789.7953</b>	<b>789.7953</b>	<b>0.0151</b>	<b>0.0145</b>	<b>794.4887</b>

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	0.657835	7.0900e-003	0.0606	0.0258	3.9000e-004		4.9000e-003	4.9000e-003		4.9000e-003	4.9000e-003		77.3923	77.3923	1.4800e-003	1.4200e-003	77.8522
Apartments Mid Rise	5.78097	0.0623	0.5328	0.2267	3.4000e-003		0.0431	0.0431		0.0431	0.0431		680.1143	680.1143	0.0130	0.0125	684.1558
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0.0957599	1.0300e-003	9.3900e-003	7.8900e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		11.2659	11.2659	2.2000e-004	2.1000e-004	11.3328
Health Club	0.16431	1.7700e-003	0.0161	0.0135	1.0000e-004		1.2200e-003	1.2200e-003		1.2200e-003	1.2200e-003		19.3306	19.3306	3.7000e-004	3.5000e-004	19.4455
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.0143844	1.6000e-004	1.4100e-003	1.1800e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		1.6923	1.6923	3.0000e-005	3.0000e-005	1.7023
<b>Total</b>		<b>0.0724</b>	<b>0.6203</b>	<b>0.2751</b>	<b>3.9600e-003</b>		<b>0.0500</b>	<b>0.0500</b>		<b>0.0500</b>	<b>0.0500</b>		<b>789.7953</b>	<b>789.7953</b>	<b>0.0151</b>	<b>0.0145</b>	<b>794.4887</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.1253	5.1294	28.7168	0.0322		0.5376	0.5376		0.5376	0.5376	0.0000	6,204.0427	6,204.0427	0.1642	0.1129	6,241.7797
Unmitigated	9.1253	5.1294	28.7168	0.0322		0.5376	0.5376		0.5376	0.5376	0.0000	6,204.0427	6,204.0427	0.1642	0.1129	6,241.7797

**6.2 Area by SubCategory**

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5789					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.5643	4.8222	2.0520	0.0308		0.3899	0.3899		0.3899	0.3899	0.0000	6,156.0000	6,156.0000	0.1180	0.1129	6,192.5820
Landscaping	0.8035	0.3072	26.6648	1.4100e-003		0.1477	0.1477		0.1477	0.1477		48.0427	48.0427	0.0462		49.1977
<b>Total</b>	<b>9.1253</b>	<b>5.1294</b>	<b>28.7168</b>	<b>0.0322</b>		<b>0.5376</b>	<b>0.5376</b>		<b>0.5376</b>	<b>0.5376</b>	<b>0.0000</b>	<b>6,204.0427</b>	<b>6,204.0427</b>	<b>0.1642</b>	<b>0.1129</b>	<b>6,241.7797</b>

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5789					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.5643	4.8222	2.0520	0.0308		0.3899	0.3899		0.3899	0.3899	0.0000	6,156.0000	6,156.0000	0.1180	0.1129	6,192.5820
Landscaping	0.8035	0.3072	26.6648	1.4100e-003		0.1477	0.1477		0.1477	0.1477		48.0427	48.0427	0.0462		49.1977
<b>Total</b>	<b>9.1253</b>	<b>5.1294</b>	<b>28.7168</b>	<b>0.0322</b>		<b>0.5376</b>	<b>0.5376</b>		<b>0.5376</b>	<b>0.5376</b>	<b>0.0000</b>	<b>6,204.0427</b>	<b>6,204.0427</b>	<b>0.1642</b>	<b>0.1129</b>	<b>6,241.7797</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

Modera Melrose Mitigated - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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# **Appendix B**

## Health Risk Assessment Output Files



▲ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Users\shalterman\Desktop\HRAs\Modera  
Melrose\Modera Melrose Const \*\*\* 04/29/22  
\*\*\* AERMET - VERSION 19191 \*\*\* \*\*\*  
\*\*\* 17:09:50

PAGE 1

\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* MODEL SETUP OPTIONS SUMMARY

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---  
\*\*Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --

\*\*NO GAS DEPOSITION Data Provided.

