AIR QUALITY AND GREENHOUSE GAS ANALYSIS

SAN CLEMENTE SENIOR HOUSING PROJECT

SAN CLEMENTE, CALIFORNIA

LSA

August 2022

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LIST OF ABBREVIATIONS AND ACRONYMS

°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
AAQS	ambient air quality standards
AB	Assembly Bill
AQMP	Air Quality Management Plan
CAFE	corporate average fuel economy
CalEEMod	California Emission Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards
CAP	Climate Action Plan
CAT	2006 California Climate Action Team
CCAA	California Clean Air Act
CH4	methane
CO_2e	carbon dioxide equivalent
Connect SoCal	2020–2045 Regional Transportation Plan/ Sustainable Communities Strategy
EV	electric vehicle
GWP	global warming potential
HFC	hydrofluorocarbons
IPCC	United Nations Intergovernmental Panel on Climate Change
LCFS	low carbon fuel standard
LST	localized significance thresholds
MMT	million metric tons
mph	miles per hour
MPO	Metropolitan Planning Organization
N_2O	nitrous oxide
NAAQS	national ambient air quality standards
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NO_X	nitrogen oxides

PFC	perfluorocarbons
PM	suspended particulate matter
PM_{10}	particulate matter 10 microns or less in diameter
$PM_{2.5}$	particulate matter 2.5 microns or less in diameter
ppm	parts per million
RCP	Regional Comprehensive Plan
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Program
SAFE Vehicles Rule	Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks
SB	Senate Bill
SCAG	Southern California Association of Governments
SCS	Sustainable Communities Strategy
SF6	Sulfur hexafluoride
SO_2	sulfur dioxide
SO_X	sulfur oxides
SRA	Source Receptor Area
TAC	toxic air contaminant
USEPA	United States Environmental Protection Agency
VMT	vehicle miles traveled
VOC	volatile organic compound
Working Group	South Coast Air Quality Management District Greenhouse Gas CEQA Significance Threshold Working Group
ZEV	zero-emission vehicle

INTRODUCTION

This air quality and greenhouse gas (GHG) impact analysis has been prepared to evaluate the potential air quality and GHG emissions impacts associated with the proposed San Clemente Senior Housing Project (project) in San Clemente, California. This report provides a project-specific air quality and GHG emissions impact analysis by examining the impacts of the proposed uses on regional air quality and nearby sensitive uses. This air quality and GHG impact analysis follows the guidelines identified by the South Coast Air Quality Management District (SCAQMD) in its California Environmental Quality Act (CEQA) Air Quality Handbook,[1] and associated updates.

PROJECT LOCATION AND DESCRIPTION

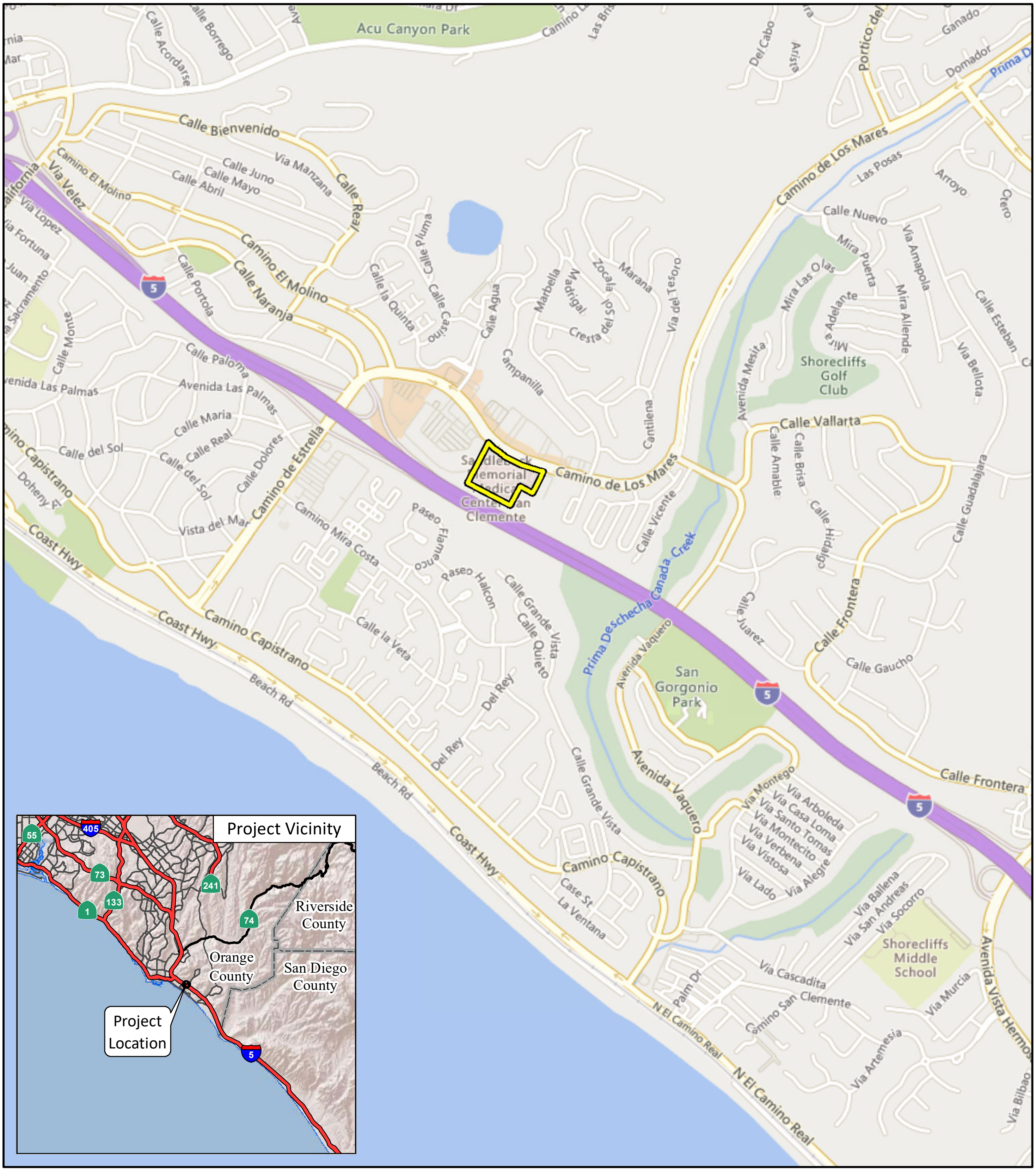
The 6.63-acre project site is at 654 Camino del los Mares in the San Clemente, California (Figure 1). The proposed project would demolish the existing buildings and would construct a 250-dwelling unit senior housing project consisting of two residential apartment buildings (Building 1, 99 units and Building 2, 151 units), and a 7,500 square foot (sf), two-story medical office (Building 3). The senior housing would consist of 61 studio units (540 sf), 119 one-bedroom units (650–897 sf), and 70 two-bedroom units (985–1,120 sf), for a total of 192,568 net leasable square feet. The project proposes both indoor and outdoor amenities for the residents, including a common clubroom, fitness center, roof-top deck, resort style pool deck, landscaped courtyards, and central paseo walkway. Both the senior housing and medical office would have all-access drives with surface parking areas around the perimeters of the buildings.

Access to the project site would be provided via Camino del los Mares with two entries at the west and east ends of the project's frontage. The west entry would serve as the main entry and drop-off site, while the east entry would be the main access point for the medical office building as well as a secondary access point for the senior apartments. The site would have a total of 312 parking spaces, of which 249 would be for the senior apartments, 2 would be for the manager's unit, 38 for the medical office, and the remaining 23 would be part of a shared parking agreement. Once operational, the proposed project would generate approximately 1,080 average daily trips.[2]

Construction of the proposed project is anticipated to begin in the fall of 2023 and would continue for 18 to 24 months. Based on the preliminary grading plans, 10,779 cubic yards of earth would be exported from the project site.

1 South Coast Air Quality Management District. 1993. CEQA Air Quality Handbook. Website: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993) (accessed April 2022).

2 LSA, 2022. San Clemente Senior Housing/Medical Office Traffic Impact Analysis. August.



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LEGEND

Project Location

FIGURE 1

N

0 750 1500

FEET

San Clemente Senior Housing Project

Project Location and Vicinity

SOURCE: Bing Maps (2021)

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Existing Sensitive Land Uses in the Project Area

For the purposes of this analysis, sensitive receptors are areas of population that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include residences, schools, day care centers, hospitals, parks, and similar uses that are sensitive to air quality. Impacts on sensitive receptors are of particular concern because they are the population most vulnerable to the effects of air pollution. The project site is bounded by commercial uses to the north and the east, such as Ocean View Plaza, which provides a variety of retail and dining services, including medical offices and a movie theater. Interstate 5 is located to the south of the project site, and the San Clemente Villas by the Sea are located adjacent to the southeastern project boundary. Currently, the project site is occupied by a vacant hospital facility with supporting access drives and parking areas. Figure 2 shows the project site plan. The nearby sensitive receptors include the residential area of San Clemente Villas by the Sea, which are located adjacent to the southeastern project boundary.

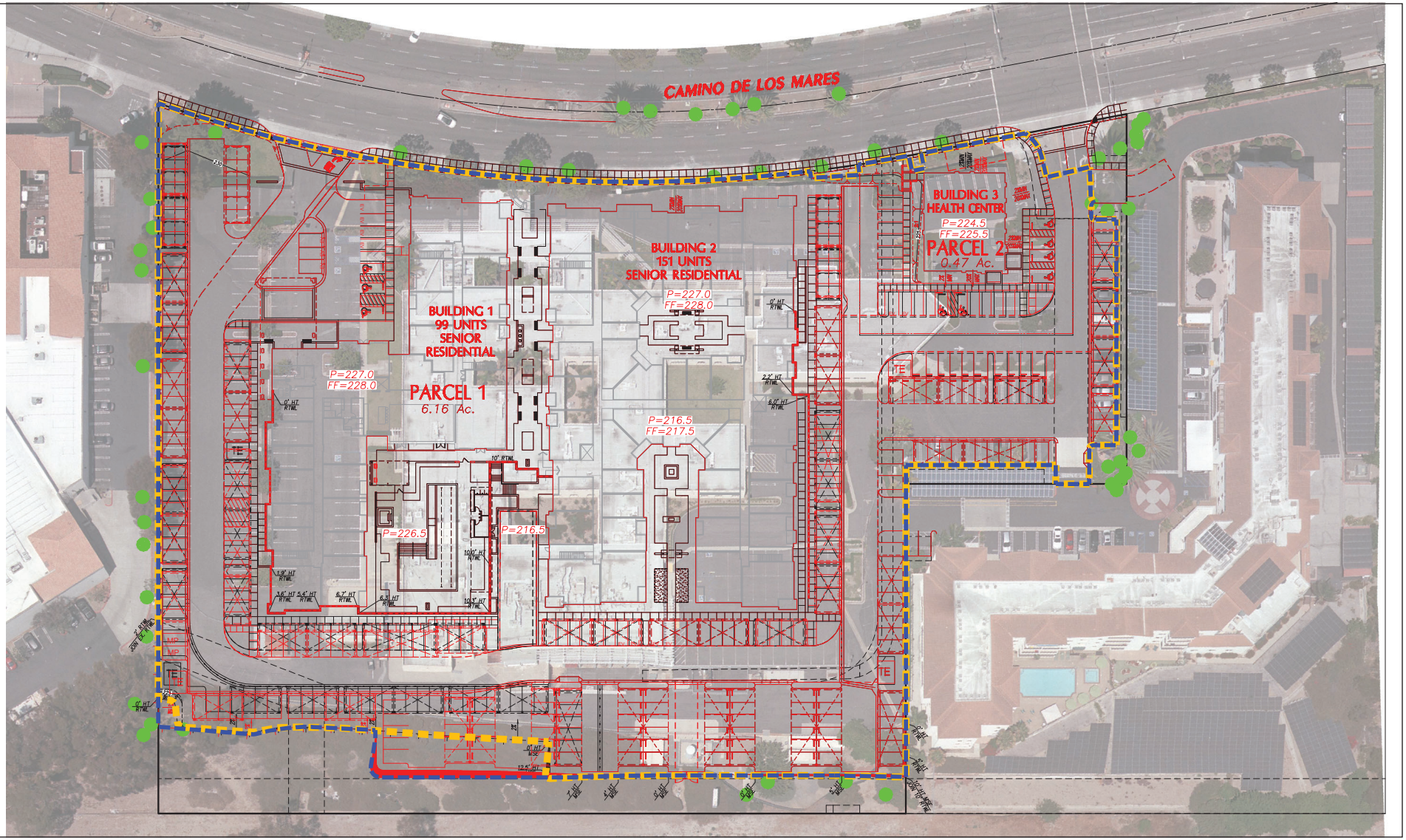

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FIGURE 2

NOT TO SCALE

San Clemente Senior Housing Project
Site Plan

SOURCE: Hunsaker & Associates, 8/17/2022

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BACKGROUND

This section provides background information on air pollutants and their health effects. It also provides regulatory background information, including information from the California Air Resources Board's (CARB) Air Quality and Land Use Handbook[3] (CARB Handbook); a description of the general health risks of toxics, and the significance criteria for project evaluation.

AIR POLLUTANTS AND HEALTH EFFECTS

Both State and federal governments have established health-based Ambient Air Quality Standards for six criteria air pollutants:[4] carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead, and suspended particulate matter (PM). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Long-term exposure to elevated levels of criteria pollutants may result in adverse health effects. However, emission thresholds established by an air district are used to manage total regional emissions within an air basin based on the air basin's attainment status for criteria pollutants. These emission thresholds were established for individual projects that would contribute to regional emissions and pollutant concentrations and could adversely affect or delay the projected attainment target year for certain criteria pollutants.

Because of the conservative nature of the thresholds and the basin-wide context of individual project emissions, there is no known direct correlation between a single project and localized air quality-related health effects. One individual project that generates emissions exceeding a threshold does not necessarily result in adverse health effects for residents in the project vicinity. This condition is especially true when the criteria pollutants exceeding thresholds are those with regional effects, such as ozone precursors like nitrogen oxides (NO_x) and volatile organic compounds (VOC).

Occupants of facilities such as schools, daycare centers, parks and playgrounds, hospitals, and nursing and convalescent homes are considered to be more sensitive than the general public to air pollutants because these population groups have increased susceptibility to respiratory disease. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions, compared to commercial and industrial areas, because people generally spend longer periods of time at their residences, with greater associated exposure to ambient air quality conditions. Recreational uses are also considered sensitive compared to commercial and industrial uses due to greater exposure to ambient air quality conditions associated with exercise.

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3 California Air Resources Board. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* May.

4 Criteria pollutants are defined as those pollutants for which the federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

Ozone

Rather than being directly emitted, O_3 (smog) is formed by photochemical reactions between NO_X and VOC. Ozone is a pungent, colorless gas. Elevated O_3 concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, elderly, and young children. O_3 levels peak during the summer and early fall months.

Carbon Monoxide

CO forms from the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. CO passes through the lungs into the bloodstream, where it interferes with the transfer of oxygen to body tissues.

Particulate Matter

PM is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles are those that are 10 microns or less in diameter, or PM_{10}. Fine, suspended particulate matter with an aerodynamic diameter of 2.5 microns or less, or $PM_{2.5}$, is not readily filtered out by the lungs. Nitrates, sulfates, dust, and combustion particulates are major components of PM_{10} and $PM_{2.5}$. These small particles can be directly emitted into the atmosphere as byproducts of fuel combustion; through abrasion, such as tire or brake lining wear; or through fugitive dust (wind or mechanical erosion of soil). They can also be formed in the atmosphere through chemical reactions. Particulates may transport carcinogens and other toxic compounds that adhere to the particle surfaces and can enter the human body through the lungs.

Nitrogen Dioxide

NO_2 is a reddish brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to O_3 formation, NO_2 also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. NO_2 decreases lung function and may reduce resistance to infection.

Sulfur Dioxide

SO_2 is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels in the region. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight.

Lead

Leaded gasoline (phased out in the United States beginning in 1973), paint (on older houses and cars), smelters (metal refineries), and the manufacture of lead storage batteries have been the primary sources of lead released into the atmosphere. Lead has multiple adverse neurotoxic health effects, and children are at special risk. Some lead-containing chemicals cause cancer in animals.

Lead levels in the air have decreased substantially since leaded gasoline was eliminated. Ambient lead concentrations are only monitored on an as-warranted, site-specific basis in California. On October 15, 2008, the United States Environmental Protection Agency (USEPA) strengthened the national ambient air quality standard for lead by lowering it from 1.5 to 0.15 micrograms per cubic meter ($\mu g/m^3$). The USEPA revised the monitoring requirements for lead in December 2010. These requirements focus on airports and large urban areas, resulting in an increase in 76 monitors nationally.

Volatile Organic Compounds

VOCs (also known as reactive organic gases and reactive organic compounds) are formed from the combustion of fuels and the evaporation of organic solvents. VOCs are not defined as criteria pollutants, however, because VOCs accumulate in the atmosphere more quickly during the winter, when sunlight is limited and photochemical reactions are slower, they are a prime component of the photochemical smog reaction. There are no attainment designations for VOCs.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated by the USEPA and the CARB. Some examples of TACs include benzene, butadiene, formaldehyde, and hydrogen sulfide. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants.

TACs do not have ambient air quality standards, but are regulated by the USEPA, CARB, and the SCAQMD. In 1998, the CARB identified particulate matter from diesel-fueled engines as a TAC. The CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines.[5] High-volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (e.g., distribution centers and truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high-volume transit centers, and schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

Unlike TACs emitted from industrial and other stationary sources noted above, most diesel particulate matter is emitted from mobile sources—primarily "off-road" sources such as construction and mining equipment, agricultural equipment, and truck-mounted refrigeration units, as well as "on-road" sources such as trucks and buses traveling on freeways and local roadways.

Although not specifically monitored, recent studies indicate that exposure to diesel particulate matter may contribute significantly to a cancer risk (a risk of approximately 500 to 700 in 1,000,000) that is greater than all other measured TACs combined.[6] The technology for reducing diesel particulate matter emissions from heavy-duty trucks is well established, and both State and federal

[5] California Air Resources Board. 2000. Stationary Source Division and Mobile Source Control Division. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.* October.

[6] Ibid.

agencies are moving aggressively to regulate engines and emission control systems to reduce and remediate diesel emissions. The CARB anticipates that by 2020, average statewide diesel particulate matter concentrations will decrease by 85 percent from levels in 2000 with full implementation of the CARB's Diesel Risk Reduction Plan,[7] meaning that the statewide health risk from diesel particulate matter is expected to decrease from 540 cancer cases in 1,000,000 to 21.5 cancer cases in 1,000,000.

Table A summarizes the sources and health effects of air pollutants discussed in this section. Table B presents a summary of State and federal ambient air quality standards (AAQS).