\*\*NO PARTICLE DEPOSITION Data Provided.

\*\*Model Uses NO DRY DEPLETION. DRYDPLT = F

\*\*Model Uses NO WET DEPLETION. WETDPLT = F

\*\*Model Uses URBAN Dispersion Algorithm for the SBL for 350 Source(s),  
for Total of 1 Urban Area(s):

Urban Population = 3298634.0 ; Urban Roughness Length = 1.000 m

\*\*Model Uses Regulatory DEFAULT Options:

1. Stack-tip Downwash.
2. Model Accounts for ELEVated Terrain Effects.
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay.
6. Urban Roughness Length of 1.0 Meter Assumed.

\*\*Other Options Specified:

ADJ\_U\* - Use ADJ\_U\* option for SBL in AERMET

CCVR\_Sub - Meteorological data includes CCVR substitutions

TEMP\_Sub - Meteorological data includes TEMP substitutions

\*\*Model Assumes No FLAGPOLE Receptor Heights.

\*\*The User Specified a Pollutant Type of: PM\_10

\*\*Model Calculates 1 Short Term Average(s) of: 1-HR  
and Calculates PERIOD Averages

\*\*This Run Includes: 350 Source(s); 1 Source Group(s); and 5990  
Receptor(s)

with: 0 POINT(s), including  
0 POINTCAP(s) and 0 POINTHOR(s)

and: 350 VOLUME source(s)  
and: 0 AREA type source(s)  
and: 0 LINE source(s)  
and: 0 RLINE/RLINEXT source(s)  
and: 0 OPENPIT source(s)  
and: 0 BUOYANT LINE source(s) with a total of 0 line(s)

\*\*Model Set To Continue RUNNING After the Setup Testing.

\*\*The AERMET Input Meteorological Data Version Date: 19191

\*\*Output Options Selected:

Model Outputs Tables of PERIOD Averages by Receptor

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE  
Keyword)

Model Outputs External File(s) of High Values for Plotting (PLOTFILE  
Keyword)

Model Outputs Separate Summary File of High Ranked Values (SUMMFILE  
Keyword)

\*\*NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours  
m for Missing Hours  
b for Both Calm and  
Missing Hours

\*\*Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 92.00 ; Decay  
Coef. = 0.000 ; Rot. Angle = 0.0  
Emission Units = GRAMS/SEC ;  
Emission Rate Unit Factor = 0.10000E+07  
Output Units = MICROGRAMS/M\*\*3

\*\*Approximate Storage Requirements of Model = 4.3 MB of RAM.

\*\*Input Runstream File: aermod.inp

\*\*Output Print File: aermod.out

\*\*Detailed Error/Message File: Modera Melrose Construction.err

\*\*File for Summary of Results: Modera Melrose Construction.sum

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Users\shalterman\Desktop\HRAS\Modera  
Melrose\Modera Melrose Const \*\*\* 04/29/22  
\*\*\* AERMET - VERSION 19191 \*\*\* \*\*\*  
\*\*\* 17:09:50