Table A: Sources and Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust • Natural events, such as decomposition of organic matter	• Reduced tolerance for exercise • Impairment of mental function • Impairment of fetal development • Death at high levels of exposure • Aggravation of some heart diseases (angina)
Nitrogen Dioxide (NO_2)	• Motor vehicle exhaust • High temperature stationary combustion • Atmospheric reactions	• Aggravation of respiratory illness • Reduced visibility • Reduced plant growth • Formation of acid rain
Ozone (O_3)	• Atmospheric reaction of organic gases with nitrogen oxides in sunlight	• Aggravation of respiratory and cardiovascular diseases • Irritation of eyes • Impairment of cardiopulmonary function • Plant leaf injury
Lead (Pb)	• Contaminated soil	• Impairment of blood functions and nerve construction • Behavioral and hearing problems in children
Suspended Particulate Matter ($PM_{2.5}$ and PM_{10})	• Stationary combustion of solid fuels • Construction activities • Industrial processes • Atmospheric chemical reactions	• Reduced lung function • Aggravation of the effects of gaseous pollutants • Aggravation of respiratory and cardiorespiratory diseases • Increased cough and chest discomfort • Soiling • Reduced visibility
Sulfur Dioxide (SO_2)	• Combustion of sulfur-containing fossil fuels • Smelting of sulfur-bearing metal ores Industrial processes	• Aggravation of respiratory diseases (asthma, emphysema) • Reduced lung function • Irritation of eyes • Reduced visibility • Plant injury • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board (2016).

[7] California Air Resources Board. 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October.

Table B: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]		Federal Standards[b]		
		Concentration[c]	Method[d]	Primary[c,e]	Secondary[c,f]	Method[g]
Ozone (O_3)[h]	1-Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM_{10})[i]	24-Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		–		
Fine Particulate Matter ($PM_{2.5}$)[i]	24-Hour	-		35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12.0 µg/m³		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m³)	–	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m³)		35 ppm (40 mg/m³)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m³)		–	–	
Nitrogen Dioxide (NO_2)[j]	Annual Arithmetic Mean	0.03 ppm (57 µg/m³)	Gas Phase Chemi-luminescence	53 ppb (100 µg/m³)	Same as Primary Standard	Gas Phase Chemi-luminescence
	1-Hour	0.18 ppm (339 µg/m³)		100 ppb (188 µg/m³)	-	
Lead (Pb)[l,m]	30-Day Average	1.5 µg/m³	Atomic Absorption	–	–	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m³ (for certain areas)[l]	Same as Primary Standard	
	Rolling 3-Month Average[i]	–		0.15 µg/m³		
Sulfur Dioxide (SO_2)[k]	24-Hour	0.04 ppm (105 µg/m³)	Ultraviolet Fluorescence	0.14 ppm (for certain areas)	–	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3-Hour	–		–	0.5 ppm (1300 µg/m³)	
	1-Hour	0.25 ppm (655 µg/m³)		75 ppb (196 µg/m³)[k]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[k]	–	
Visibility-Reducing Particles[l]	8-Hour	See footnote n	Beta Attenuation and Transmittance through Filter Tape.	No Federal Standards		
Sulfates	24-Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[j]	24-Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

Source: California Air Resources Board (2016).

Table notes are provided on the following page.

[a] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact USEPA for further clarification and current national policies.

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

[d] Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

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

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

[g] Reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the USEPA.

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

[i] On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24- hour PM2.5 standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

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

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

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

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

[m] 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^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[n] In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

°C = degrees Celsius
CARB = California Air Resources Board
USEPA = United States Environmental Protection Agency
ppb = parts per billion
ppm = parts per million
mg/m^3 = milligrams per cubic meter
µg/m^3 = micrograms per cubic meter

GREENHOUSE GASES AND GLOBAL CLIMATE CHANGE

Global climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans in recent decades. The Earth's average near-surface atmospheric temperature rose 0.6 ± 0.2° Celsius or 1.1 ± 0.4° Fahrenheit (°F) in the 20th century. The prevailing scientific opinion on climate change is that most of the warming observed over the last 50 years is attributable to human activities. The increased amounts of carbon dioxide (CO_2) and other GHGs are the primary causes of the human-induced component of warming. GHGs are released by the burning of fossil fuels, land clearing, agriculture, and other activities, and lead to an increase in the greenhouse effect.[8]

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced global climate change are:

- CO_2
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFC)
- Perfluorocarbons (PFC)
- Sulfur hexafluoride (SF_6)

Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere, and enhancing the natural greenhouse effect, which is believed to be causing global warming. While manmade GHGs include naturally occurring GHGs such as CO_2, CH_4, and N_2O, some gases, like HFCs, PFCs, and SF_6 are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. For the purposes of this air quality analysis, the term "GHGs" will refer collectively to the six gases listed above only.

These gases vary considerably in terms of global warming potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The global warming potential is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere

[8] The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse lets heat from sunlight in and reduces the heat escaping, greenhouse gases like carbon dioxide, methane, and nitrous oxide in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, although an excess of greenhouse gas results in global warming, the naturally occurring greenhouse effect is necessary to keep our planet at a comfortable temperature.

("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG; the definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e). Table C shows the GWP for each type of GHG. For example, SF_6 is 22,800 times more potent at contributing to global warming than carbon dioxide.

Table C: Global Warming Potential of Greenhouse Gases

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-Year Time Horizon)
Carbon Dioxide	50-200	1
Methane	12	25
Nitrous Oxide	114	298
HFC-23	270	14,800
HFC-134a	14	1,430
HFC-152a	1.4	124
PFC: Tetrafluoromethane (CF_4)	50,000	7,390
PFC: Hexafluoromethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

Source: Intergovernmental Panel on Climate Change (2007).

The following discussion summarizes the characteristics of the six GHGs and black carbon.

Carbon Dioxide

In the atmosphere, carbon generally exists in its oxidized form, as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals and plants, volcanic out gassing, decomposition of organic matter and evaporation from the oceans. Human caused sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. Natural sources release approximately 150 billion tons of CO_2 each year, far outweighing the 7 billion tons of man-made emissions of CO_2 each year. Nevertheless, natural removal processes, such as photosynthesis by land- and ocean-dwelling plant species, cannot keep pace with this extra input of man-made CO_2, and consequently, the gas is building up in the atmosphere. In 2019, total annual CO_2 accounted for approximately 83 percent of California's overall GHG emissions.[9] Transportation is the single largest source of CO_2 in California, which is primarily comprised of on-road travel. Electricity production, industrial and residential sources also make important contributions to CO_2 emissions in California.

Methane

CH_4 is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Decomposition in landfills accounts for the majority of human-generated CH_4 emissions in California and in the United States as a whole. Agricultural processes such as intestinal fermentation, manure management, and rice cultivation are

[9] California Air Resources Board. 2021a. GHGs Descriptions & Sources in California. Website: ww2.arb.ca.gov/ghg-descriptions-sources (accessed May 2022).

also significant sources of CH_4 in California. Total annual emissions of CH_4 accounted for approximately 9 percent of GHG emissions in California.[10]

Nitrous Oxide

N_2O is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. Nitrous oxide is a product of the reaction between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion emit N_2O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N_2O emissions in California. Nitrous oxide emissions accounted for approximately 3 percent of GHG emissions in California in 2019.[11]

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride

HFCs are primarily used as substitutes for ozone-depleting substances regulated under the Montreal Protocol.[12] PFCs and SF_6 are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in California; however, the rapid growth in the semiconductor industry leads to greater use of PFCs. HFCs, PFCs, and SF_6 accounted for about 5 percent of GHG emissions in California in 2019.[13]

Black Carbon

Black carbon is the most strongly light-absorbing component of PM formed by burning fossil fuels such as coal, diesel, and biomass. Black carbon is emitted directly into the atmosphere in the form of $PM_{2.5}$ and is the most effective form of PM, by mass, at absorbing solar energy. Per unit of mass in the atmosphere, black carbon can absorb 1 million times more energy than CO_2.[14] Black carbon contributes to climate change both directly, such as absorbing sunlight, and indirectly, such as affecting cloud formation. However, because black carbon is short-lived in the atmosphere, it can be difficult to quantify its effect on global-warming.

Most United States emissions of black carbon come from mobile sources (52 percent), particularly from diesel-fueled vehicles. The other major source of black carbon is open biomass burning, including wildfires, although residential heating and industry also contribute. The CARB estimates that the annual black carbon emissions in California have decreased approximately 70 percent

10 California Air Resources Board (CARB). 2021a. GHGs Descriptions & Sources in California. Website: ww2.arb.ca.gov/ghg-descriptions-sources (accessed May 2022).

11 Ibid.

12 The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for ozone depletion.

13 CARB, 2021a. op. cit.

14 United States Environmental Protection Agency. 2015. Black Carbon, Basic Information. Last updated February 14, 2017. Website: 19january2017snapshot.epa.gov/www3/airquality/blackcarbon/basic.html (accessed May 2022).

between 1990 and 2010 and are expected to continue to decline significantly due to controls on mobile diesel emissions.

Effects of Global Climate Change

Effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme weather events, and air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems. Heat-related problems include heat rash and heat stroke. In addition, climate-sensitive diseases may increase, such as those spread by mosquitoes and other disease-carrying insects. Such diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture. Global climate change may also contribute to air quality problems from increased frequency of smog and particulate air pollution.[15]

Additionally, according to the 2006 California Climate Action Team (CAT) Report,[16] the following applicable climate change effects, which are based on trends established by the United Nations Intergovernmental Panel on Climate Change (IPCC), can be expected in California over the course of the next century.

- The loss of sea ice and mountain snowpack, resulting in higher sea levels and higher sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures.[17]

- Rise in global average sea level, primarily due to thermal expansion and melting of glaciers and ice caps in the Greenland and Antarctic ice sheets.[18]

- Changes in weather that include widespread changes in precipitation, ocean salinity, wind patterns, and more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones.[19]

- Decline of the Sierra Nevada snowpack, which accounts for approximately one-half of the surface water storage in California by 70 percent to as much as 90 percent over the next 100 years.[20]

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15 United States Environmental Protection Agency. 2016. Climate Impacts on Human Health. April. Website: https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-human-health_.html, last updated on February 24, 2017 (accessed May 2022).

16 California Environmental Protection Agency. 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. March.

17 Ibid.

18 Ibid.

19 Intergovernmental Panel on Climate Change. 2007. *Climate Change 2007: The Physical Science Basis, Summary for Policymakers*. February.

20 California Environmental Protection Agency. 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. March.

- Increase in the number of days conducive to O_3 formation by 25–85 percent (depending on the future temperature scenario) in high O_3 areas of Los Angeles by the end of the 21st century.[21]

- High potential for erosion of California's coastlines and seawater intrusion into the Sacramento-San Joaquin River Delta and levee systems due to the rise in sea level.[22]

A summary of these potential effects are identified in Table D.

Table D: Potential Impacts of Global Warming and Expected Consequences for California

Potential Water Resource Impacts	Anticipated Consequences Statewide
Reduction of the State's average annual snowpack	• Specifically, the decline of the Sierra Nevada snowpack would lead to a loss in half of the surface water storage in California by 70% to 90% over the next 100 years • Potential loss of 5 million acre-feet or more of average annual water storage in the State's snowpack • Increased challenges for reservoir management and balancing the competing concerns of flood protection and water supply • Higher surface evaporation rates with a corresponding increase in tropospheric water vapor
Rise in average sea level	• Potential economic impacts related to coastal tourism, commercial fisheries, coastal agriculture, and ports • Increased risk of flooding, coastal erosion along the State's coastline, seawater intrusion into the Sacramento-San Joaquin River Delta and levee systems
Changes in weather	• Changes in precipitation, ocean salinity, and wind patterns • Increased likelihood for extreme weather events, including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones
Changes in the timing, intensity, location, amount, and variability of precipitation	• Potential increased storm intensity and increased potential for flooding • Possible increased potential for droughts • Long-term changes in vegetation and increased incidence of wildfires • Changes in the intensity and timing of runoff • Possible increased incidence of flooding and increased sedimentation • Sea level rise and inundation of coastal marshes and estuaries • Increased potential for salinity intrusion into coastal aquifers (groundwater) • Increased potential for flooding near the mouths of rivers due to backwater effects
Increased water temperatures	• Increased environmental water demand for temperature control • Possible increased problems with foreign invasive species in aquatic ecosystems • Potential adverse changes in water quality, including the reduction of dissolved oxygen levels • Possible critical effects on listed and endangered aquatic species
Changes in urban and agricultural water demand	• Changes in demand patterns and evapotranspiration
Increase in the number of days conducive to O_3 formation	• Increased temperatures • Potential health effects, including adverse impacts to respiratory systems

Source: United States Department of the Interior (October 2007).
EIR = Environmental Impact Report
EIS = Environmental Impact Statement

21 Ibid.

22 Ibid.

REGULATORY SETTING

This section provides regulatory background information for air quality and GHG.

AIR QUALITY REGULATORY SETTING

The USEPA and the CARB regulate direct emissions from motor vehicles. The SCAQMD is the regional agency primarily responsible for regulating air pollution emissions from stationary sources (e.g., factories) and indirect sources (e.g., traffic associated with new development), as well as monitoring ambient pollutant concentrations.

Federal Clean Air Act

The 1970 federal Clean Air Act authorized the establishment of national health-based air quality standards and also set deadlines for their attainment. The federal Clean Air Act Amendments of 1990 changed deadlines for attaining national standards as well as the remedial actions required of areas of the nation that exceed the standards. Under the Clean Air Act, State and local agencies in areas that exceed the national standards are required to develop State Implementation Plans to demonstrate how they will achieve the national standards by specified dates.

California Clean Air Act

In 1988, the California Clean Air Act (CCAA) required that all air districts in the State endeavor to achieve and maintain California ambient air quality standards (CAAQS) for CO_2, O_3, SO_2, and NO_2 by the earliest practical date. The California Clean Air Act provides districts with authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce emissions to achieve air quality standards. Generally, the State standards for these pollutants are more stringent than the national standards.

California Air Resources Board

The CARB is the State's "clean air agency." The CARB's goals are to attain and maintain healthy air quality, protect the public from exposure to toxic air contaminants, and oversee compliance with air pollution rules and regulations.

Assembly Bill 2588 Air Toxics "Hot Spots" Information and Assessment Act

Under Assembly Bill (AB) 2588, stationary sources of air pollutants are required to report the types and quantities of certain substances their facilities routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, identify facilities having localized impacts, determine health risks, and notify nearby residents of significant risks.

The California Air Resources Board Handbook

The CARB has developed an Air Quality and Land Use Handbook[23] intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. According to the CARB Handbook, recent air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high traffic roadways. Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. The CARB Handbook recommends that county and city planning agencies strongly consider proximity to these sources when finding new locations for "sensitive" land uses such as homes, medical facilities, daycare centers, schools, and playgrounds.

Land use designations with air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the CARB Handbook include taking steps to avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day.
- Within 1,000 feet of a major service and maintenance rail yard.
- Immediately downwind of ports (in the most heavily impacted zones) and petroleum refineries.
- Within 300 feet of any dry cleaning operation (for operations with two or more machines, provide 500 feet).
- Within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater).

The CARB Handbook specifically states that its recommendations are advisory and acknowledges land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

The recommendations are generalized and do not consider site-specific meteorology, freeway truck percentages, or other factors that influence risk for a particular project site. The purpose of this guidance is to further examine project sites for actual health risk associated with the location of new sensitive land uses.

South Coast Air Quality Management District

The SCAQMD has jurisdiction over most air quality matters in the South Coast Air Basin (Basin). This area includes all of Orange County, Los Angeles County except for the Antelope Valley, the non-desert portion of western San Bernardino County, and the western and Coachella Valley portions of

[23] California Air Resources Board. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April.

Riverside County. The SCAQMD is the agency principally responsible for comprehensive air pollution control in the Basin and is tasked with implementing certain programs and regulations required by the CAA and the CCAA. The SCAQMD prepares plans to attain CAAQS and national ambient air quality standards (NAAQS). SCAQMD is directly responsible for reducing emissions from stationary (area and point) sources. The SCAQMD develops rules and regulations, establishes permitting requirements, inspects emissions sources, and enforces such measures though educational programs or fines, when necessary.

The proposed project could be subject to the following SCAQMD rules and regulations.

- **Regulation IV - Prohibitions:** This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air pollutant emissions, fuel contaminants, start-up/shut-down exemptions, and breakdown events.
    - **Rule 402 - Nuisance:** This rule restricts the discharge of any contaminant in quantities that cause or have a natural ability to cause injury, damage, nuisance, or annoyance to businesses, property, or the public.
    - **Rule 403 - Fugitive Dust:** This rule requires the prevention, reduction, or mitigation of fugitive dust emissions from a project site. Rule 403 restricts visible fugitive dust to a project property line, restricts the net PM_{10} emissions to less than 50 µg/m^3 and restricts the tracking out of bulk materials onto public roads. Additionally, Rule 403 requires an applicant to utilize one or more of the best available control measures (identified in the tables within the rule). Control measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, watering, using chemical stabilizers, and/or ceasing all activities. Finally, Rule 403 requires that a contingency plan be prepared if so determined by the USEPA. In addition, SCAQMD Rule 403(e), Additional Requirements for Large Operations, includes requirements to provide Large Operation Notification Form 403 N, appropriate signage, additional dust control measures, and employment of a dust control supervisor that has successfully completed the Dust Control training class in the South Coast Air Basin.
- **Regulation XI - Source Specific Standards:** Regulation XI sets emissions standards for different sources.
    - **Rule 1113 - Architectural Coatings:** This rule limits the amount of VOCs from architectural coatings and solvents, which lowers the emissions of odorous compounds.

The SCAQMD is responsible for demonstrating regional compliance with ambient air quality standards but has limited indirect involvement in reducing emissions from fugitive, mobile, and natural sources. To that end, the SCAQMD works cooperatively with the CARB, the Southern California Association of Governments (SCAG), county transportation commissions, local governments, and other federal and State government agencies. It has responded to this requirement by preparing a series of Air Quality Management Plans (AQMPs) to meet CAAQS and NAAQS. SCAQMD and the SCAG are responsible for formulating and implementing the AQMP for the Basin. The main purpose of an AQMP is to bring the area into compliance with federal and State air

quality standards. Every 3 years, SCAQMD prepares a new AQMP, updating the previous plan and 20-year horizon.[24]

SCAQMD approved the 2016 AQMP on March 3, 2017, and submitted the plan to CARB on March 10, 2017. Key elements of the 2016 AQMP include:

- Calculating and taking credit for co-benefits from other planning efforts (e.g., climate, energy, and transportation)
- A strategy with fair-share emission reductions at the federal, State, and local levels
- Investment in strategies and technologies meeting multiple air quality objectives
- Seeking new partnerships and significant funding for incentives to accelerate deployment of zero-emission and near-zero emission technologies
- Enhanced socioeconomic assessment, including an expanded environmental justice analysis
- Attainment of the 24-hour $PM_{2.5}$ standard in 2019 with no additional measures
- Attainment of the annual $PM_{2.5}$ standard by 2025 with implementation of a portion of the O_3 strategy
- Attainment of the 1-hour O_3 standard by 2022 with no reliance on "black box" future technology (Clean Air Act Section 182(e)(5) measures)

The SCAQMD is currently preparing the 2022 AQMP, which will address the requirements for meeting the 2015 O_3 standard. A Control Measures Workshop was held on November 10, 2021, to provide an overview of the control measures and strategies that are being developed/considered for the 2022 AQMP. The control measures include updated 2016 AQMP control measures and new control measures related to area, mobile, and stationary sources.

Southern California Association of Governments

SCAG is a council of governments for Los Angeles, Orange, Riverside, San Bernardino, Imperial, and Ventura counties. It is a regional planning agency and serves as a forum for regional issues relating to transportation, the economy and community development, and the environment. SCAG is the federally designated Metropolitan Planning Organization (MPO) for the majority of the southern California region and is the largest MPO in the nation. With regard to air quality planning, SCAG prepares the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP), which address regional development and growth forecasts and form the basis for the land use and transportation control portions of the AQMP and are utilized in the preparation of the air quality forecasts and consistency analysis included in the AQMP. The RTP, the RTIP, and the AQMP are based on projections originating within local jurisdictions.

[24] South Coast Air Quality Management District. 2016. *Final 2016 Air Quality Management Plan*. March.

Although SCAG is not an air quality management agency, it is responsible for developing transportation, land use, and energy conservation measures that affect air quality. SCAG's Regional Comprehensive Plan (RCP) provides growth forecasts that are used in the development of air quality-related land use and transportation control strategies by the SCAQMD. The RCP is a framework for decision-making for local governments, assisting them in meeting federal and State mandates for growth management, mobility, and environmental standards, while maintaining consistency with regional goals regarding growth and changes. Policies within the RCP include consideration of air quality, land use, transportation, and economic relationships by all levels of government.

SCAG adopted the 2020–2045 Regional Transportation Plan/ Sustainable Communities Strategy (Connect SoCal) on September 3, 2020. Connect SoCal is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. Connect SoCal is an important planning document for the region, allowing project sponsors to qualify for federal funding and takes into account operations and maintenance costs to ensure reliability, longevity, and cost effectiveness. The forecasted development pattern, when integrated with the financially constrained transportation investments identified in Connect SoCal, would reach the regional target of reducing GHG emissions from automobiles and light-duty trucks by 19 percent by 2035 (compared to 2005 levels).

City of San Clemente General Plan

The City of San Clemente adopted the Centennial General Plan in February 2014, which addresses air quality in the Natural Resources Element.[25] The Natural Resources Element contains goals and policies that work to reduce levels of air pollution and GHG emissions so that the City meets or exceeds regional, State, and federal mandates. The following policies are applicable to the project.

- **NR-5.01. New Development.** We require new development to utilize appropriate SCAQMD air quality mitigation measures.
- **NR-5.02. Sensitive Land Uses.** We prohibit the future siting of sensitive land uses, within distances defined by the California Air Resources Board for specific source categories, unless such uses include sufficient mitigation.
- **NR-5.04. Indoor Air Quality.** We comply with State Green Building Codes Relative to indoor quality.
- **NR-5.05. Transportation**. We provide non-motorized, multi-modal mobility options (e.g. pedestrian and bicycle facilities) and work with other agencies and organizations to provide transit opportunities to reduce air pollutant emissions.
- **NR-5.06. Particulate Matter**. We support efforts to reduce particulate matter to meet State and Federal Clean Air Standards.

[25] City of San Clemente. 2014. *City of San Clemente Centennial General Plan.* February 4.

- **NR-5.07. Street Trees**. We maintain a healthy stock of park, public area and street trees and encourage the planting of trees with significant canopies that provide numerous benefits, including reduced urban heat gain, natural shading and wind screening, air filtration, and oxygen production.

GREENHOUSE GAS REGULATORY SETTING

This section describes regulations related to global climate change at the federal, State, and local level.

Federal Regulations

The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the USEPA has the authority to regulate CO_2 emissions under the federal Clean Air Act. While there currently are no adopted federal regulations for the control or reduction of GHG emissions, the USEPA commenced several actions in 2009 to implement a regulatory approach to global climate change.

This includes the 2009 USEPA final rule for mandatory reporting of GHGs from large GHG emission sources in the United States. Additionally, the USEPA Administrator signed an endangerment finding action in 2009 under the Clean Air Act, finding that six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, SF_6) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to global climate change, leading to national GHG emission standards.

In October 2012, the USEPA and the National Highway Traffic Safety Administration (NHTSA), on behalf of the United States Department of Transportation, issued final rules to further reduce GHG emissions and improve corporate average fuel economy (CAFE) standards for light-duty vehicles for model years 2017 and beyond (77 *Federal Register* 62624). The NHTSA's CAFE standards have been enacted under the Energy Policy and Conservation Act since 1978. This national program requires automobile manufacturers to build a single light-duty national fleet that meets all requirements under both federal programs and the standards of California and other states. This program would increase fuel economy to the equivalent of 54.5 miles per gallon, limiting vehicle emissions to 163 grams of CO_2 per mile for the fleet of cars and light-duty trucks by model year 2025 (77 *Federal Register* 62630).

On March 21, 2020, the USEPA and the NHTSA finalized the *Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks* (SAFE Vehicles Rule). The SAFE Vehicles Rule amends certain existing CAFE and tailpipe CO_2 emissions standards for passenger cars and light trucks and establish new standards, all covering model years 2021 through 2026. More specifically, NHTSA set new CAFE standards for model years 2022 through 2026 and amended its 2021 model year CAFE standards, and the USEPA amended its CO_2 emissions standards for model years 2021 and later. On May 12, 2021, the NHTSA published a notice of proposed rulemaking in the *Federal Register*, proposing to repeal key portions of the SAFE Vehicles Rule that would have reduced CAFE standards. The final rule repealing portions of the SAFE Vehicles Rule was published on December 29, 2021. The repeal will allow California to set its own GHG standards if it chooses,

even if the emissions standards conflict with CAFE standards enacted by the United States Department of Transportation.

State Regulations

The CARB is the lead agency for implementing climate change regulations in the State. Since its formation, the CARB has worked with the public, the business sector, and local governments to find solutions to California's air pollution problems. Key efforts by the State are described below.

Assembly Bill 1493 (2002)

In a response to the transportation sector's significant contribution to California's CO_2 emissions, AB 1493 was enacted on July 22, 2002. AB 1493 requires the CARB to set GHG emission standards for passenger vehicles and light duty trucks (and other vehicles whose primary use is noncommercial personal transportation in the State) manufactured in 2009 and all subsequent model years. These standards (starting in model years 2009 to 2016) were approved by the CARB in 2004, but the needed waiver of CAA Preemption was not granted by the USEPA until June 30, 2009. The CARB responded by amending its original regulation, now referred to as Low Emission Vehicle III, to take effect for model years starting in 2017 to 2025. The Trump administration revoked California's waiver in 2019, but the Biden administration restored California's waiver in 2021

Executive Order S-3-05 (2005)

Governor Arnold Schwarzenegger signed Executive Order S-3-05 on June 1, 2005, which proclaimed that California is vulnerable to the impacts of climate change. To combat those concerns, the executive order established California's GHG emissions reduction targets, which established the following goals.

- GHG emissions should be reduced to 2000 levels by 2010.
- GHG emissions should be reduced to 1990 levels by 2020.
- GHG emissions should be reduced to 80 percent below 1990 levels by 2050.

The Secretary of the California Environmental Protection Agency (CalEPA) is required to coordinate efforts of various State agencies in order to collectively and efficiently reduce GHGs. A biannual progress report must be submitted to the Governor and State Legislature disclosing the progress made toward greenhouse emission reduction targets. In addition, another biannual report must be submitted illustrating the impacts of global warming on California's water supply, public health, agriculture, the coastline, and forestry, and report possible mitigation and adaptation plans to address these impacts.

The Secretary of CalEPA leads this CAT made up of representatives from State agencies as well as numerous other boards and departments. The CAT members work to coordinate statewide efforts to implement global warming emission reduction programs and the State's Climate Adaptation Strategy. The CAT is also responsible for reporting on the progress made toward meeting the statewide GHG targets that were established in the executive order and further defined under AB 32, the "Global Warming Solutions Act of 2006." The first CAT Report to the Governor and the Legislature was released in March 2006, which laid out 46 specific emission reduction strategies for

reducing GHG emissions and reaching the targets established in the Executive Order. The most recent report was released in December 2020.

Assembly Bill 32 (2006), California Global Warming Solutions Act

California's major initiative for reducing GHG emissions is AB 32, passed by the State legislature on August 31, 2006. This effort aims at reducing GHG emissions to 1990 levels by 2020. The CARB has established the level of GHG emissions in 1990 at 427 million metric tons (MMT) of CO_2e. The emissions target of 427 MMT requires the reduction of 169 MMT from the State's projected business-as-usual 2020 emissions of 596 MMT. AB 32 requires the CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. The Scoping Plan was approved by the CARB on December 11, 2008, and contains the main strategies California will implement to achieve the reduction of approximately 169 MMT of CO_2e, or approximately 30 percent, from the State's projected 2020 emissions level of 596 MMT of CO_2e under a business-as-usual scenario (this is a reduction of 42 MMT CO_2e, or almost 10 percent from 2002–2004 average emissions). The Scoping Plan also includes CARB-recommended GHG reductions for each emissions sector of the State's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards.

- Improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO_2e);
- The Low-Carbon Fuel Standard (15.0 MMT CO_2e)
- Energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO_2e)
- A renewable portfolio standard for electricity production (21.3 MMT CO_2e)

The Scoping Plan identifies 18 emission reduction measures that address cap-and-trade programs, vehicle gas standards, energy efficiency, low carbon fuel standards, renewable energy, regional transportation-related GHG targets, vehicle efficiency measures, goods movement, solar roof programs, industrial emissions, high-speed rail, green building strategies, recycling, sustainable forests, water, and air. The measures would result in a total reduction of 174 MMT CO_2e by 2020.

On August 24, 2011, the CARB unanimously approved both the new supplemental assessment and reapproved its Scoping Plan, which provides the overall roadmap and rule measures to carry out AB 32. The CARB also approved a more robust CEQA equivalent document supporting the supplemental analysis of the cap-and-trade program. The cap-and-trade took effect on January 1, 2012, with an enforceable compliance obligation that began January 1, 2013.

CARB has not yet determined what amount of GHG reductions it recommends from local government operations and local land use decisions; however, the Scoping Plan states that land use planning and urban growth decisions will play an important role in the State's GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions

(meanwhile, CARB is also developing an additional protocol for community emissions). CARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. The Scoping Plan states that the ultimate GHG reduction assignment to local government operations is to be determined. With regard to land use planning, the Scoping Plan expects an approximately 5.0 MMT CO_2e reduction due to implementation of Senate Bill 375 (SB 375).

In addition to reducing GHG emissions to 1990 levels by 2020, AB 32 directed the CARB and the CAT to identify a list of "discrete early action GHG reduction measures" that could be adopted and made enforceable by January 1, 2010. On January 18, 2007, Governor Schwarzenegger signed Executive Order S-1-07, further solidifying California's dedication to reducing GHGs by setting a new Low Carbon Fuel Standard. The Executive Order sets a target to reduce the carbon intensity of California transportation fuels by at least 10 percent by 2020 and directs the CARB to consider the Low Carbon Fuel Standard as a discrete early action measure. In 2011, United States District Court Judge Lawrence O'Neil issued an injunction preventing implementation of the Low Carbon Fuel Standard, ruling that it is unconstitutional. In 2012, the Ninth Circuit Court of Appeal stayed the District Court's injunction, allowing implementation of the Low Carbon Fuel Standard. The Ninth Circuit decided to uphold the Low Carbon Fuel Standard.

In June 2007, the CARB approved a list of 37 early action measures, including three discrete early action measures (Low Carbon Fuel Standard, Restrictions on GWP Refrigerants, and Landfill CH_4 Capture).[26] Discrete early action measures are measures that were required to be adopted as regulations and made effective no later than January 1, 2010, the date established by Health and Safety Code Section 38560.5. The CARB adopted additional early action measures in October 2007 that tripled the number of discrete early action measures. These measures relate to truck efficiency, port electrification, reduction of PFCs from the semiconductor industry, reduction of propellants in consumer products, proper tire inflation, and SF_6 reductions from the non-electricity sector. The combination of early action measures is estimated to reduce statewide GHG emissions by nearly 16 MMT.[27]

In June 2007, the CARB approved a list of 37 early action measures, including three discrete early action measures (LCFS, Restrictions on GWP Refrigerants, and Landfill CH_4 Capture).[28] Discrete early action measures are measures that were required to be adopted as regulations and made effective no later than January 1, 2010, the date established by Health and Safety Code Section 38560.5. The CARB adopted additional early action measures in October 2007 that tripled the number of discrete early action measures. These measures relate to truck efficiency, port electrification, reduction of PFCs from the semiconductor industry, reduction of propellants in consumer products, proper tire

26 California Air Resources Board (CARB). 2007a. *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration*. October.

27 California Air Resources Board. 2007b. "ARB approves tripling of early action measures required under AB 32." News Release 07-46. October 25.

28 CARB. 2007. *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration*. October.

inflation, and SF_6 reductions from the non-electricity sector. The combination of early action measures is estimated to reduce statewide GHG emissions by nearly 16 MMT.[29]

The CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The First Update defines CARB climate change priorities until 2020, and also sets the groundwork to reach long-term goals set forth in Executive Orders S-3-05 and B-16-2012. The Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals as defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan,[30] to reflect the 2030 target set by Executive Order B-30-15 and codified by Senate Bill (SB) 32.

CARB is currently working on an update to the 2017 Scoping Plan, which will be released this year. The 2022 Scoping Plan Update will assess progress towards achieving the SB 32 2030 target and lay out a path to achieve carbon neutrality no later than 2045.

Senate Bill 97 (2007)

SB 97, signed by the Governor in August 2007 (Chapter 185, Statutes of 2007; Public Resources Code, Sections 21083.05 and 21097), acknowledges climate change is a prominent environmental issue that requires analysis under CEQA. This bill directed the Governor's Office of Planning and Research to prepare, develop, and transmit to the California Resources Agency guidelines for mitigating GHG emissions or the effects of GHG emissions, as required by CEQA.

The California Natural Resources Agency adopted the amendments to the *State CEQA Guidelines* in November 2018, which went into effect in December 2018. The amendments do not identify a threshold of significance for GHG emissions, nor do they prescribe assessment methodologies or specific mitigation measures. The amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but preserve the discretion granted by CEQA to lead agencies in making their own determinations based on substantial evidence. The amendments also encourage public agencies to make use of programmatic mitigation plans and programs when they perform individual project analyses.

Senate Bill 375 (2008)

SB 375, the Sustainable Communities and Climate Protection Act, which establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions, was adopted by the State on September 30, 2008. On September 23, 2010, the CARB adopted the vehicular GHG emissions reduction targets that had been developed in consultation with the MPO; the targets require a 6 to 15 percent reduction by 2020 and between 13 to 19 percent reduction by 2035 for each MPO. SB 375 recognizes the importance of achieving significant GHG reductions by working

[29] California Air Resources Board (CARB). 2007. "ARB approves tripling of early action measures required under AB 32" News Release 07-46. October 25.

[30] CARB. 2017. *California's 2017 Climate Change Scoping Plan*. November.

with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs such as the SCAG will work with local jurisdictions in the development of Sustainable Communities Strategy (SCS) designed to integrate development patterns and the transportation network in a way that reduces GHG emissions while meeting housing needs and other regional planning objectives. Pursuant to SB 375, the Los Angeles/Southern California reduction targets for per capita vehicular emissions are 8 percent by 2020 and 19 percent by 2035, as shown in Table E.

Table E: Senate Bill 375 Regional Greenhouse Gas Emissions Reduction Targets

Metropolitan Planning Organization	By 2020 (percentage)	By 2035 (percentage)
San Francisco Bay Area	10	19
San Diego	15	19
Sacramento	7	19
Central Valley/San Joaquin	6-13	13-16
Los Angeles/Southern California	8	19

Source: California Air Resources Board (2018).

Executive Order B-30-15 (2015)

Governor Jerry Brown signed Executive Order B-30-15 on April 29, 2015, which added the immediate target of:

- GHG emissions should be reduced to 40 percent below 1990 levels by 2030.

All State agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was directed to update the AB 32 Scoping Plan to reflect the 2030 target, and therefore, is moving forward with the update process. The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue reducing emissions.

Senate Bill 350 (2015) Clean Energy and Pollution Reduction Act

SB 350, signed by Governor Jerry Brown on October 7, 2015, updates and enhances AB 32 by introducing the following set of objectives in clean energy, clean air, and pollution reduction for 2030.

- Raise California's renewable portfolio standard from 33 percent to 50 percent.
- Increasing energy efficiency in buildings by 50 percent by the year 2030.

The 50 percent renewable energy standard will be implemented by the California Public Utilities Commission for the private utilities and by the California Energy Commission for municipal utilities. Each utility must submit a procurement plan showing it will purchase clean energy to displace other non-renewable resources. The 50 percent increase in energy efficiency in buildings must be achieved through the use of existing energy efficiency retrofit funding and regulatory tools already

available to State energy agencies under existing law. The addition made by this legislation requires state energy agencies to plan for and implement those programs in a manner that achieves the energy efficiency target.

Senate Bill 32, California Global Warming Solutions Act of 2016, and Assembly Bill 197

In summer 2016, the Legislature passed, and the Governor signed, SB 32 and AB 197. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in Governor Jerry Brown's April 2015 Executive Order B-30-15. SB 32 builds on AB 32 and keeps California on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels, consistent with an IPCC analysis of the emissions trajectory that would stabilize atmospheric GHG concentrations at 450 parts per million (ppm) CO_2e and reduce the likelihood of catastrophic impacts from climate change.

The companion bill to SB 32, AB 197, provides additional direction to CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 meant to provide easier public access to air emissions data that are collected by CARB was posted in December 2016.

Senate Bill 100

On September 10, 2018, Governor Jerry Brown signed SB 100, which raises California's renewables portfolio standard requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the Western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18

Executive Order B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Executive Order B-55-18 directs CARB to work with relevant State agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

Title 24, Building Standards Code and CALGreen Code

In November 2008, the California Building Standards Commission established the California Green Building Standards (CALGreen) Code, which sets performance standards for residential and nonresidential development to reduce environmental impacts and encourage sustainable construction practices. The CALGreen Code addresses energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The CALGreen Code is updated every 3 years and was most recently updated in 2019 to include new mandatory

measures for residential as well as non-residential uses; the new measures took effect on January 1, 2020. The next set of standards will be adopted in late 2022 and will apply to projects seeking building permits on or after January 1, 2023.

Cap and Trade

The development of a cap-and-trade program was included as a key reduction measure of the CARB AB 32 Climate Change Scoping Plan. The cap-and-trade program will help put California on the path to meet its goal of reducing GHG emissions to 1990 levels by 2020 and ultimately achieving an 80 percent reduction from 1990 levels by 2050. The cap-and-trade emissions trading program developed by the CARB took effect on January 1, 2012, with enforceable compliance obligations beginning January 1, 2013. The cap-and-trade program aims to regulate GHG emissions from the largest producers in the State by setting a statewide firm limit, or cap, on allowable annual GHG emissions. The cap was set in 2013 at approximately 2 percent below the emissions forecast for 2020. In 2014, the cap declined approximately 2 percent. Beginning in 2015 and continuing through 2020, the cap has been declining approximately 3 percent annually. The CARB administered the first auction on November 14, 2012, with many of the qualified bidders representing corporations or organizations that produce large amounts of GHG emissions, including energy companies, agriculture and food industries, steel mills, cement companies, and universities. On January 1, 2015, compliance obligation began for distributors of transportation fuels, natural gas, and other fuels. The cap-and-trade program was initially slated to sunset in 2020, but the passage of SB 398 in 2017 extended the program through 2030.

Executive Order N-79-20

Executive Order N-79-20, signed by Governor Gavin Newsom on September 23, 2020, sets the following goals for the State: 100 percent of in-state sales of new passenger cars and trucks shall be zero-emission by 2035; 100 percent of medium- and heavy-duty vehicles in the State shall be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks; and 100 percent of off-road vehicles and equipment in the State shall be zero-emission by 2035, where feasible.