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*



Surface station no.: 3177  
Name: UNKNOWN

Upper air station no.: 3190  
Name: UNKNOWN

Year: 2016

Year: 2016

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O	LEN	Z0	BOWEN
ALBEDO	REF	WS	WD	HT	REF	TA	HT							
16	01	01	1	01	-17.3	0.179	-9.000	-9.000	-999.	182.	35.4	0.22	0.91	
1.00	1.67	34.	7.9	282.0	2.0									
16	01	01	1	02	-15.8	0.171	-9.000	-9.000	-999.	170.	32.3	0.22	0.91	
1.00	1.60	38.	7.9	281.4	2.0									
16	01	01	1	03	-18.4	0.185	-9.000	-9.000	-999.	191.	37.7	0.22	0.91	
1.00	1.72	51.	7.9	280.9	2.0									
16	01	01	1	04	-18.4	0.185	-9.000	-9.000	-999.	191.	37.7	0.22	0.91	
1.00	1.72	33.	7.9	280.9	2.0									
16	01	01	1	05	-21.0	0.209	-9.000	-9.000	-999.	230.	48.1	0.22	0.91	
1.00	1.93	45.	7.9	279.9	2.0									
16	01	01	1	06	-22.8	0.226	-9.000	-9.000	-999.	258.	56.4	0.22	0.91	
1.00	2.08	36.	7.9	279.9	2.0									
16	01	01	1	07	-12.4	0.151	-9.000	-9.000	-999.	142.	24.9	0.22	0.91	
1.00	1.42	34.	7.9	279.9	2.0									
16	01	01	1	08	-10.9	0.160	-9.000	-9.000	-999.	153.	33.7	0.22	0.91	
0.50	1.48	31.	7.9	282.5	2.0									
16	01	01	1	09	30.7	0.192	0.394	0.006	72.	202.	-20.7	0.21	0.91	
0.29	1.43	26.	7.9	285.9	2.0									
16	01	01	1	10	77.8	0.259	0.826	0.005	260.	317.	-20.2	0.22	0.91	
0.22	1.91	45.	7.9	288.1	2.0									
16	01	01	1	11	110.0	0.224	1.152	0.005	500.	256.	-9.2	0.27	0.91	
0.20	1.38	350.	7.9	289.2	2.0									
16	01	01	1	12	125.4	0.249	1.288	0.005	613.	298.	-11.1	0.15	0.91	
0.19	1.91	285.	7.9	289.9	2.0									
16	01	01	1	13	123.0	0.494	1.454	0.005	899.	832.	-87.8	0.24	0.91	
0.19	3.98	244.	7.9	289.2	2.0									
16	01	01	1	14	103.8	0.504	1.490	0.005	1145.	859.	-110.9	0.24	0.91	
0.20	4.12	256.	7.9	289.9	2.0									
16	01	01	1	15	67.8	0.346	1.340	0.010	1274.	508.	-54.7	0.15	0.91	
0.23	3.12	279.	7.9	289.2	2.0									
16	01	01	1	16	18.3	0.281	0.872	0.011	1303.	361.	-109.3	0.15	0.91	
0.32	2.64	278.	7.9	288.1	2.0									
16	01	01	1	17	-11.5	0.152	-9.000	-9.000	-999.	153.	27.3	0.31	0.91	
0.60	1.26	313.	7.9	287.0	2.0									
16	01	01	1	18	-7.3	0.116	-9.000	-9.000	-999.	95.	19.1	0.27	0.91	
1.00	1.04	354.	7.9	285.4	2.0									
16	01	01	1	19	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.24	0.91	
1.00	0.00	0.	7.9	284.2	2.0									
16	01	01	1	20	-9.4	0.128	-9.000	-9.000	-999.	110.	20.0	0.12	0.91	

```

1.00  1.45  64.   7.9  283.8   2.0
 16 01 01  1 21  -9.8  0.131 -9.000 -9.000 -999. 114.   20.5  0.12  0.91
1.00  1.48  81.   7.9  283.1   2.0
 16 01 01  1 22  -8.1  0.118 -9.000 -9.000 -999.  98.   18.4  0.12  0.91
1.00  1.35  71.   7.9  282.5   2.0
 16 01 01  1 23  -7.6  0.115 -9.000 -9.000 -999.  93.   17.8  0.12  0.91
1.00  1.31  82.   7.9  282.5   2.0
 16 01 01  1 24 -16.7  0.172 -9.000 -9.000 -999. 172.   32.7  0.12  0.91
1.00  1.91  69.   7.9  282.0   2.0

```

First hour of profile data

```

YR MO DY HR HEIGHT F  WDIR   WSPD AMB_TMP sigmaA  sigmaW  sigmaV
16 01 01 01   7.9 1   34.   1.67  282.1  99.0  -99.00 -99.00