Low Carbon Fuel Standard

In January 2007, Executive Order S-01-07 established a low carbon fuel standard (LCFS). This Executive Order calls for a statewide goal to be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020, and that an LCFS for transportation fuels be established for California. The LCFS applies to all refiners, blenders, producers, or importers ("Providers") of transportation fuels in California, including fuels used by off-road construction equipment. In June 2007, CARB adopted the LCFS under AB 32 pursuant to Health and Safety Code Section 38560.5, and, in April 2009, CARB approved the new rules and carbon intensity reference values with new regulatory requirements taking effect in January 2011. The standards require providers of transportation fuels to report on the mix of fuels they provide and demonstrate they meet the LCFS intensity standards annually. This is accomplished by ensuring that the number of "credits" earned by providing fuels with a lower carbon intensity than the established baseline (or obtained from another party) is equal to or greater than the "deficits" earned from selling higher intensity fuels. In response to certain court rulings, CARB re-adopted the LCFS regulation in September 2015, and the LCFS went into effect on January 1, 2016. In 2018, CARB approved

amendments to the regulation to readjust carbon intensity benchmarks to meet California's 2030 GHG reductions targets under SB 32. These amendments include opportunities to promote zero-emission vehicle (ZEV) adoption, carbon capture and sequestration, and advanced technologies for decarbonization of the transportation sector.

Advanced Clean Cars Program

In January 2012, CARB approved the Advanced Clean Cars program, which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of ZEVs, into a single package of regulatory standards for vehicle model years 2017 through 2025. The new regulations strengthen the GHG standard for 2017 models and beyond. This will be achieved through existing technologies, the use of stronger and lighter materials, and more efficient drivetrains and engines. The program's ZEVs regulation requires battery, fuel cell, and/or plug-in hybrid electric vehicles to account for up to 15 percent of California's new vehicle sales by 2025. The program also includes a clean fuels outlet regulation designed to support the commercialization of zero-emission hydrogen fuel cell vehicles planned by vehicle manufacturers by 2015 by requiring increased numbers of hydrogen fueling stations throughout the State. The number of stations will grow as vehicle manufacturers sell more fuel cell vehicles. By 2025, when the rules will be fully implemented, the statewide fleet of new cars and light trucks will emit 40 percent fewer GHGs and 75 percent fewer smog-forming emissions than 2012 model year vehicles.

Executive Order B-48-18

In January 2018, Governor Jerry Brown signed Executive Order B-48-18 requiring all State entities to work with the private sector to have at least 5 million ZEVs on the road by 2030 and install 200 hydrogen fueling stations and 250,000 electric vehicle charging stations by 2025. It specifies that 10,000 of the electric vehicle charging stations should be direct current fast chargers. This order also requires all State entities to continue to partner with local and regional governments to streamline the installation of ZEV infrastructure. The Governor's Office of Business and Economic Development is required to publish a Plug-in Charging Station Design Guidebook and update the 2015 Hydrogen Station Permitting Guidebook to aid in these efforts. All State entities are required to participate in updating the 2016 Zero-Emissions Vehicle Action Plan to help expand private investment in ZEV infrastructure with a focus on serving low-income and disadvantaged communities. Additionally, all State entities are to support and recommend policies and actions to expand ZEV infrastructure at residential land uses, through the LCFS Program, and recommend how to ensure affordability and accessibility for all drivers.

Regional Regulations

South Coast Air Quality Management District

In 2008, the SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the Basin. The Working Group developed several different options that are contained in the SCAQMD 2008 draft guidance document titled Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans[31] that could be

[31] South Coast Air Quality Management District. 2008a. Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans.

applied by lead agencies. On September 28, 2010, SCAQMD Working Group Meeting No. 15 provided further guidance, including a tiered approach for evaluating GHG emissions for development projects where the SCAQMD is not the lead agency. The SCAQMD has not presented a finalized version of these thresholds to the governing board.

The SCAQMD identifies the emissions level for which a project would not be expected to substantially conflict with any State legislation adopted to reduce statewide GHG emissions. As such, the utilization of a service population represents the rates of emissions needed to achieve a fair share of the State's mandated emissions reductions. Overall, the SCAQMD identifies a GHG efficiency level that, when applied statewide or to a defined geographic area, would meet the year 2020 and post-2020 emissions targets as required by AB 32 and SB 32. If projects are able to achieve targeted rates of emissions per the service population, the State will be able to accommodate expected population growth and achieve economic development objectives, while also abiding by AB 32's emissions target and future post-2020 targets.

Southern California Association of Governments

On September 3, 2020, SCAG adopted Connect SoCal.[32] In general, Connect SoCal outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce vehicle miles traveled (VMT) from automobiles and light-duty trucks and thereby reduce GHG emissions from these sources. For the SCAG region, CARB has set GHG reduction targets at 8 percent below 2005 per capita emissions levels by 2020, and 19 percent below 2005 per capita emissions levels by 2035. Connect SoCal lays out a strategy for the region to meet these targets. Overall, Connect SoCal is meant to provide growth strategies that will achieve the regional GHG emissions reduction targets. Land use strategies to achieve the region's targets include planning for new growth around high-quality transit areas and livable corridors and creating neighborhood mobility areas to integrate land use and transportation and plan for more active lifestyles.[33]

City of San Clemente Climate Action Plan

The City adopted a comprehensive Climate Action Plan (CAP)[34] in January 2014, which provides goals and policies for reducing GHG emissions. These actions include a combination of General Plan programs, City Council policies, resolutions, and incentives, as well as outreach and education activities. The CAP focuses on the following categories of climate efforts:

Alternative Transportation

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32 Southern California Association of Governments. 2020. Connect SoCal: The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments. Website: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176 (accessed May 2022).

33 Southern California Association of Governments. 2020. Connect SoCal: The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments. Website: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176 (accessed May 2022).

34 City of San Clemente. 2014. San Clemente Climate Action Plan. February.

- **Expand Pedestrian Network:** Proving a pedestrian access network to access all areas of San Clemente encourages people to walk instead of driving, resulting in less people driving and thus reducing VMT. This includes the widening of sidewalks, completion of gaps in sidewalk networks, or the extension of existing sidewalks.

- **Require bicycle parking:** Require bicycle parking for both public and private uses to facilitate travel. This strategy would identify additional opportunities to place public use bicycle parking or to modify parking requirements for bicycle with the aim of increasing the supply of parking.

- **Develop off-street bicycle facilities**: Develop and implement off-street bicycle trails which can be used for both recreational travel and commuting purposes.

- **Incorporate bike lane street design:** The City's Bicycle and Pedestrian Master Plan incorporates bicycle lanes, routes, and shared-use paths into the street systems, new subdivisions, and large developments.

- **Encourage the use of electric vehicles:** consider designation and establishment of electric vehicle (EV) charging stations in applicable City projects.

Land Use

- **Encouraging planting of new trees**: Consider opportunities to plant trees in residential and commercial areas with an emphasis on parking lots.

Energy Efficiency

- **Residential and Commercial Retrofit Energy Conservation Policy:** Develop a Residential and Commercial Retrofit Energy Efficiency and Conservation Policy that is voluntary.

- **Residential and Commercial New Construction Energy Conservation Policy:** develop a residential and Commercial New Construction Energy Efficiency and Conservation Policy that is voluntary. If participation rates are not met, investigate converting to mandatory ordinance.

- **Promote the California Solar Initiative's Solar Water Heating Incentive Program:** develop a residential and commercial retrofit energy efficiency and conservation policy that is voluntary.

Waste reduction

- **Waste diversion Ordinance:** adopt a waste diversion ordinance that would require waste diversion of 75 percent by 2020 and 90 percent by 2030.

As part of the efforts under each category, the CAP identifies a broad menu of feasible strategies for the local municipalities to enhance their efforts to reduce GHG emissions. The CAP set forth a GHG emission reduction target of 15 percent below 2009 levels by 2020 and 38 percent below 2009 levels by 2030. The strategies outlined in the CAP would achieve an annual citywide reduction of 235,609 metric tons of CO_2e by 2030, meeting the goals of the CAP.

SETTING

ATTAINMENT STATUS

The CARB is required to designate areas of the state as attainment, nonattainment, or unclassified for all State standards. An *attainment* designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A *nonattainment* designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. An *unclassified* designation signifies that data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The USEPA designates areas for O_3, CO, and NO_2 as either does not meet the primary standards, cannot be classified, or better than national standards. For SO_2, areas are designated as does not meet the primary standards, does not meet the secondary standards, cannot be classified, or better than national standards.

Table F provides a summary of the attainment status for the Basin with respect to NAAQS and CAAQS.

Table F: Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
O_3 1 hour	Nonattainment	Extreme Nonattainment
O_3 8 hour	Nonattainment	Extreme Nonattainment
PM_{10}	Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Serious Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Attainment	Attainment/Maintenance
SO_2	N/A	Attainment/Unclassified
Lead	Attainment	Attainment[1]
All others	Attainment/Unclassified	Attainment/Unclassified

Source: South Coast Air Quality Management District (2018).
[1] Except in Los Angeles County.
CO = carbon monoxide
N/A = not applicable
NO_2 = nitrogen dioxide
O_3 = ozone
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SO_2 = sulfur dioxide

EXISTING CLIMATE AND AIR QUALITY

Air quality in the planning area is not only affected by various emission sources (e.g., mobile and industry), but also by atmospheric conditions (e.g., wind speed, wind direction, temperature, and rainfall). The combination of topography, low mixing height, abundant sunshine, and emissions from the second-largest urban area in the United States gives the Basin some of the worst air pollution in the nation.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s°F. With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station closest to the site is the Oceanside Marina Station.[35] The monthly average maximum temperature recorded at this station ranged from 62.9°F in February to 73.6°F in August, with an annual average maximum of 67.6°F. The monthly average minimum temperature recorded at this station ranged from 44.2°F in January to 63.0°F in August, with an annual average minimum of 52.9°F. These levels are still representative of the project area.

The majority of annual rainfall in the Basin occurs between November and March. Summer rainfall is minimal and is generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin and along the coastal side of the mountains. Average monthly rainfall at the Oceanside Marina station varied from 2.16 inches in January to 0.03 inch in July, with an annual total of 10.54 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in mid-afternoon to late afternoon on hot summer days when the air appears to clear up suddenly. Winter inversions frequently break by midmorning.

Winds in the project area blow predominantly from the south-southwest, with relatively low velocities. Wind speeds in the project area average about 5 miles per hour (mph). Summer wind speeds average slightly higher than winter wind speeds. Low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, north or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants. The Santa Ana conditions tend to last for several days at a time.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly on shore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are CO and NO_x because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and brighter sunshine combine to cause a reaction between hydrocarbons and NO_x to form photochemical smog. Smog is a general term that is naturally occurring fog that has become mixed with smoke or pollution. In this context it is better described as a form of air pollution produced by the photochemical reaction of sunlight with pollutants that have been released into the atmosphere, especially by automotive emissions.

[35] Western Regional Climate Center. n.d. Recent Climate in the West. Website: http://www.wrcc.dri.edu, (accessed May 2022).

AIR QUALITY MONITORING RESULTS

Air quality monitoring stations are located throughout the nation and are maintained by the local air pollution control district and State air quality regulating agencies. The SCAQMD, together with the CARB, maintains ambient air quality monitoring stations in the Basin. The air quality monitoring stations closest to the project site are at 26081 Via Pera in Mission Viejo and 812 West Vermont Street in Anaheim.

Pollutant monitoring results for years 2019 to 2021 at the Mission Viejo and Anaheim air quality monitoring stations, shown in Table G, indicate that air quality in the area has generally been good. As indicated in the monitoring results, the federal PM_{10} standard had no exceedances in the area for the 3-year period. The State PM_{10} standard had 0 exceedances in 2019, 2 exceedances in 2020, and 0 exceedances in 2021. The federal $PM_{2.5}$ levels had 0 exceedances in 2019, 2 in 2020, and 0 exceedances in 2021. The 1-hour ozone standards exceed the State 3 times in 2019, 20 times in 2020, and an unknown number of times in 2021. The 8-hour ozone State standards were exceeded 11 times in 2019, 34 times in 2020, and an unknown number of times in 2021. The 8-hour federal Standards were exceeded 11 times in 2019, 32 times in 2020, and 8 times in 2021. The CO and NO_2 standards were not exceeded in this area during the 3-year period. Lastly, there was no available data for either the State or federal standards for SO_2 in Orange County.

GREENHOUSE GAS EMISSIONS INVENTORY

An emissions inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes the latest information on global, United States, and California GHG emission inventories.

Global Emissions

Worldwide emissions of GHGs in 2018 totaled 25.6 billion metric tons of CO_2e. Global estimates are based on country inventories developed as part of the programs of the United Nations Framework Convention on Climate Change.[36]

United States Emissions

In 2019, the year for which the most recent data are available, the United States emitted about 6,558 MMT CO_2e. Overall, emissions in 2019 decreased by 1.7 percent since 2018 and were 13 percent below 2005 levels. This decrease was driven largely by a decrease in emissions from fossil fuel combustion resulting from a decrease in total energy use in 2019 compared to 2018 and a continued shift from coal to natural gas and renewables in the electric power sector.

[36] United Nations Framework Convention on Climate Change (UNFCCC). 2021. GHG Data from UNFCCC. Website: unfccc.int/process-and-meetings/transparency-and-reporting/greenhouse-gas-data/ghg-data-unfccc/ghg-data-from-unfccc (accessed May 2022).

Table G: Ambient Air Quality at Nearby Monitoring Stations

Pollutant	Standard	2019	2020	2021
Carbon Monoxide (CO) [1]				
Maximum 1-hour concentration (ppm)		1.0	1.7	1.0
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		0.8	0.8	0.8
Number of days exceeded:	State: > 9 ppm	0	0	0
	Federal: > 9 ppm	0	0	0
Ozone (O_3)[1]				
Maximum 1-hour concentration (ppm)		0.106	0.171	0.105
Number of days exceeded:	State: > 0.09 ppm	3	20	ND
Maximum 8-hour concentration (ppm)		0.088	0.123	0.081
Number of days exceeded:	State: > 0.07 ppm	11	34	ND
	Federal: > 0.07 ppm	11	32	8
Coarse Particulates (PM_{10})[1]				
Maximum 24-hour concentration (µg/m^3)		44.2	55.1	35
Number of days exceeded:	State: > 50 µg/m^3	0	2	0
	Federal: > 150 µg/m^3	0	0	0
Annual arithmetic average concentration (µg/m^3)		19.1	16.7	ND
Exceeded for the year:	State: > 20 µg/m^3	No	ND	ND
	Federal: > 50 µg/m^3	No	ND	ND
Fine Particulates ($PM_{2.5}$)[1]				
Maximum 24-hour concentration (µg/m^3)		20.8	44.8	32.6
Number of days exceeded:	Federal: > 35 µg/m^3	0	2	0
Annual arithmetic average concentration (µg/m^3)		ND	ND	9.7
Exceeded for the year:	State: > 12 µg/m^3	ND	No	No
	Federal: > 15 µg/m^3	ND	No	No
Nitrogen Dioxide (NO_2)[2]				
Maximum 1-hour concentration (ppm)		59	70	72
Number of days exceeded:	State: > 250 ppb	0	0	0
Annual arithmetic average concentration (ppm)		20.83	19.22	18.93
Exceeded for the year:	Federal: > 53 ppb	No	No	No
Sulfur Dioxide (SO_2)[3]				
Maximum 1-hour concentration (ppm)		ND	ND	ND
Number of days exceeded:	State: > 0.25 ppm	ND	ND	ND
Maximum 24-hour concentration (ppm)		ND	ND	ND
Number of days exceeded:	State: > 0.04 ppm	ND	ND	ND
	Federal: > 0.14 ppm	ND	ND	ND
Annual arithmetic average concentration (ppm)		ND	ND	ND
Exceeded for the year:	Federal: > 0.030 ppm	ND	ND	ND

Sources: CARB (2022) and USEPA (2022).
[1] Data were taken from the 26081 Via Pera, Mission Viejo Monitoring Station.
[2] Data were taken from the 812 W. Vermont, Anaheim Monitoring Station.
[3] There are no SO_2 monitoring stations in Orange County.
µg/m^3 = micrograms per cubic meter
CARB = California Air Resources Board
ND = No data. There were insufficient (or no) data to determine the value.
ppb = parts per billion
ppm = parts per million
USEPA = United States Environmental Protection Agency

Of the six major sectors – residential, commercial, agricultural, industry, transportation, and electricity generation – transportation accounted for the highest amount of GHG emissions in 2019 (approximately 29 percent), with electricity generation second at 25 percent and emissions from industry third at 23 percent.[37]

State of California Emissions

The State emitted 418.2 MMT CO_2e emissions in 2019, 7.2 MMT CO_2e lower than 2018 levels and almost 13 MMT CO_2e below the 2020 GHG Limit of 431 MMT CO_2e.[38] The CARB estimates that transportation was the source of approximately 40 percent of the State's GHG emissions in 2019, followed by industrial sources at approximately 21 percent and electricity generation at 14 percent. The remaining sources of GHG emissions were agriculture at 8 percent, residential activities at 7 percent, commercial activities at 4 percent, high GWP at 5 percent, and waste at 2 percent.[39]

City of San Clemente Emissions

The City has conducted an inventory of 2009 GHG emissions from all municipal and community sources. The City's baseline GHG emissions for 2009 totaled 620,024 MT CO_2e. Table H shows the GHG emissions by sector for 2009.

Table H: City of San Clemente 2009 Communitywide GHG Emissions

Sector	MT CO_2e	Percent
Transportation	417,740	67
Energy – Electricity	106,871	17
Energy – Natural Gas	67,249	11
Water	16,350	3
Solid Waste	6,115	1
Wastewater	5,699	1
Total	**620,024**	**100**

Source: City of San Clemente (2014). Climate Action Plan.
MT CO_2e = metric tons carbon dioxide equivalent

37 United States Environmental Protection Agency. 2021. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019. Website: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019 (accessed May 2022).

38 California Air Resources Board. 2021b. *California Greenhouse Gas Emissions for 2000 to 2019, Trends of Emissions and Other Indicators Report*. Website: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf (accessed May 2022).

39 Ibid.

METHODOLOGY

The methodology used to estimate air quality and GHG impacts is described below.

CONSTRUCTION EMISSIONS

Construction activities can generate a substantial amount of air pollution. Construction activities are considered temporary; however, short term impacts can contribute to exceedances of air quality standards. Construction activities include site preparation, earthmoving, and general construction. The emissions generated from these common construction activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel and gasoline powered equipment, portable auxiliary equipment, and worker commute trips.

The California Emission Estimator Model version 2020.4.0 (CalEEMod) computer program was used to calculate emissions from on-site construction equipment and emissions from worker and vehicle trips to the site (provided as Appendix A). This analysis assumes that construction would begin in fall of 2023 and would last approximately 18 to 24 months, ending in 2025. Based on the preliminary grading plans, 10,779 cubic yards of earth would be exported from the project site, which was included in CalEEMod. This analysis also assumes the use of Tier 3 construction equipment, consistent with Mitigation Measure AQ-1 identified in the City of San Clemente Housing and Safety Elements Update Program Environmental Impact Report,[40] and that the proposed project would comply with SCAQMD Rule 403 measures. All other construction details are not yet known; therefore, default assumptions (e.g., construction worker and truck trips and fleet activities) from CalEEMod were used.

OPERATIONAL EMISSIONS

The air quality analysis includes estimating emissions associated with long-term operation of the proposed project. Indirect emissions of criteria pollutants with regional impacts would be emitted by project-generated vehicle trips. In addition, localized air quality impacts (i.e., higher carbon monoxide concentrations or "hot-spots") near intersections or roadway segments in the project vicinity would also potentially occur due to project-generated vehicle trips.

Consistent with the SCAQMD guidance for estimating emissions associated with land use development projects, the CalEEMod computer program was used to calculate the long-term operational emissions associated with the project. This analysis was conducted using the land use codes "Medical Office Building," "Congregate Care (Assisted Living)," and "Parking Lot." In addition, this analysis assumes the proposed project would generate new vehicle trips, consistent with the project's trip generation, which estimates the proposed project would result in the addition of 325 daily trips to the site under existing conditions. The proposed project would generate 1,080 average daily trips, including 73 AM peak-hour trips and 92 PM peak-hour trips.[41] In addition, the proposed project would not include any woodburning hearths and only natural gas would be used, which was

[40] City of San Clemente. 2021. *City of San Clemente Housing and Safety Elements Update Program Environmental Impact Report*. September.

[41] LSA, 2022. op. cit.

assumed in CalEEMod. When project-specific data were not available, default assumptions from CalEEMod were used to estimate project emissions.

GREENHOUSE GAS ANALYSIS

GHG emissions associated with the project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust. There would also be long-term GHG emissions associated with project-related vehicular trips. Recognizing that the field of global climate change analysis is rapidly evolving, the approaches advocated most recently indicate that for determining a project's contribution to GHG emissions, lead agencies should calculate, or estimate, emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation, construction activities, and any other significant source of emissions within the project area. The CalEEMod results were used to quantify GHG emissions generated by the project.

THRESHOLDS OF SIGNIFICANCE

The *State CEQA Guidelines* indicate that a project would normally have a significant adverse air quality impact if project-generated pollutant emissions would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under applicable federal or state ambient air quality standards;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) affecting a substantial number of people.

The *State CEQA Guidelines* indicate that a project would normally have a significant adverse greenhouse gas emission impact if the project would:

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

Certain air districts (e.g., SCAQMD) have created guidelines and requirements to conduct air quality analysis. SCAQMD's current guidelines, the CEQA Air Quality Handbook with associated updates, were followed in this assessment of air quality and GHG impacts for the proposed project.

REGIONAL EMISSIONS THRESHOLDS

SCAQMD has established daily emissions thresholds for construction and operation of a proposed project in the Basin. The emissions thresholds were established based on the attainment status of the Basin with regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety, these emissions thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

Table I lists the CEQA significance thresholds for construction and operational emissions established for the Basin. Projects in the Basin with construction- or operation-related emissions that exceed any of their respective emission thresholds would be considered significant under SCAQMD guidelines. These thresholds, which SCAQMD developed and that apply throughout the Basin, apply as both project and cumulative thresholds. If a project exceeds these standards, it is considered to have a project-specific and cumulative impact.

Table I: Regional Thresholds for Construction and Operational Emissions

Emissions Source	Pollutant Emissions Threshold (lbs/day)					
	VOC	NO_x	CO	PM_{10}	$PM_{2.5}$	SO_x
Construction	75	100	550	150	55	150
Operations	55	55	550	150	55	150

Source: SCAQMD (2019). Air Quality Significance Thresholds. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf (accessed June 2022).

CO = carbon monoxide
lbs/day = pounds per day
NO_x = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SCAQMD = South Coast Air Quality Management District
SO_x = sulfur oxides
VOC = volatile organic compounds

LOCALIZED IMPACTS ANALYSIS

The SCAQMD published its Final Localized Significance Threshold Methodology in July 2008, recommending that all air quality analyses include an assessment of air quality impacts to nearby sensitive receptors.[42] This guidance was used to analyze potential localized air quality impacts associated with construction of the proposed project. Localized significance thresholds (LST) are developed based on the size or total area of the emission source, the ambient air quality in the source receptor area, and the distance to the project. Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality.

LSTs are based on the ambient concentrations of that pollutant within the project Source Receptor Area (SRA) and the distance to the nearest sensitive receptor. For the proposed project, the appropriate SRA for the LST is the nearby Capistrano Valley area (SRA 21). SCAQMD provides LST screening tables for 25, 50, 100, 200, and 500-meter source-receptor distances. As identified above, the closest sensitive receptors to the project site are the San Clemente Villas by the Sea, which are adjacent to the project site. In cases where receptors may be closer than 82 feet (25 meters), any distances within the 82-foot (25-meter) buffer zone can be used. As such, the minimum distance of 82 feet was used. Based on the anticipated construction equipment, it is assumed that the maximum daily disturbed acreage for the proposed project would be 2.5 acres.[43] Table J lists the emissions thresholds that apply during project construction and operation.

42 South Coast Air Quality Management District. 2008b. *Final Localized Significance Threshold Methodology.* July.

43 South Coast Air Quality Management District. n.d. *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds*. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf (accessed July 2022).

Table J: SCAQMD LSTs (lbs/day)

Emissions Source	Pollutant Emissions Threshold (lbs/day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$
Construction	142.0	1,128.0	7.0	4.7
Operations	142.0	1,128.0	2.2	1.2

Source: South Coast Air Quality Management District (2008b).
CO = carbon monoxide
lbs/day = pounds per day
LST = localized significance threshold
NO_x = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SCAQMD = South Coast Air Quality Management District

LOCAL MICROSCALE CONCENTRATION STANDARDS

The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. Because ambient CO levels are below the standards throughout the Basin, a project would be considered to have a significant CO impact if project emissions result in an exceedance of one or more of the 1-hour or 8-hour standards. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20 ppm
- California State 8-hour CO standard of 9 ppm

GLOBAL CLIMATE CHANGE

To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD has convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting held in September 2010 (Meeting No. 15), SCAQMD proposed to adopt a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency.

- **Tier 1. Exemptions:** If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.

- **Tier 2. Consistency with a locally adopted GHG Reduction Plan:** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (i.e., city or county), project-level and cumulative GHG emissions are less than significant.

- **Tier 3. Numerical Screening Threshold:** If GHG emissions are less than the numerical screening-level threshold, project-level and cumulative GHG emissions are less than significant.

  For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment of GHG emissions. SCAQMD, under Option 1, is proposing a "bright-line" screening-level threshold

of 3,000 metric tons of CO_2e per year for all land use types or, under Option 2, the following land-use-specific thresholds: 1,400 metric tons of CO_2e commercial projects; 3,500 metric tons of CO_2e for residential projects; or 3,000 metric tons of CO_2e for mixed-use projects. This bright-line threshold is based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on their review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds identified above. Therefore, projects that do not exceed the bright-line threshold would have a nominal and therefore less than cumulatively considerable impact on GHG emissions.

- **Tier 4. Performance Standards:** If emissions exceed the numerical screening threshold, a more detailed review of the project's GHG emissions is warranted. SCAQMD has proposed an efficiency target for projects that exceed the bright-line threshold. The current recommended approach is per capita efficiency targets. SCAQMD is not recommending use of a percent emissions reduction target. Instead, SCAQMD proposes a 2020 efficiency target of 4.8 metric tons of CO_2e per year per service population (for project-level analyses and 6.6 metric tons of CO_2e per year per service population for plan-level projects (e.g., program-level projects such as general plans). The GHG efficiency metric divides annualized GHG emissions by the service population, which is the sum of residents and employees, per the following equation:

  Rate of Emission: GHG Emissions (MT CO_2e/yr) ÷ Service Population

  The efficiency evaluation consists of comparing the project's efficiency metric to efficiency targets. Efficiency targets represent the maximum quantity of emissions each resident and employee in the State of California could emit in various years based on emissions levels necessary to achieve the statewide GHG emissions reduction goals. A project that results in a lower rate of emissions would be more efficient than a project with a higher rate of emissions, based on the same service population. The metric considers GHG reduction measures integrated into a project's design and operation (or through mitigation). The per capita efficiency targets are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for the CARB's 2008 Scoping Plan.

However, the SCAQMD's thresholds are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for CARB's 2008 Scoping Plan. Because the project would begin operations in the post-2020 timeframe, the 2020 numerical screening threshold of 3,000 metric tons of CO_2e and the efficiency target of 4.8 metric tons of CO_2e per year per service population would need to be adjusted to reflect the State's post-2020 GHG reduction goals.

SCAQMD has yet to publish a quantified GHG efficiency threshold for the 2030 target. A scaled threshold consistent with State goals detailed in SB 32, Executive Order B-30-15, and Executive Order S-3-05 to reduce GHG emissions by 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050, respectively, was developed for 2025, when the proposed project is anticipated to be operational. Though the SCAQMD has not published a quantified threshold beyond

2020, this assessment uses a threshold of 2,400 metric tons of CO_2e per year or 3.8 metric tons of CO_2e per year per service population, which was calculated for the buildout year of 2025 based on the GHG reduction goals of SB 32 and Executive Order B-30-1z5.

For the purpose of this analysis, as the City's CAP is not considered a qualified plan under CEQA, the proposed project will first be compared to the adjusted screening-level Tier 3 Numerical Screening Threshold of 2,400 metric tons of CO_2e per year for all land use types. If it is determined that the proposed project is estimated to exceed this screening threshold, it will then be compared to the efficiency-based threshold. The project is also evaluated for compliance with the City's CAP and the State's GHG emissions reductions objectives.

IMPACT ANALYSIS

This section identifies the air quality and GHG emissions impacts associated with implementation of the proposed project. The results of the impact analyses are then compared to applicable thresholds of significance. As noted below, no thresholds were met or exceeded, therefore no mitigation measures are required for the proposed project.

AIR QUALITY IMPACTS

Air pollutant emissions associated with the project would occur over the short term from construction activities and over the long term from operational activities associated with the proposed land uses

Consistency with Applicable Air Quality Plans

A consistency determination plays an essential role in local agency project review by linking local planning and unique individual projects to the air quality plans. A consistency determination fulfills the CEQA goal of fully informing local agency decision-makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are addressed. Only new or amended General Plan elements, Specific Plans, and significantly unique projects need to undergo a consistency review due to the air quality plan strategy being based on projections from local General Plans.

The AQMP is based on regional growth projections developed by SCAG. The proposed project would include 250 senior apartment units and a 7,500 sf medical office building. The proposed project would not house more than 1,000 persons, occupy more than 40 acres of land, or encompass more than 650,000 sf of floor area. Thus, the proposed project would not be defined as a regionally significant project under CEQA; therefore, it does not meet SCAG's Intergovernmental Review criteria.

The City's General Plan is consistent with the SCAG Regional Comprehensive Plan Guidelines and the SCAQMD AQMP. Pursuant to the methodology provided in the SCAQMD CEQA Air Quality Handbook, consistency with the Basin 2016 AQMP is affirmed when a project (1) would not increase the frequency or severity of an air quality standards violation or cause a new violation and (2) is consistent with the growth assumptions in the AQMP. Consistency review is presented as follows:

1. The project would result in short-term construction and long-term operational pollutant emissions that are all less than the CEQA significance emissions thresholds established by SCAQMD, as demonstrated below; therefore, the project in would not result in an increase in the frequency or severity of an air quality standards violation or cause a new air quality standard violation.

2. The CEQA Air Quality Handbook indicates that consistency with AQMP growth assumptions must be analyzed for new or amended General Plan elements, Specific Plans, and significant projects. Significant projects include airports, electrical generating facilities, petroleum and gas refineries, designation of oil drilling districts, water ports, solid waste disposal sites, and

offshore drilling facilities; therefore, the proposed project is not defined as significant. The proposed project would require a General Plan amendment to change the land use designation to Community Commercial (CC4) from Regional Medical Facilities (RMF) to allow for the proposed redevelopment. As the project site formerly consisted of a hospital use, the 2016 AQMP assumed employment for the project site. Based on trip generation estimates prepared by LSA, the former hospital use generated approximately 1,405 average daily trips, while the proposed project is expected to generate approximately 1,080 average daily tips. As such, the proposed project would result in a net decrease of 325 average daily trips than the former hospital use. Therefore, the proposed project would generate fewer trips compared to what was considered in the 2016 AQMP and the proposed project would not be considered a significant project under this criterion.

Based on the consistency analysis presented above, the proposed project would be consistent with the regional AQMP. This impact is less than significant.

Criteria Pollutant Analysis

The following sections describe the proposed project's construction- and operation-related air quality impacts and localized impacts.

Construction Emissions

During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by demolition, grading, paving, building, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, VOC, directly-emitted particulate matter ($PM_{2.5}$ and PM_{10}), and TACs such as diesel exhaust particulate matter.

Project construction activities would include demolition, grading, site preparation, building, paving, and architectural coating activities. Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase due to the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. The SCAQMD has established Rule 403: Fugitive Dust, which would require the applicant to implement measures that would reduce the amount of particulate matter generated during the construction period.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_x, VOCs and some soot particulate ($PM_{2.5}$

and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles idle in traffic. These emissions would be temporary in nature and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the project using CalEEMod. Table K lists the tentative project construction schedule for the project based on an estimated start date in the fall of 2023 and an 18–24-month construction duration. Table L lists the potential construction equipment to be used during project construction under each phase of construction. Construction-related emissions are presented in Table M. CalEEMod output sheets are attached.

Table K: Tentative Project Construction Schedule

Phase Number	Phase Name	Phase Start Date	Phase End Date	Number of Days/Week	Number of Days
1	Demolition	9/4/2023	9/29/2023	5	20
2	Site Preparation and Grading	9/30/2023	11/17/2023	5	35
3	Building Construction	11/20/2023	4/4/2025	5	360
4	Architectural Coating	8/5/2024	4/11/2025	5	180
5	Paving	4/14/2025	4/25/2025	5	10

Source: Compiled by LSA (August 2022).

Table L: Diesel Construction Equipment Utilized by Construction Phase

Construction Phase	Off-Road Equipment Type	Off-Road Equipment Unit Amount	Hours Used per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	1	8	81	0.73
	Excavators	1	8	158	0.38
	Rubber Tired Dozers	2	8	247	0.4
Grading	Excavators	1	8	158	0.38
	Graders	1	8	187	0.41
	Rubber-Tired Dozers	2	8	247	0.4
	Tractors/Loaders/Backhoes	2	8	97	0.37
Building Construction	Cranes	1	7	231	0.29
	Forklifts	3	8	89	0.2
	Tractors/Loaders/Backhoes	3	7	97	0.37
Paving	Pavers	2	8	130	0.42
	Paving Equipment	2	8	132	0.36
	Rollers	2	8	80	0.38
Architectural Coating	Air Compressors	1	6	78	0.48

Source: Compiled by LSA (August 2022).

Table M: Project Construction Emissions in Pounds Per Day

Project Construction	Maximum Pollutant Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Demolition	0.7	15.2	17.7	<0.1	2.4	0.9
Site Preparation and Grading	0.9	22.7	23.2	0.1	7.8	4.1
Building Construction	1.1	10.2	18.2	0.1	3.4	1.3
Architectural Coating	9.5	1.4	3.2	<0.1	0.6	0.2
Paving	1.3	11.3	17.7	<0.1	0.8	0.7
Maximum (lbs/day)	**11.9**	**22.7**	**39.1**	**0.1**	**7.8**	**4.4**
SCAQMD Thresholds	75.0	100.0	550.0	150	150.0	55.0
Exceeds Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (August 2022).
Note: Maximum emissions of volatile organic compounds and carbon monoxide occurred during the overlapping building construction, architectural coating, and paving phases.
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOC = Volatile organic compounds

As shown in Table M, construction emissions associated with the project would not exceed the SCAQMD thresholds for VOC, NO_x, CO, sulfur oxides (SO_X), $PM_{2.5,}$ or PM_{10} emissions. In addition to the construction period thresholds of significance, the project is required to comply with regional rules that assist in reducing short-term air pollutant emissions. SCAQMD Rule 403 requires that fugitive dust be controlled with best-available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. As demonstrated in Table M, construction of the proposed project would not result in emissions that would result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under an applicable federal or State ambient air quality standard.

Operational Air Quality Impacts

Long-term air pollutant emission impacts are those typically associated with mobile sources (e.g., vehicle trips), energy sources (e.g., electricity and natural gas), and area sources (e.g., architectural coatings and the use of landscape maintenance equipment).

PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Entrainment of PM_{10} occurs when vehicle tires pulverize small rocks and pavement and the vehicle wakes generate airborne dust. The contribution of tire and brake wear is small compared to the other PM emission processes. Gasoline-powered engines have small rates of particulate matter emissions compared with diesel-powered vehicles.

Energy source emissions result from activities in buildings for which electricity and natural gas are used. The quantity of emissions is the product of usage intensity (i.e., the amount of electricity or natural gas) and the emission factor of the fuel source. The primary sources of energy demand for

the proposed project would include building mechanical systems, such as heating and air conditioning, lighting, and plug-in electronics, such as refrigerators or computers. Greater building or appliance efficiency reduces the amount of energy for a given activity and thus lowers the resultant emissions. The emission factor is determined by the fuel source, with cleaner energy sources, like renewable energy, producing fewer emissions than conventional sources.

Typically, area source emissions consist of direct sources of air emissions at the project site, including architectural coatings and the use of landscape maintenance equipment. Area source emissions associated with the project would include emissions from the use of architectural coatings, consumer products, and landscaping equipment. The residential units would not include wood-burning hearths.

Long-term operation emissions associated with the proposed project were calculated using CalEEMod. Model results are shown in Table N below. CalEEMod output sheets are provided as Attachment A.

Table N: Project Operational Emissions in Pounds Per Day

Source	Pollutant Emissions (lbs/day)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	6.7	4.0	22.2	<0.1	0.4	0.4
Energy Sources	0.1	0.7	0.3	<0.1	0.1	0.1
Mobile Sources	2.8	2.9	27.2	0.1	7.4	2.0
Total Project Emissions	**9.5**	**7.6**	**49.7**	**0.1**	**7.9**	**2.6**
SCAQMD Thresholds	55.0	55.0	550.0	150.0	150.0	55.0
Exceeds Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA using the California Emissions Estimator Model (August 2022).
Note: Values may not add correctly due to rounding.
CO = carbon monoxide
lbs/day = pounds per day
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_x = sulfur oxides
VOC = Volatile organic compounds

The results shown in Table N indicate the project would not exceed the significance criteria for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ emissions; therefore, the proposed project would not have a significant effect on regional air quality. Therefore, operation of the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under an applicable federal or State ambient air quality standard.

Localized Significance Analysis

Project construction and operation emissions were compared to the LST screening tables in SRA 21, based on a 25-meter source-receptor distance and a disturbed acreage of 2.5-acres. The results of the LST analysis, summarized in Table O and Table P, indicate that the project would not result in an exceedance of the SCAQMD LST during project construction or operation.