```

F indicates top of profile (=1) or below (=0)

```

^ *** AERMOD - VERSION 21112 ***   *** C:\Users\shalterman\Desktop\HRAs\Modera
Melrose\Modera Melrose Const ***   04/29/22
*** AERMET - VERSION 19191 ***   ***
***                               ***   17:09:50

```

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```

*** MODELOPTs:   RegDFault  CONC  ELEV  URBAN  ADJ_U*

```

```

*** THE SUMMARY OF MAXIMUM PERIOD ( 26304
HRS) RESULTS ***

```

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup>

\*\*

```

          NETWORK
GROUP ID          AVERAGE CONC          RECEPTOR (XR, YR, ZELEV,
ZHILL, ZFLAG) OF TYPE  GRID-ID
-----
ALL          1ST HIGHEST VALUE IS          71.48302 AT ( 476169.99, 3675735.78, 138.89,
138.89,      0.00) DC
          2ND HIGHEST VALUE IS          66.15215 AT ( 476172.06, 3675720.24, 138.82,
138.82,      0.00) DC
          3RD HIGHEST VALUE IS          58.08178 AT ( 476172.41, 3675697.10, 138.65,
138.65,      0.00) DC
          4TH HIGHEST VALUE IS          51.40644 AT ( 476191.44, 3675749.55, 139.70,
139.70,      0.00) GC UCART4
          5TH HIGHEST VALUE IS          50.69363 AT ( 476191.44, 3675729.55, 139.10,
139.10,      0.00) GC UCART4
          6TH HIGHEST VALUE IS          49.11393 AT ( 476191.44, 3675769.55, 140.50,
140.50,      0.00) GC UCART4

```

7TH HIGHEST VALUE IS 47.37982 AT ( 476191.44, 3675709.55, 138.70,  
 138.70, 0.00) GC UCART4  
 8TH HIGHEST VALUE IS 45.52121 AT ( 476175.86, 3675677.06, 138.49,  
 138.49, 0.00) DC  
 9TH HIGHEST VALUE IS 44.91525 AT ( 476191.44, 3675789.55, 141.10,  
 141.10, 0.00) GC UCART4  
 10TH HIGHEST VALUE IS 41.79675 AT ( 476191.44, 3675689.55, 138.40,  
 138.40, 0.00) GC UCART4

\*\*\* RECEPTOR TYPES: GC = GRIDCART  
 GP = GRIDPOLR  
 DC = DISCCART  
 DP = DISCPOLR

\*\*\* AERMOD - VERSION 21112 \*\*\* C:\Users\shalterman\Desktop\HRAs\Modera  
 Melrose\Modera Melrose Const \*\*\* 04/29/22  
 \*\*\* AERMET - VERSION 19191 \*\*\*  
 \*\*\* 17:09:50

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE SUMMARY OF HIGHEST 1-HR

RESULTS \*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

GROUP ID (XR, YR, ZELEV, ZHILL, ZFLAG)	AVERAGE CONC OF TYPE	NETWORK GRID-ID	DATE (YMMDDHH)	RECEPTOR
-----				

ALL HIGH 1ST HIGH VALUE IS 231.37043 ON 17020817: AT ( 476172.41,  
 3675697.10, 138.65, 138.65, 0.00) DC

\*\*\* RECEPTOR TYPES: GC = GRIDCART  
 GP = GRIDPOLR  
 DC = DISCCART  
 DP = DISCPOLR

\*\*\* AERMOD - VERSION 21112 \*\*\* C:\Users\shalterman\Desktop\HRAs\Modera  
 Melrose\Modera Melrose Const \*\*\* 04/29/22  
 \*\*\* AERMET - VERSION 19191 \*\*\*  
 \*\*\* 17:09:50

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* Message Summary : AERMOD Model Execution \*\*\*

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)  
A Total of 2 Warning Message(s)  
A Total of 2125 Informational Message(s)  
  
A Total of 26304 Hours Were Processed  
  
A Total of 1851 Calm Hours Identified  
  
A Total of 274 Missing Hours Identified ( 1.04 Percent)