Table O: Project Localized Construction Emissions in Pounds Per Day

Source	NO_x	CO	PM_{10}	$PM_{2.5}$
On-Site Project Emissions	17.1	21.2	6.9	3.8
Localized Significance Threshold	142.0	1,128.0	7.0	4.7
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (August 2022).
Note: Source Receptor Area 21, based on a 2.5-acre construction disturbance daily area, at a distance of 25 meters from the project boundary.
CO= carbon monoxide
NO_x= nitrogen oxides
$PM_{2.5}$= particulate matter less than 2.5 microns in size
PM_{10}= particulate matter less than 10 microns in size

Table P: Project Localized Operational Emissions in Pounds Per Day

Source	NO_x	CO	PM_{10}	$PM_{2.5}$
On-Site Project Emissions	4.1	23.6	<1.0	<1.0
Localized Significance Threshold	142.0	1,128.0	2.2	1.2
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (August 2022).
Note: Source Receptor Area 21, based on a 2.5-acre construction disturbance daily area, at a distance of 25 meters from the project boundary.
CO= carbon monoxide
NO_x= nitrogen oxides
$PM_{2.5}$= particulate matter less than 2.5 microns in size
PM_{10}= particulate matter less than 10 microns in size

Long-Term Microscale (CO Hot Spot) Analysis

Vehicular trips associated with the proposed project would contribute to congestion at intersections and along roadway segments in the project vicinity. Localized air quality impacts would occur when emissions from vehicular traffic increase as a result of the proposed project. The primary mobile-source pollutant of local concern is CO, a direct function of vehicle idling time and, thus, of traffic flow conditions. CO transport is extremely limited; under normal meteorological conditions, CO disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels, affecting local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended to determine a project's effect on local CO levels.

An assessment of project-related impacts on localized ambient air quality requires that future ambient air quality levels be projected. Existing CO concentrations in the immediate project vicinity are not available. Ambient CO levels monitored at the Mission Viejo station (the closest stations to the project site) showed a highest recorded 1-hour concentration of 1.7 ppm (the State standard is 20 ppm) and a highest 8-hour concentration of 0.9 ppm (the State standard is 9 ppm) during the past 3 years (Table G). The highest CO concentrations would normally occur during peak traffic hours; hence, CO impacts calculated under peak traffic conditions represent a worst-case analysis.

As described above the proposed project would generate 73 AM peak-hour trips and 92 PM peak-hour trips. Based on the Traffic Impact Analysis (TIA)[44] prepared for the proposed project, the evaluation of the study area intersection level of service (LOS) shows that the addition of project traffic would not create LOS impacts. Therefore, given the extremely low level of CO concentrations in the project area and lack of LOS impacts at any intersections, project-related vehicles are not expected to contribute significantly to result in the CO concentrations exceeding the State or federal CO standards.

Health Risk on Nearby Sensitive Receptors

Sensitive receptors are defined as people that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling units. Land uses adjacent to the project site include residential and commercial uses. The nearby sensitive receptors to the project area include the residential area of San Clemente Villas by the Sea, which are located adjacent to the southeastern project boundary.

Construction of the proposed project may expose surrounding sensitive receptors to airborne particulates and a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, construction contractors would be required to implement measures to reduce or eliminate emissions by following SCAQMD rules for standard construction practices. As shown in Table O and Table P, the project would not result in significant localized or regional emissions during project construction or operation. Therefore, once the project is constructed, the project would not be a source of substantial pollutant emissions, and sensitive receptors would not be exposed to substantial pollutant concentrations during project construction and operation.

Odors

During project construction, some odors may be present due to diesel exhaust. However, these odors would be temporary and limited to the construction period. The proposed project would not include any activities or operations that would generate objectionable odors and once operational, the project would not be a source of odors. Therefore, the proposed project would not result in other emissions (such as those leading to odors) affecting a substantial number of people.

GREENHOUSE GAS EMISSIONS IMPACTS

The following sections describe the proposed project's construction- and operation-related GHG impacts and consistency with applicable GHG reduction plans.

Generation of Greenhouse Gas Emissions

This section describes the proposed project's construction- and operational-related GHG emissions and contribution to global climate change. The SCAQMD has not addressed emission thresholds for

[44] LSA, 2022. op. cit.

construction in its CEQA Handbook; however, the SCAQMD requires quantification and disclosure. Thus, construction emissions are discussed in this section.

Construction Greenhouse Gas Emissions

Demolition and construction activities associated with the proposed project would produce combustion emissions from various sources. During construction, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

As indicated above, the SCAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are required to quantify and disclose GHG emissions that would occur during construction. The SCAQMD then requires the construction GHG emissions to be amortized over the life of the project, defined as 30 years, added to the operational emissions, and compared to the applicable interim GHG significance threshold tier.

Using CalEEMod, it is estimated that the project would generate 950.8 metric tons of CO_2e during construction of the project. When annualized over the 30-year life of the project, annual emissions would be 31.7 metric tons CO_2e.

Operational Greenhouse Gas Emissions

Long-term operational GHG emissions are typically associated with mobile, area, and stationary sources as well as indirect emissions from sources associated with energy consumption, waste sources, and water sources. As identified above, the proposed project would result in more daily trips than under existing conditions; therefore, the proposed project would generate new mobile source GHG emissions. Area source emissions would be associated with activities such as landscaping and maintenance on the project site, and other sources. Energy source emissions would be generated at off-site utility providers as a result of increased electricity demand generated by the project. Waste source emissions generated by the proposed project include energy generated by landfilling and other methods of disposal related to transporting and managing project generated waste. Water source emissions associated with the proposed project are generated by water supply and conveyance, water treatment, water distribution, and wastewater treatment.

Following guidance from the SCAQMD, GHG emissions were estimated using CalEEMod. Table Q shows the calculated GHG emissions for the proposed project.

As discussed above, a project would have less than significant GHG emissions if it would result in operational-related GHG emissions of less than 2,400 metric tons of CO_2e per year. Based on the analysis results, the proposed project would result in 1,876.1 metric tons of CO_2e per year, which would be below the scaled numeric threshold of 2,400 metric tons of CO_2e per year. Therefore, operation of the proposed project would not generate significant GHG emissions that would have a significant effect on the environment.

Table Q: Greenhouse Gas Emissions (Metric Tons Per Year)

Emissions Source	Operational Emissions				
	CO_2	CH_4	N_2O	CO_2e	Percentage of Total
Area Sources	58.2	<0.1	<0.1	58.7	3
Energy Sources	422.6	<0.1	<0.1	424.5	23
Mobile Sources	1,083.6	<0.1	<0.1	1,098.6	60
Waste Sources	62.8	3.7	0.0	155.5	8
Water Sources	88.8	0.6	<0.1	107.1	6
Total Operational Emissions				**1,844.4**	**100**
Amortized Construction Emissions				31.7	-
Total Annual Emissions				**1,876.1**	**-**
SCAQMD Threshold				2,400	-
Exceeds Threshold?				**No**	**-**

Source: Compiled by LSA (August 2022).
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
N_2O = nitrous oxide
SCAQMD = South Coast Air Quality Management District

Consistency with Greenhouse Gas Reduction Plans

As described above, the City adopted a CAP in January 2014. The consistency of the project with the goals of this CAP fulfills the CEQA goal of fully informing local-agency decision-makers of the environmental impact of the project under consideration at a stage early enough to ensure that GHG emissions are addressed. As identified above, the CAP focuses on the following categories of GHG reduction efforts related to alternative transportation, land use, energy efficiency, and waste reduction.

The proposed project would be consistent with the alternative transportation goal of the CAP by expanding pedestrian networks. The project would implement internal walkways linking the residential units with the amenity areas and surface parking areas, as well as providing connection to the Camino de los Mares parkway for access to the nearby transportation (bus stops), commercial centers, and the medical office building. This expansion of network would encourage people, including residents of the project site, to walk instead of driving.

In addition, the proposed project would be consistent with the CAP land use goal, increasing the planting of new trees by incorporating landscaped courtyards in the residential community.

The proposed project would also be consistent with the CAP goal of increasing energy efficiency in new buildings by complying with the latest California Building Code (Title 24), including the latest CALGreen standards for energy efficiency. In addition, the project would replace older buildings that were built with less efficient standard codes, improving the overall efficiency of the project site. Construction of the project would include a diversion of construction waste from landfills to recycling consistent with current local and State standards and CAP goals to increase diversion and reduction of waste. As such, the proposed project would be consistent with applicable CAP goals.

The proposed project was analyzed for consistency with the goals of AB 32 and the AB 32 Scoping Plan. The following discussion evaluates the proposed project according to the goals of AB 32, the AB 32 Scoping Plan, Executive Order B-30-15, SB 32, and AB 197.

Assembly Bill 32

AB 32 is aimed at reducing GHG emissions to 1990 levels by 2020. AB 32 requires the CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. The AB 32 Scoping Plan has a range of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 implementation fee to fund the program.

Executive Order B-30-15

Executive Order B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan,[45] to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in Executive Order B-30-15. SB 32 builds on AB 32 and keeps California on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels. The companion bill to SB 32, AB 197, provides additional direction to the CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 intended to provide easier public access to air emissions data that are collected by CARB was posted in December 2016.

As identified above, the AB 32 Scoping Plan contains GHG reduction measures that work towards reducing GHG emissions, consistent with the targets set by AB 32, Executive Order B-30-15 and codified by SB 32 and AB 197. The measures applicable to the proposed project include energy efficiency measures, water conservation and efficiency measures, and transportation and motor vehicle measures, as discussed below.

Energy efficiency measures are intended to maximize energy efficiency building and appliance standards, pursue additional efficiency efforts including new technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. As discussed above, the proposed project would comply with CALGreen regarding energy conservation and green building standards. Therefore, the proposed project would comply with applicable energy measures.

Water conservation and efficiency measures are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. As noted above, the project would comply with CALGreen, which includes a variety of different measures, including reduction of wastewater and

[45] California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan*. November.

water use. In addition, the proposed project would be required to comply with the California Model Water Efficient Landscape Ordinance. Therefore, the proposed project would not conflict with any of the water conservation and efficiency measures.

The goal of transportation and motor vehicle measures is to develop regional GHG emissions reduction targets for passenger vehicles. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. The second phase of Pavley standards will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025, resulting in a 3 percent decrease in average vehicle emissions for all vehicles by 2020. Vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. Therefore, the proposed project would not conflict with the identified transportation and motor vehicle measures.

Therefore, the proposed project would comply with existing State regulations adopted to achieve the overall GHG emissions reduction goals identified in AB 32 and would be consistent with applicable plans and programs designed to reduce GHG emissions. Therefore, the proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

CONCLUSION

Based on the analysis presented above, construction and operation of the proposed project would not result in the generation of criteria air pollutants that would exceed SCAQMD thresholds of significance. Compliance with SCAQMD Rule 403: Fugitive Dust would further reduce construction dust impacts. The proposed project is not expected to produce significant emissions that would affect nearby sensitive receptors. The project would also not result in other emissions (such as those leading to odors) affecting a substantial number of people. GHG emissions released during construction and operation of the project are estimated to be lower than significance thresholds and would not be cumulatively considerable. The project would also be consistent with the City's CAP and the State's GHG emissions reductions objectives embodied in AB 32, Executive Order B-30-15, SB 32, and AB 197. Therefore, the proposed project would not result in significant air quality or GHG impacts.

REFERENCES

California Air Resources Board. 2000. Stationary Source Division and Mobile Source Control Division. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. October.

_____. 2005. Air Quality and Land Use Handbook: A Community Health Perspective. May.

_____. 2007a. Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration. October.

_____. 2007b. "ARB approves tripling of early action measures required under AB 32." News Release 07-46. October 25.

_____. 2016. Ambient Air Quality Standards. https://www.arb.ca.gov/research/aaqs/aaqs2.pdf

_____. 2017. California's 2017 Climate Change Scoping Plan. November.

_____. 2018. SB 375 Regional Plan Climate Targets. Website: https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets (accessed June 2022).

_____. 2021a. GHGs Descriptions & Sources in California. Website: ww2.arb.ca.gov/ghg-descriptions-sources (accessed May 2022).

_____. 2021b. California Greenhouse Gas Emissions for 2000 to 2019, Trends of Emissions and Other Indicators Report. Website: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf (accessed May 2022).

California Air Resources Board monitoring stations. Website: https://www.arb.ca.gov/adam/index.html (accessed June 2022).

California Environmental Protection Agency. 2006. Climate Action Team Report to Governor Schwarzenegger and the Legislature. March.

City of San Clemente. 2014. City of San Clemente Centennial General Plan. February 4.

_____. 2021. City of San Clemente Housing and Safety Elements Update Program Environmental Impact Report

Intergovernmental Panel on Climate Change. 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC.

South Coast Air Quality Management District. 1993. CEQA Air Quality Handbook. Website: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993) (accessed April 2022).

_____. 2008a. Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans.

_____. 2008b. Final Localized Significance Threshold Methodology. July.

_____. 2016. Final 2016 Air Quality Management Plan. March.

_____. 2019. Air Quality Significance Thresholds. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf (accessed June 2022).

_____. n.d. Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf (accessed July 2022).

Southern California Association of Governments. 2020. Connect SoCal: The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments. Website: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176 (accessed May 2022).

United Nations Framework Convention on Climate Change (UNFCCC). 2021. GHG Data from UNFCCC. Website: unfccc.int/process-and-meetings/transparency-and-reporting/greenhouse-gas-data/ghg-data-unfccc/ghg-data-from-unfccc (accessed May 2022).

United States Department of the Interior. 2007. Environmental Water Account. Draft Supplemental Environmental Impact Statement/Environmental Impact Report to the Environmental Water Account Final EIS/EIR. October. Sacramento: Bureau of Reclamation Mid-Pacific Region.

United States Environmental Protection Agency. 2015. Black Carbon, Basic Information. Last updated February 14, 2017. Website: 19january2017snapshot.epa.gov/www3/airquality/blackcarbon/basic.html (accessed May 2022).

_____. 2016. Climate Impacts on Human Health. April. Website: https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-human-health_.html, last updated on February 24, 2017 (accessed May 2022).

_____. 2021. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019. Website: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019 (accessed May 2022).

_____. 2022. US Environmental Protection Agency Monitor Values Report. Website: https://www.epa.gov/outdoor-air-quality-data/monitor-values-report.

Western Regional Climate Center. n.d. Recent Climate in the West. Website: http://www.wrcc.dri.edu, (accessed May 2022).

APPENDIX A

CALEEMOD OUTPUT SHEETS

San Clemente Senior Housing - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

San Clemente Senior Housing

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Medical Office Building	7.50	1000sqft	0.17	7,500.00	0
Parking Lot	312.00	Space	2.71	124,800.00	0
Congregate Care (Assisted Living)	250.00	Dwelling Unit	3.75	250,000.00	715

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total project site 6.63 acres

Construction Phase - Construction begins fall 2023 and would occur for 18-24 months, ending in 2025. Overlap of building construction and architectural coating.

Off-road Equipment -

Off-road Equipment - Based on equipment assumptions provided to LSA.

Off-road Equipment - Based on equipment assumptions provided to LSA.

Off-road Equipment - Based on equipment assumptions provided to LSA.

Off-road Equipment -

Off-road Equipment - Based on equipment assumptions provided to LSA.

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Demolition - Demolition of existing building

Grading - Project would cut 71,752 cubic yards of soil and fill 60,973 cubic yards of soil for a net total export of 10,779 cubic yards of soil.

Vehicle Trips - Based on 270 trips for medical office and 810 trips for assisted living

Construction Off-road Equipment Mitigation - Assuming use of Tier 3 construction equipment

Area Mitigation -

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
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	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	180.00
tblConstructionPhase	NumDays	230.00	360.00
tblConstructionPhase	NumDays	20.00	35.00
tblConstructionPhase	NumDays	20.00	10.00
tblGrading	MaterialExported	0.00	10,779.00
tblLandUse	LotAcreage	2.81	2.71
tblLandUse	LotAcreage	15.63	3.75
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblVehicleTrips	ST_TR	2.93	3.24
tblVehicleTrips	ST_TR	8.57	36.00
tblVehicleTrips	SU_TR	3.15	3.24
tblVehicleTrips	SU_TR	1.42	36.00
tblVehicleTrips	WD_TR	2.60	3.24
tblVehicleTrips	WD_TR	34.80	36.00

2.0 Emissions Summary

San Clemente Senior Housing - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.0848	0.8658	0.6964	2.0700e-003	0.3313	0.0340	0.3653	0.1401	0.0315	0.1716	0.0000	191.8656	191.8656	0.0368	0.0102	195.8345
2024	0.7083	1.4367	2.2587	6.1800e-003	0.4052	0.0583	0.4634	0.1085	0.0539	0.1624	0.0000	572.9328	572.9328	0.0696	0.0223	581.3100
2025	0.4049	0.4174	0.7132	1.8500e-003	0.1177	0.0165	0.1341	0.0315	0.0153	0.0468	0.0000	171.3801	171.3801	0.0217	5.8300e-003	173.6579
Maximum	**0.7083**	**1.4367**	**2.2587**	**6.1800e-003**	**0.4052**	**0.0583**	**0.4634**	**0.1401**	**0.0539**	**0.1716**	**0.0000**	**572.9328**	**572.9328**	**0.0696**	**0.0223**	**581.3100**

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	0.0407	0.6909	0.8506	2.0700e-003	0.1827	0.0283	0.2110	0.0721	0.0282	0.1003	0.0000	191.8655	191.8655	0.0368	0.0102	195.8344
2024	0.6423	1.4130	2.4418	6.1800e-003	0.4052	0.0716	0.4767	0.1085	0.0714	0.1799	0.0000	572.9326	572.9326	0.0696	0.0223	581.3097
2025	0.3856	0.4540	0.7769	1.8500e-003	0.1177	0.0238	0.1415	0.0315	0.0238	0.0552	0.0000	171.3800	171.3800	0.0217	5.8300e-003	173.6578
Maximum	**0.6423**	**1.4130**	**2.4418**	**6.1800e-003**	**0.4052**	**0.0716**	**0.4767**	**0.1085**	**0.0714**	**0.1799**	**0.0000**	**572.9326**	**572.9326**	**0.0696**	**0.0223**	**581.3097**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	N20	CO2e
Percent Reduction	**10.81**	**5.95**	**-10.93**	**0.00**	**17.39**	**-13.65**	**13.88**	**24.28**	**-22.51**	**11.91**	**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	**9-4-2023**	**12-3-2023**	0.8059	0.6054
2	**12-4-2023**	**3-3-2024**	0.3972	0.3676
3	**3-4-2024**	**6-3-2024**	0.3896	0.3668
4	**6-4-2024**	**9-3-2024**	0.5043	0.4818
5	**9-4-2024**	**12-3-2024**	0.7412	0.7193
6	**12-4-2024**	**3-3-2025**	0.7143	0.7110
7	**3-4-2025**	**6-3-2025**	0.3287	0.3425
		Highest	0.8059	0.7193

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	tons/yr										MT/yr					
Area	1.9185	0.0945	4.1690	4.1900e-003		0.2530	0.2530		0.2530	0.2530	26.5548	55.2485	81.8032	0.0832	1.8000e-003	84.4215
Energy	0.0154	0.1318	0.0575	8.4000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	422.6038	422.6038	0.0194	4.8000e-003	424.5187
Mobile	0.4862	0.5329	4.9349	0.0114	1.3065	7.8900e-003	1.3144	0.3487	7.3400e-003	0.3561	0.0000	1,083.5845	1,083.5845	0.0654	0.0449	1,098.5903
Waste						0.0000	0.0000		0.0000	0.0000	62.7506	0.0000	62.7506	3.7085	0.0000	155.4620
Water						0.0000	0.0000		0.0000	0.0000	5.4662	83.3806	88.8468	0.5665	0.0139	107.1443
Total	**2.4201**	**0.7592**	**9.1613**	**0.0165**	**1.3065**	**0.2716**	**1.5781**	**0.3487**	**0.2710**	**0.6197**	**94.7715**	**1,644.8174**	**1,739.5889**	**4.4430**	**0.0653**	**1,870.1367**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	1.1051	0.0764	2.5996	4.3000e-004		0.0181	0.0181		0.0181	0.0181	0.0000	58.2502	58.2502	5.0900e-003	9.9000e-004	58.6726
Energy	0.0154	0.1318	0.0575	8.4000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	422.6038	422.6038	0.0194	4.8000e-003	424.5187
Mobile	0.4862	0.5329	4.9349	0.0114	1.3065	7.8900e-003	1.3144	0.3487	7.3400e-003	0.3561	0.0000	1,083.5845	1,083.5845	0.0654	0.0449	1,098.5903
Waste						0.0000	0.0000		0.0000	0.0000	62.7506	0.0000	62.7506	3.7085	0.0000	155.4620
Water						0.0000	0.0000		0.0000	0.0000	5.4662	83.3806	88.8468	0.5665	0.0139	107.1443
Total	**1.6067**	**0.7410**	**7.5920**	**0.0127**	**1.3065**	**0.0366**	**1.3431**	**0.3487**	**0.0361**	**0.3848**	**68.2168**	**1,647.8191**	**1,716.0359**	**4.3649**	**0.0645**	**1,844.3878**