\*\*\*\*\* FATAL ERROR MESSAGES \*\*\*\*\*  
\*\*\* NONE \*\*\*

\*\*\*\*\* WARNING MESSAGES \*\*\*\*\*  
ME W186 827 MEOPEN: THRESH\_1MIN 1-min ASOS wind speed threshold used  
0.50  
ME W187 827 MEOPEN: ADJ\_U\* Option for Stable Low Winds used in AERMET

HARP2 - HRACalc (dated 22118) 5/11/2022 12:01:49 PM - Output Log

GLCs loaded successfully  
Pollutants loaded successfully  
Pathway receptors loaded successfully

\*\*\*\*\*

RISK SCENARIO SETTINGS

Receptor Type: Resident  
Scenario: All  
Calculation Method: Derived

\*\*\*\*\*

EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25  
Total Exposure Duration: 1.54

Exposure Duration Bin Distribution

3rd Trimester Bin: 0.25  
0<2 Years Bin: 1.54  
2<9 Years Bin: 0  
2<16 Years Bin: 0  
16<30 Years Bin: 0  
16 to 70 Years Bin: 0

\*\*\*\*\*

PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True  
Soil: True  
Dermal: True  
Mother's milk: True  
Water: False  
Fish: False  
Homegrown crops: False  
Beef: False  
Dairy: False  
Pig: False  
Chicken: False  
Egg: False

\*\*\*\*\*

INHALATION

Daily breathing rate: RMP

**\*\*Worker Adjustment Factors\*\***  
Worker adjustment factors enabled: NO

**\*\*Fraction at time at home\*\***  
3rd Trimester to 16 years: ON  
16 years to 70 years: ON

\*\*\*\*\*  
SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02  
Soil mixing depth (m): 0.01  
Dermal climate: Mixed

\*\*\*\*\*  
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.

Tier2 - What was changed: ED or start age changed|

Calculating cancer risk

Cancer risk breakdown by pollutant and receptor saved to:

\\dudek.int\data\Projects\300.Environmental\13937 Modera Melrose\DUDEK WORK PRODUCTS\3\_Tech Studies\AQGHG\HRA\HARP\MODERA MELROSE CONSTRUCTION\hra\Residential-DefaultCancerRisk.csv

Cancer risk total by receptor saved to:

\\dudek.int\data\Projects\300.Environmental\13937 Modera Melrose\DUDEK WORK PRODUCTS\3\_Tech Studies\AQGHG\HRA\HARP\MODERA MELROSE CONSTRUCTION\hra\Residential-DefaultCancerRiskSumByRec.csv

Calculating chronic risk

Chronic risk breakdown by pollutant and receptor saved to:

\\dudek.int\data\Projects\300.Environmental\13937 Modera Melrose\DUDEK WORK PRODUCTS\3\_Tech Studies\AQGHG\HRA\HARP\MODERA MELROSE CONSTRUCTION\hra\Residential-DefaultNCChronicRisk.csv

Chronic risk total by receptor saved to:

\\dudek.int\data\Projects\300.Environmental\13937 Modera Melrose\DUDEK WORK PRODUCTS\3\_Tech Studies\AQGHG\HRA\HARP\MODERA MELROSE CONSTRUCTION\hra\Residential-DefaultNCChronicRiskSumByRec.csv

Calculating acute risk

Acute risk breakdown by pollutant and receptor saved to:

\\dudek.int\data\Projects\300.Environmental\13937 Modera Melrose\DUDEK WORK PRODUCTS\3\_Tech Studies\AQGHG\HRA\HARP\MODERA MELROSE CONSTRUCTION\hra\Residential-DefaultNCAcuteRisk.csv

Acute risk total by receptor saved to:

\\dudek.int\data\Projects\300.Environmental\13937 Modera Melrose\DUDEK WORK PRODUCTS\3\_Tech Studies\AQGHG\HRA\HARP\MODERA MELROSE CONSTRUCTION\hra\Residential-DefaultNCAcuteRiskSumByRec.csv