	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	N20	CO2e
Percent Reduction	**33.61**	**2.39**	**17.13**	**22.83**	**0.00**	**86.52**	**14.89**	**0.00**	**86.69**	**37.91**	**28.02**	**-0.18**	**1.35**	**1.76**	**1.24**	**1.38**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/4/2023	9/29/2023	5	20	
2	Site Preparation and Grading	Grading	9/30/2023	11/17/2023	5	35	
3	Building Construction	Building Construction	11/20/2023	4/4/2025	5	360	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Architectural Coating	Architectural Coating	8/5/2024	4/11/2025	5	180	
5	Paving	Paving	3/22/2025	4/4/2025	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 52.5

Acres of Paving: 2.71

Residential Indoor: 506,250; Residential Outdoor: 168,750; Non-Residential Indoor: 11,250; Non-Residential Outdoor: 3,750; Striped Parking Area: 7,488 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation and Grading	Excavators	1	8.00	158	0.38
Site Preparation and Grading	Graders	1	8.00	187	0.41
Site Preparation and Grading	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation and Grading	Tractors/Loaders/Backhoes	2	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	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
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

Trips and VMT

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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
Demolition	4	10.00	0.00	285.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation and Grading	6	15.00	0.00	1,347.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	6	235.00	48.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	47.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 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					0.0308	0.0000	0.0308	4.6600e-003	0.0000	4.6600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0189	0.1839	0.1313	2.8000e-004		8.4600e-003	8.4600e-003		7.8900e-003	7.8900e-003	0.0000	24.9183	24.9183	6.5900e-003	0.0000	25.0829
Total	**0.0189**	**0.1839**	**0.1313**	**2.8000e-004**	**0.0308**	**8.4600e-003**	**0.0393**	**4.6600e-003**	**7.8900e-003**	**0.0126**	**0.0000**	**24.9183**	**24.9183**	**6.5900e-003**	**0.0000**	**25.0829**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 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	2.9000e-004	0.0179	5.8500e-003	8.0000e-005	2.4500e-003	1.1000e-004	2.5600e-003	6.7000e-004	1.0000e-004	7.8000e-004	0.0000	8.2709	8.2709	8.3000e-004	1.3300e-003	8.6871
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.0000e-004	2.9200e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1000e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.8451	0.8451	2.0000e-005	2.0000e-005	0.8516
Total	**5.7000e-004**	**0.0181**	**8.7700e-003**	**9.0000e-005**	**3.5500e-003**	**1.2000e-004**	**3.6600e-003**	**9.6000e-004**	**1.1000e-004**	**1.0800e-003**	**0.0000**	**9.1160**	**9.1160**	**8.5000e-004**	**1.3500e-003**	**9.5387**

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					0.0139	0.0000	0.0139	2.1000e-003	0.0000	2.1000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-003	0.1340	0.1684	2.8000e-004		6.2600e-003	6.2600e-003		6.2600e-003	6.2600e-003	0.0000	24.9183	24.9183	6.5900e-003	0.0000	25.0829
Total	**6.7000e-003**	**0.1340**	**0.1684**	**2.8000e-004**	**0.0139**	**6.2600e-003**	**0.0201**	**2.1000e-003**	**6.2600e-003**	**8.3600e-003**	**0.0000**	**24.9183**	**24.9183**	**6.5900e-003**	**0.0000**	**25.0829**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 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	2.9000e-004	0.0179	5.8500e-003	8.0000e-005	2.4500e-003	1.1000e-004	2.5600e-003	6.7000e-004	1.0000e-004	7.8000e-004	0.0000	8.2709	8.2709	8.3000e-004	1.3300e-003	8.6871
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.0000e-004	2.9200e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1000e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.8451	0.8451	2.0000e-005	2.0000e-005	0.8516
Total	**5.7000e-004**	**0.0181**	**8.7700e-003**	**9.0000e-005**	**3.5500e-003**	**1.2000e-004**	**3.6600e-003**	**9.6000e-004**	**1.1000e-004**	**1.0800e-003**	**0.0000**	**9.1160**	**9.1160**	**8.5000e-004**	**1.3500e-003**	**9.5387**

3.3 Site Preparation and 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					0.2392	0.0000	0.2392	0.1190	0.0000	0.1190	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0393	0.4117	0.2735	6.1000e-004		0.0179	0.0179		0.0164	0.0164	0.0000	53.9476	53.9476	0.0175	0.0000	54.3838
Total	**0.0393**	**0.4117**	**0.2735**	**6.1000e-004**	**0.2392**	**0.0179**	**0.2571**	**0.1190**	**0.0164**	**0.1354**	**0.0000**	**53.9476**	**53.9476**	**0.0175**	**0.0000**	**54.3838**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation and 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	1.3700e-003	0.0845	0.0276	3.8000e-004	0.0116	5.2000e-004	0.0121	3.1700e-003	4.9000e-004	3.6700e-003	0.0000	39.0907	39.0907	3.9400e-003	6.2700e-003	41.0579
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4000e-004	5.3000e-004	7.6600e-003	2.0000e-005	2.8800e-003	2.0000e-005	2.9000e-003	7.7000e-004	1.0000e-005	7.8000e-004	0.0000	2.2185	2.2185	5.0000e-005	5.0000e-005	2.2355
Total	**2.1100e-003**	**0.0850**	**0.0353**	**4.0000e-004**	**0.0144**	**5.4000e-004**	**0.0150**	**3.9400e-003**	**5.0000e-004**	**4.4500e-003**	**0.0000**	**41.3092**	**41.3092**	**3.9900e-003**	**6.3200e-003**	**43.2934**

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					0.1077	0.0000	0.1077	0.0535	0.0000	0.0535	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0150	0.3001	0.3706	6.1000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	53.9475	53.9475	0.0175	0.0000	54.3837
Total	**0.0150**	**0.3001**	**0.3706**	**6.1000e-004**	**0.1077**	**0.0138**	**0.1214**	**0.0535**	**0.0138**	**0.0673**	**0.0000**	**53.9475**	**53.9475**	**0.0175**	**0.0000**	**54.3837**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation and 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	1.3700e-003	0.0845	0.0276	3.8000e-004	0.0116	5.2000e-004	0.0121	3.1700e-003	4.9000e-004	3.6700e-003	0.0000	39.0907	39.0907	3.9400e-003	6.2700e-003	41.0579
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4000e-004	5.3000e-004	7.6600e-003	2.0000e-005	2.8800e-003	2.0000e-005	2.9000e-003	7.7000e-004	1.0000e-005	7.8000e-004	0.0000	2.2185	2.2185	5.0000e-005	5.0000e-005	2.2355
Total	**2.1100e-003**	**0.0850**	**0.0353**	**4.0000e-004**	**0.0144**	**5.4000e-004**	**0.0150**	**3.9400e-003**	**5.0000e-004**	**4.4500e-003**	**0.0000**	**41.3092**	**41.3092**	**3.9900e-003**	**6.3200e-003**	**43.2934**

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	0.0132	0.1336	0.1342	2.3000e-004		6.7500e-003	6.7500e-003		6.2100e-003	6.2100e-003	0.0000	19.8785	19.8785	6.4300e-003	0.0000	20.0392
Total	**0.0132**	**0.1336**	**0.1342**	**2.3000e-004**		**6.7500e-003**	**6.7500e-003**		**6.2100e-003**	**6.2100e-003**	**0.0000**	**19.8785**	**19.8785**	**6.4300e-003**	**0.0000**	**20.0392**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	7.1000e-004	0.0264	0.0106	1.3000e-004	4.5400e-003	1.3000e-004	4.6700e-003	1.3100e-003	1.2000e-004	1.4300e-003	0.0000	12.9049	12.9049	7.7000e-004	1.8500e-003	13.4762
Worker	9.9600e-003	7.1200e-003	0.1028	3.2000e-004	0.0387	2.0000e-004	0.0389	0.0103	1.9000e-004	0.0105	0.0000	29.7913	29.7913	6.8000e-004	7.1000e-004	30.0202
Total	**0.0107**	**0.0336**	**0.1135**	**4.5000e-004**	**0.0432**	**3.3000e-004**	**0.0436**	**0.0116**	**3.1000e-004**	**0.0119**	**0.0000**	**42.6961**	**42.6961**	**1.4500e-003**	**2.5600e-003**	**43.4964**

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	5.5500e-003	0.1202	0.1541	2.3000e-004		7.2700e-003	7.2700e-003		7.2700e-003	7.2700e-003	0.0000	19.8785	19.8785	6.4300e-003	0.0000	20.0392
Total	**5.5500e-003**	**0.1202**	**0.1541**	**2.3000e-004**		**7.2700e-003**	**7.2700e-003**		**7.2700e-003**	**7.2700e-003**	**0.0000**	**19.8785**	**19.8785**	**6.4300e-003**	**0.0000**	**20.0392**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	7.1000e-004	0.0264	0.0106	1.3000e-004	4.5400e-003	1.3000e-004	4.6700e-003	1.3100e-003	1.2000e-004	1.4300e-003	0.0000	12.9049	12.9049	7.7000e-004	1.8500e-003	13.4762
Worker	9.9600e-003	7.1200e-003	0.1028	3.2000e-004	0.0387	2.0000e-004	0.0389	0.0103	1.9000e-004	0.0105	0.0000	29.7913	29.7913	6.8000e-004	7.1000e-004	30.0202
Total	**0.0107**	**0.0336**	**0.1135**	**4.5000e-004**	**0.0432**	**3.3000e-004**	**0.0436**	**0.0116**	**3.1000e-004**	**0.0119**	**0.0000**	**42.6961**	**42.6961**	**1.4500e-003**	**2.5600e-003**	**43.4964**

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	0.1080	1.0809	1.1637	1.9800e-003		0.0520	0.0520		0.0478	0.0478	0.0000	173.6437	173.6437	0.0562	0.0000	175.0477
Total	**0.1080**	**1.0809**	**1.1637**	**1.9800e-003**		**0.0520**	**0.0520**		**0.0478**	**0.0478**	**0.0000**	**173.6437**	**173.6437**	**0.0562**	**0.0000**	**175.0477**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	6.1400e-003	0.2302	0.0920	1.1100e-003	0.0396	1.1900e-003	0.0408	0.0114	1.1300e-003	0.0126	0.0000	110.9557	110.9557	6.7600e-003	0.0160	115.8926
Worker	0.0819	0.0558	0.8378	2.7100e-003	0.3380	1.6700e-003	0.3396	0.0898	1.5400e-003	0.0913	0.0000	253.9324	253.9324	5.4300e-003	5.8000e-003	255.7971
Total	**0.0880**	**0.2860**	**0.9298**	**3.8200e-003**	**0.3776**	**2.8600e-003**	**0.3804**	**0.1012**	**2.6700e-003**	**0.1039**	**0.0000**	**364.8881**	**364.8881**	**0.0122**	**0.0218**	**371.6898**

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	0.0485	1.0499	1.3455	1.9800e-003		0.0635	0.0635		0.0635	0.0635	0.0000	173.6435	173.6435	0.0562	0.0000	175.0475
Total	**0.0485**	**1.0499**	**1.3455**	**1.9800e-003**		**0.0635**	**0.0635**		**0.0635**	**0.0635**	**0.0000**	**173.6435**	**173.6435**	**0.0562**	**0.0000**	**175.0475**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	6.1400e-003	0.2302	0.0920	1.1100e-003	0.0396	1.1900e-003	0.0408	0.0114	1.1300e-003	0.0126	0.0000	110.9557	110.9557	6.7600e-003	0.0160	115.8926
Worker	0.0819	0.0558	0.8378	2.7100e-003	0.3380	1.6700e-003	0.3396	0.0898	1.5400e-003	0.0913	0.0000	253.9324	253.9324	5.4300e-003	5.8000e-003	255.7971
Total	**0.0880**	**0.2860**	**0.9298**	**3.8200e-003**	**0.3776**	**2.8600e-003**	**0.3804**	**0.1012**	**2.6700e-003**	**0.1039**	**0.0000**	**364.8881**	**364.8881**	**0.0122**	**0.0218**	**371.6898**

3.4 Building Construction - 2025

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	0.0260	0.2572	0.3000	5.1000e-004		0.0117	0.0117		0.0108	0.0108	0.0000	45.0840	45.0840	0.0146	0.0000	45.4485
Total	**0.0260**	**0.2572**	**0.3000**	**5.1000e-004**		**0.0117**	**0.0117**		**0.0108**	**0.0108**	**0.0000**	**45.0840**	**45.0840**	**0.0146**	**0.0000**	**45.4485**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2025

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	1.5700e-003	0.0594	0.0238	2.8000e-004	0.0103	3.1000e-004	0.0106	2.9700e-003	3.0000e-004	3.2600e-003	0.0000	28.2589	28.2589	1.7800e-003	4.0900e-003	29.5228
Worker	0.0201	0.0131	0.2046	6.8000e-004	0.0877	4.2000e-004	0.0881	0.0233	3.8000e-004	0.0237	0.0000	64.2992	64.2992	1.2800e-003	1.4200e-003	64.7533
Total	**0.0217**	**0.0726**	**0.2284**	**9.6000e-004**	**0.0980**	**7.3000e-004**	**0.0987**	**0.0263**	**6.8000e-004**	**0.0269**	**0.0000**	**92.5582**	**92.5582**	**3.0600e-003**	**5.5100e-003**	**94.2760**

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	0.0126	0.2725	0.3492	5.1000e-004		0.0165	0.0165		0.0165	0.0165	0.0000	45.0839	45.0839	0.0146	0.0000	45.4484
Total	**0.0126**	**0.2725**	**0.3492**	**5.1000e-004**		**0.0165**	**0.0165**		**0.0165**	**0.0165**	**0.0000**	**45.0839**	**45.0839**	**0.0146**	**0.0000**	**45.4484**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2025

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	1.5700e-003	0.0594	0.0238	2.8000e-004	0.0103	3.1000e-004	0.0106	2.9700e-003	3.0000e-004	3.2600e-003	0.0000	28.2589	28.2589	1.7800e-003	4.0900e-003	29.5228
Worker	0.0201	0.0131	0.2046	6.8000e-004	0.0877	4.2000e-004	0.0881	0.0233	3.8000e-004	0.0237	0.0000	64.2992	64.2992	1.2800e-003	1.4200e-003	64.7533
Total	**0.0217**	**0.0726**	**0.2284**	**9.6000e-004**	**0.0980**	**7.3000e-004**	**0.0987**	**0.0263**	**6.8000e-004**	**0.0269**	**0.0000**	**92.5582**	**92.5582**	**3.0600e-003**	**5.5100e-003**	**94.2760**

3.5 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	0.4959					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6700e-003	0.0652	0.0968	1.6000e-004		3.2600e-003	3.2600e-003		3.2600e-003	3.2600e-003	0.0000	13.6599	13.6599	7.7000e-004	0.0000	13.6791
Total	**0.5056**	**0.0652**	**0.0968**	**1.6000e-004**		**3.2600e-003**	**3.2600e-003**		**3.2600e-003**	**3.2600e-003**	**0.0000**	**13.6599**	**13.6599**	**7.7000e-004**	**0.0000**	**13.6791**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6900e-003	4.5600e-003	0.0684	2.2000e-004	0.0276	1.4000e-004	0.0277	7.3300e-003	1.3000e-004	7.4600e-003	0.0000	20.7410	20.7410	4.4000e-004	4.7000e-004	20.8934
Total	**6.6900e-003**	**4.5600e-003**	**0.0684**	**2.2000e-004**	**0.0276**	**1.4000e-004**	**0.0277**	**7.3300e-003**	**1.3000e-004**	**7.4600e-003**	**0.0000**	**20.7410**	**20.7410**	**4.4000e-004**	**4.7000e-004**	**20.8934**

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	0.4959					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1800e-003	0.0726	0.0980	1.6000e-004		5.0900e-003	5.0900e-003		5.0900e-003	5.0900e-003	0.0000	13.6599	13.6599	7.7000e-004	0.0000	13.6791
Total	**0.4991**	**0.0726**	**0.0980**	**1.6000e-004**		**5.0900e-003**	**5.0900e-003**		**5.0900e-003**	**5.0900e-003**	**0.0000**	**13.6599**	**13.6599**	**7.7000e-004**	**0.0000**	**13.6791**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6900e-003	4.5600e-003	0.0684	2.2000e-004	0.0276	1.4000e-004	0.0277	7.3300e-003	1.3000e-004	7.4600e-003	0.0000	20.7410	20.7410	4.4000e-004	4.7000e-004	20.8934
Total	**6.6900e-003**	**4.5600e-003**	**0.0684**	**2.2000e-004**	**0.0276**	**1.4000e-004**	**0.0277**	**7.3300e-003**	**1.3000e-004**	**7.4600e-003**	**0.0000**	**20.7410**	**20.7410**	**4.4000e-004**	**4.7000e-004**	**20.8934**

3.5 Architectural Coating - 2025

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	0.3383					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2400e-003	0.0418	0.0660	1.1000e-004		1.8800e-003	1.8800e-003		1.8800e-003	1.8800e-003	0.0000	9.3194	9.3194	5.1000e-004	0.0000	9.3321
Total	**0.3446**	**0.0418**	**0.0660**	**1.1000e-004**		**1.8800e-003**	**1.8800e-003**		**1.8800e-003**	**1.8800e-003**	**0.0000**	**9.3194**	**9.3194**	**5.1000e-004**	**0.0000**	**9.3321**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Architectural Coating - 2025

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3100e-003	2.8200e-003	0.0439	1.5000e-004	0.0188	9.0000e-005	0.0189	5.0000e-003	8.0000e-005	5.0800e-003	0.0000	13.8054	13.8054	2.8000e-004	3.0000e-004	13.9029
Total	**4.3100e-003**	**2.8200e-003**	**0.0439**	**1.5000e-004**	**0.0188**	**9.0000e-005**	**0.0189**	**5.0000e-003**	**8.0000e-005**	**5.0800e-003**	**0.0000**	**13.8054**	**13.8054**	**2.8000e-004**	**3.0000e-004**	**13.9029**

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	0.3383					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1700e-003	0.0495	0.0669	1.1000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	9.3194	9.3194	5.1000e-004	0.0000	9.3321
Total	**0.3405**	**0.0495**	**0.0669**	**1.1000e-004**		**3.4700e-003**	**3.4700e-003**		**3.4700e-003**	**3.4700e-003**	**0.0000**	**9.3194**	**9.3194**	**5.1000e-004**	**0.0000**	**9.3321**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Architectural Coating - 2025