HRA ran successfully

HARP2 - HRACalc (dated 22118) 5/11/2022 12:08:45 PM - Output Log

GLCs loaded successfully  
Pollutants loaded successfully  
Pathway receptors loaded successfully  
\*\*\*\*\*

RISK SCENARIO SETTINGS

Receptor Type: Resident  
Scenario: All  
Calculation Method: Derived

\*\*\*\*\*  
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25  
Total Exposure Duration: 1.54

Exposure Duration Bin Distribution  
3rd Trimester Bin: 0.25  
0<2 Years Bin: 1.54  
2<9 Years Bin: 0  
2<16 Years Bin: 0  
16<30 Years Bin: 0  
16 to 70 Years Bin: 0

\*\*\*\*\*  
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True  
Soil: True  
Dermal: True  
Mother's milk: True  
Water: False  
Fish: False  
Homegrown crops: False  
Beef: False  
Dairy: False  
Pig: False  
Chicken: False  
Egg: False

\*\*\*\*\*  
INHALATION

Daily breathing rate: RMP

**\*\*Worker Adjustment Factors\*\***  
Worker adjustment factors enabled: NO

**\*\*Fraction at time at home\*\***  
3rd Trimester to 16 years: ON  
16 years to 70 years: ON

\*\*\*\*\*  
SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02  
Soil mixing depth (m): 0.01  
Dermal climate: Mixed

\*\*\*\*\*  
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.

Tier2 - What was changed: ED or start age changed|

Calculating cancer risk

Cancer risk breakdown by pollutant and receptor saved to:

\\dudek.int\data\Projects\300.Environmental\13937 Modera Melrose\DUDEK WORK PRODUCTS\3\_Tech Studies\AQGHG\HRA\HARP\MODERA MELROSE CONSTRUCTION\hra\Residential-MitigatedCancerRisk.csv

Cancer risk total by receptor saved to:

\\dudek.int\data\Projects\300.Environmental\13937 Modera Melrose\DUDEK WORK PRODUCTS\3\_Tech Studies\AQGHG\HRA\HARP\MODERA MELROSE CONSTRUCTION\hra\Residential-MitigatedCancerRiskSumByRec.csv

Calculating chronic risk

Chronic risk breakdown by pollutant and receptor saved to:

\\dudek.int\data\Projects\300.Environmental\13937 Modera Melrose\DUDEK WORK PRODUCTS\3\_Tech Studies\AQGHG\HRA\HARP\MODERA MELROSE CONSTRUCTION\hra\Residential-MitigatedNCChronicRisk.csv

Chronic risk total by receptor saved to:

\\dudek.int\data\Projects\300.Environmental\13937 Modera Melrose\DUDEK WORK PRODUCTS\3\_Tech Studies\AQGHG\HRA\HARP\MODERA MELROSE CONSTRUCTION\hra\Residential-MitigatedNCChronicRiskSumByRec.csv

Calculating acute risk

Acute risk breakdown by pollutant and receptor saved to:

\\dudek.int\data\Projects\300.Environmental\13937 Modera Melrose\DUDEK WORK PRODUCTS\3\_Tech Studies\AQGHG\HRA\HARP\MODERA MELROSE CONSTRUCTION\hra\Residential-MitigatedNCAcuteRisk.csv

Acute risk total by receptor saved to:

\\dudek.int\data\Projects\300.Environmental\13937 Modera Melrose\DUDEK WORK PRODUCTS\3\_Tech Studies\AQGHG\HRA\HARP\MODERA MELROSE CONSTRUCTION\hra\Residential-MitigatedNCAcuteRiskSumByRec.csv

HRA ran successfully



---

# **Appendix C**

## CAP Consistency Checklist