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3100e-003	2.8200e-003	0.0439	1.5000e-004	0.0188	9.0000e-005	0.0189	5.0000e-003	8.0000e-005	5.0800e-003	0.0000	13.8054	13.8054	2.8000e-004	3.0000e-004	13.9029
Total	**4.3100e-003**	**2.8200e-003**	**0.0439**	**1.5000e-004**	**0.0188**	**9.0000e-005**	**0.0189**	**5.0000e-003**	**8.0000e-005**	**5.0800e-003**	**0.0000**	**13.8054**	**13.8054**	**2.8000e-004**	**3.0000e-004**	**13.9029**

3.6 Paving - 2025

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	4.5800e-003	0.0429	0.0729	1.1000e-004		2.0900e-003	2.0900e-003		1.9300e-003	1.9300e-003	0.0000	10.0096	10.0096	3.2400e-003	0.0000	10.0906
Paving	3.5500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.1300e-003**	**0.0429**	**0.0729**	**1.1000e-004**		**2.0900e-003**	**2.0900e-003**		**1.9300e-003**	**1.9300e-003**	**0.0000**	**10.0096**	**10.0096**	**3.2400e-003**	**0.0000**	**10.0906**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2025

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.2000e-004	1.9200e-003	1.0000e-005	8.2000e-004	0.0000	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6036	0.6036	1.0000e-005	1.0000e-005	0.6078
Total	**1.9000e-004**	**1.2000e-004**	**1.9200e-003**	**1.0000e-005**	**8.2000e-004**	**0.0000**	**8.3000e-004**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**0.6036**	**0.6036**	**1.0000e-005**	**1.0000e-005**	**0.6078**

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	2.8000e-003	0.0565	0.0865	1.1000e-004		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003	0.0000	10.0096	10.0096	3.2400e-003	0.0000	10.0906
Paving	3.5500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.3500e-003**	**0.0565**	**0.0865**	**1.1000e-004**		**3.0500e-003**	**3.0500e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**10.0096**	**10.0096**	**3.2400e-003**	**0.0000**	**10.0906**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2025

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.2000e-004	1.9200e-003	1.0000e-005	8.2000e-004	0.0000	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6036	0.6036	1.0000e-005	1.0000e-005	0.6078
Total	**1.9000e-004**	**1.2000e-004**	**1.9200e-003**	**1.0000e-005**	**8.2000e-004**	**0.0000**	**8.3000e-004**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**0.6036**	**0.6036**	**1.0000e-005**	**1.0000e-005**	**0.6078**

4.0 Operational Detail - Mobile

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 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	0.4862	0.5329	4.9349	0.0114	1.3065	7.8900e-003	1.3144	0.3487	7.3400e-003	0.3561	0.0000	1,083.5845	1,083.5845	0.0654	0.0449	1,098.5903
Unmitigated	0.4862	0.5329	4.9349	0.0114	1.3065	7.8900e-003	1.3144	0.3487	7.3400e-003	0.3561	0.0000	1,083.5845	1,083.5845	0.0654	0.0449	1,098.5903

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	810.00	810.00	810.00	2,767,893	2,767,893
Medical Office Building	270.00	270.00	270.00	700,342	700,342
Parking Lot	0.00	0.00	0.00		
Total	1,080.00	1,080.00	1,080.00	3,468,235	3,468,235

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Congregate Care (Assisted	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Congregate Care (Assisted Living)	0.547453	0.060181	0.185039	0.126487	0.024236	0.006679	0.014707	0.004926	0.000662	0.000378	0.024745	0.000705	0.003801
Medical Office Building	0.547453	0.060181	0.185039	0.126487	0.024236	0.006679	0.014707	0.004926	0.000662	0.000378	0.024745	0.000705	0.003801

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Parking Lot	0.547453	0.060181	0.185039	0.126487	0.024236	0.006679	0.014707	0.004926	0.000662	0.000378	0.024745	0.000705	0.003801

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	270.2352	270.2352	0.0165	2.0000e-003	271.2446
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	270.2352	270.2352	0.0165	2.0000e-003	271.2446
NaturalGas Mitigated	0.0154	0.1318	0.0575	8.4000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	152.3686	152.3686	2.9200e-003	2.7900e-003	153.2741
NaturalGas Unmitigated	0.0154	0.1318	0.0575	8.4000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	152.3686	152.3686	2.9200e-003	2.7900e-003	153.2741

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
Congregate Care (Assisted Living)	2.7874e+006	0.0150	0.1284	0.0547	8.2000e-004		0.0104	0.0104		0.0104	0.0104	0.0000	148.7466	148.7466	2.8500e-003	2.7300e-003	149.6305
Medical Office Building	67875	3.7000e-004	3.3300e-003	2.7900e-003	2.0000e-005		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	3.6221	3.6221	7.0000e-005	7.0000e-005	3.6436
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
Total		**0.0154**	**0.1318**	**0.0575**	**8.4000e-004**		**0.0106**	**0.0106**		**0.0106**	**0.0106**	**0.0000**	**152.3686**	**152.3686**	**2.9200e-003**	**2.8000e-003**	**153.2741**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
Congregate Care (Assisted Living)	2.7874e+006	0.0150	0.1284	0.0547	8.2000e-004		0.0104	0.0104		0.0104	0.0104	0.0000	148.7466	148.7466	2.8500e-003	2.7300e-003	149.6305
Medical Office Building	67875	3.7000e-004	3.3300e-003	2.7900e-003	2.0000e-005		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	3.6221	3.6221	7.0000e-005	7.0000e-005	3.6436
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
Total		**0.0154**	**0.1318**	**0.0575**	**8.4000e-004**		**0.0106**	**0.0106**		**0.0106**	**0.0106**	**0.0000**	**152.3686**	**152.3686**	**2.9200e-003**	**2.8000e-003**	**153.2741**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Congregate Care (Assisted Living)	958458	234.7558	0.0144	1.7400e-003	235.6327
Medical Office Building	101175	24.7809	1.5100e-003	1.8000e-004	24.8734
Parking Lot	43680	10.6986	6.5000e-004	8.0000e-005	10.7385
Total		**270.2352**	**0.0165**	**2.0000e-003**	**271.2446**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Congregate Care (Assisted Living)	958458	234.7558	0.0144	1.7400e-003	235.6327
Medical Office Building	101175	24.7809	1.5100e-003	1.8000e-004	24.8734
Parking Lot	43680	10.6986	6.5000e-004	8.0000e-005	10.7385
Total		**270.2352**	**0.0165**	**2.0000e-003**	**271.2446**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	1.1051	0.0764	2.5996	4.3000e-004		0.0181	0.0181		0.0181	0.0181	0.0000	58.2502	58.2502	5.0900e-003	9.9000e-004	58.6726
Unmitigated	1.9185	0.0945	4.1690	4.1900e-003		0.2530	0.2530		0.2530	0.2530	26.5548	55.2485	81.8032	0.0832	1.8000e-003	84.4215

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	0.0834					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9385					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.8189	0.0648	1.5892	4.0500e-003		0.2387	0.2387		0.2387	0.2387	26.5548	51.0291	77.5839	0.0792	1.8000e-003	80.1008
Landscaping	0.0777	0.0297	2.5798	1.4000e-004		0.0143	0.0143		0.0143	0.0143	0.0000	4.2193	4.2193	4.0500e-003	0.0000	4.3207
Total	**1.9185**	**0.0946**	**4.1690**	**4.1900e-003**		**0.2530**	**0.2530**		**0.2530**	**0.2530**	**26.5548**	**55.2485**	**81.8032**	**0.0832**	**1.8000e-003**	**84.4214**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.0834					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9385					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.4600e-003	0.0467	0.0199	3.0000e-004		3.7700e-003	3.7700e-003		3.7700e-003	3.7700e-003	0.0000	54.0309	54.0309	1.0400e-003	9.9000e-004	54.3519
Landscaping	0.0777	0.0297	2.5798	1.4000e-004		0.0143	0.0143		0.0143	0.0143	0.0000	4.2193	4.2193	4.0500e-003	0.0000	4.3207
Total	**1.1051**	**0.0764**	**2.5996**	**4.4000e-004**		**0.0181**	**0.0181**		**0.0181**	**0.0181**	**0.0000**	**58.2502**	**58.2502**	**5.0900e-003**	**9.9000e-004**	**58.6726**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	88.8468	0.5665	0.0139	107.1443
Unmitigated	88.8468	0.5665	0.0139	107.1443

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Congregate Care (Assisted Living)	16.2885 / 10.2688	85.0590	0.5356	0.0131	102.3611
Medical Office Building	0.941104 / 0.179258	3.7878	0.0309	7.5000e-004	4.7832
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**88.8468**	**0.5665**	**0.0139**	**107.1443**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Congregate Care (Assisted Living)	16.2885 / 10.2688	85.0590	0.5356	0.0131	102.3611
Medical Office Building	0.941104 / 0.179258	3.7878	0.0309	7.5000e-004	4.7832
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**88.8468**	**0.5665**	**0.0139**	**107.1443**

8.0 Waste Detail

8.1 Mitigation Measures Waste

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	62.7506	3.7085	0.0000	155.4620
Unmitigated	62.7506	3.7085	0.0000	155.4620

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Congregate Care (Assisted Living)	228.13	46.3083	2.7367	0.0000	114.7269
Medical Office Building	81	16.4423	0.9717	0.0000	40.7350
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**62.7506**	**3.7085**	**0.0000**	**155.4619**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Congregate Care (Assisted Living)	228.13	46.3083	2.7367	0.0000	114.7269
Medical Office Building	81	16.4423	0.9717	0.0000	40.7350
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**62.7506**	**3.7085**	**0.0000**	**155.4619**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

11.0 Vegetation

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

San Clemente Senior Housing

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Medical Office Building	7.50	1000sqft	0.17	7,500.00	0
Parking Lot	312.00	Space	2.71	124,800.00	0
Congregate Care (Assisted Living)	250.00	Dwelling Unit	3.75	250,000.00	715

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total project site 6.63 acres

Construction Phase - Construction begins fall 2023 and would occur for 18-24 months, ending in 2025. Overlap of building construction and architectural coating.

Off-road Equipment -

Off-road Equipment - Based on equipment assumptions provided to LSA.

Off-road Equipment - Based on equipment assumptions provided to LSA.

Off-road Equipment - Based on equipment assumptions provided to LSA.

Off-road Equipment -

Off-road Equipment - Based on equipment assumptions provided to LSA.

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Demolition - Demolition of existing building

Grading - Project would cut 71,752 cubic yards of soil and fill 60,973 cubic yards of soil for a net total export of 10,779 cubic yards of soil.

Vehicle Trips - Based on 270 trips for medical office and 810 trips for assisted living

Construction Off-road Equipment Mitigation - Assuming use of Tier 3 construction equipment

Area Mitigation -

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
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	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	180.00
tblConstructionPhase	NumDays	230.00	360.00
tblConstructionPhase	NumDays	20.00	35.00
tblConstructionPhase	NumDays	20.00	10.00
tblGrading	MaterialExported	0.00	10,779.00
tblLandUse	LotAcreage	2.81	2.71
tblLandUse	LotAcreage	15.63	3.75
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblVehicleTrips	ST_TR	2.93	3.24
tblVehicleTrips	ST_TR	8.57	36.00
tblVehicleTrips	SU_TR	3.15	3.24
tblVehicleTrips	SU_TR	1.42	36.00
tblVehicleTrips	WD_TR	2.60	3.24
tblVehicleTrips	WD_TR	34.80	36.00

2.0 Emissions Summary

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	2.3667	28.1408	17.6572	0.0581	14.5086	1.0504	15.5590	7.0258	0.9675	7.9932	0.0000	6,004.2678	6,004.2678	1.3505	0.3979	6,156.6113
2024	11.0699	11.6041	19.4340	0.0523	3.4590	0.4823	3.9413	0.9243	0.4489	1.3732	0.0000	5,332.3317	5,332.3317	0.5989	0.1888	5,403.5576
2025	12.6214	19.3961	33.8728	0.0754	3.6267	0.8385	4.4652	0.9688	0.7759	1.7447	0.0000	7,595.0245	7,595.0245	1.3107	0.1863	7,683.3123
Maximum	**12.6214**	**28.1408**	**33.8728**	**0.0754**	**14.5086**	**1.0504**	**15.5590**	**7.0258**	**0.9675**	**7.9932**	**0.0000**	**7,595.0245**	**7,595.0245**	**1.3505**	**0.3979**	**7,683.3123**

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	1.0806	21.7615	23.2106	0.0581	6.9902	0.8177	7.8080	3.2871	0.8164	4.1035	0.0000	6,004.2678	6,004.2678	1.3505	0.3979	6,156.6113
2024	10.4939	11.5052	20.8444	0.0523	3.4590	0.6040	4.0630	0.9243	0.6023	1.5266	0.0000	5,332.3317	5,332.3317	0.5989	0.1888	5,403.5576
2025	11.7601	22.7714	38.0625	0.0754	3.6267	1.2135	4.8401	0.9688	1.2118	2.1806	0.0000	7,595.0245	7,595.0245	1.3107	0.1863	7,683.3123
Maximum	**11.7601**	**22.7714**	**38.0625**	**0.0754**	**6.9902**	**1.2135**	**7.8080**	**3.2871**	**1.2118**	**4.1035**	**0.0000**	**7,595.0245**	**7,595.0245**	**1.3505**	**0.3979**	**7,683.3123**

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	N20	CO2e
Percent Reduction	10.45	5.25	-15.72	0.00	34.82	-11.13	30.27	41.92	-19.99	29.70	0.00	0.00	0.00	0.00	0.00	0.00

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	71.7305	5.4247	147.7763	0.3254		19.2115	19.2115		19.2115	19.2115	2,341.7296	4,537.2080	6,878.9376	7.0192	0.1589	7,101.7826
Energy	0.0844	0.7220	0.3148	4.6000e-003		0.0583	0.0583		0.0583	0.0583		920.3159	920.3159	0.0176	0.0169	925.7849
Mobile	2.7523	2.6898	27.1925	0.0647	7.3081	0.0434	7.3515	1.9479	0.0404	1.9883		6,758.1142	6,758.1142	0.3860	0.2597	6,845.1576
Total	**74.5672**	**8.8366**	**175.2835**	**0.3947**	**7.3081**	**19.3132**	**26.6213**	**1.9479**	**19.3102**	**21.2581**	**2,341.7296**	**12,215.6381**	**14,557.3677**	**7.4228**	**0.4355**	**14,872.7250**

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	6.6583	3.9700	22.2266	0.0249		0.4162	0.4162		0.4162	0.4162	0.0000	4,801.9139	4,801.9139	0.1271	0.0874	4,831.1218
Energy	0.0844	0.7220	0.3148	4.6000e-003		0.0583	0.0583		0.0583	0.0583		920.3159	920.3159	0.0176	0.0169	925.7849
Mobile	2.7523	2.6898	27.1925	0.0647	7.3081	0.0434	7.3515	1.9479	0.0404	1.9883		6,758.1142	6,758.1142	0.3860	0.2597	6,845.1576
Total	**9.4950**	**7.3819**	**49.7338**	**0.0942**	**7.3081**	**0.5179**	**7.8260**	**1.9479**	**0.5149**	**2.4628**	**0.0000**	**12,480.3440**	**12,480.3440**	**0.5307**	**0.3639**	**12,602.0642**

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	N20	CO2e
Percent Reduction	87.27	16.46	71.63	76.13	0.00	97.32	70.60	0.00	97.33	88.41	100.00	-2.17	14.27	92.85	16.44	15.27

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/4/2023	9/29/2023	5	20	
2	Site Preparation and Grading	Grading	9/30/2023	11/17/2023	5	35	
3	Building Construction	Building Construction	11/20/2023	4/4/2025	5	360	
4	Architectural Coating	Architectural Coating	8/5/2024	4/11/2025	5	180	
5	Paving	Paving	3/22/2025	4/4/2025	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 52.5

Acres of Paving: 2.71

Residential Indoor: 506,250; Residential Outdoor: 168,750; Non-Residential Indoor: 11,250; Non-Residential Outdoor: 3,750; Striped Parking Area: 7,488 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation and Grading	Excavators	1	8.00	158	0.38
Site Preparation and Grading	Graders	1	8.00	187	0.41
Site Preparation and Grading	Rubber Tired Dozers	2	8.00	247	0.40

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Preparation and Grading	Tractors/Loaders/Backhoes	2	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	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
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

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
Demolition	4	10.00	0.00	285.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation and Grading	6	15.00	0.00	1,347.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	6	235.00	48.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	47.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 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					3.0809	0.0000	3.0809	0.4665	0.0000	0.4665			0.0000			0.0000
Off-Road	1.8917	18.3872	13.1278	0.0285		0.8459	0.8459		0.7885	0.7885		2,746.7727	2,746.7727	0.7259		2,764.9198
Total	**1.8917**	**18.3872**	**13.1278**	**0.0285**	**3.0809**	**0.8459**	**3.9268**	**0.4665**	**0.7885**	**1.2550**		**2,746.7727**	**2,746.7727**	**0.7259**		**2,764.9198**

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	0.0297	1.6982	0.5821	8.0000e-003	0.2485	0.0109	0.2595	0.0681	0.0105	0.0785		911.3596	911.3596	0.0920	0.1462	957.2241
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0282	0.0180	0.3062	9.4000e-004	0.1118	5.7000e-004	0.1124	0.0296	5.3000e-004	0.0302		96.5311	96.5311	2.1000e-003	2.0600e-003	97.1972
Total	**0.0579**	**1.7162**	**0.8883**	**8.9400e-003**	**0.3603**	**0.0115**	**0.3718**	**0.0977**	**0.0110**	**0.1087**		**1,007.8906**	**1,007.8906**	**0.0941**	**0.1483**	**1,054.4213**

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 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					1.3864	0.0000	1.3864	0.2099	0.0000	0.2099			0.0000			0.0000
Off-Road	0.6704	13.3995	16.8378	0.0285		0.6255	0.6255		0.6255	0.6255	0.0000	2,746.7727	2,746.7727	0.7259		2,764.9198
Total	**0.6704**	**13.3995**	**16.8378**	**0.0285**	**1.3864**	**0.6255**	**2.0119**	**0.2099**	**0.6255**	**0.8354**	**0.0000**	**2,746.7727**	**2,746.7727**	**0.7259**		**2,764.9198**

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	0.0297	1.6982	0.5821	8.0000e-003	0.2485	0.0109	0.2595	0.0681	0.0105	0.0785		911.3596	911.3596	0.0920	0.1462	957.2241
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0282	0.0180	0.3062	9.4000e-004	0.1118	5.7000e-004	0.1124	0.0296	5.3000e-004	0.0302		96.5311	96.5311	2.1000e-003	2.0600e-003	97.1972
Total	**0.0579**	**1.7162**	**0.8883**	**8.9400e-003**	**0.3603**	**0.0115**	**0.3718**	**0.0977**	**0.0110**	**0.1087**		**1,007.8906**	**1,007.8906**	**0.0941**	**0.1483**	**1,054.4213**

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation and 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					13.6698	0.0000	13.6698	6.7975	0.0000	6.7975			0.0000			0.0000
Off-Road	2.2442	23.5273	15.6257	0.0351		1.0200	1.0200		0.9384	0.9384		3,398.1152	3,398.1152	1.0990		3,425.5907
Total	**2.2442**	**23.5273**	**15.6257**	**0.0351**	**13.6698**	**1.0200**	**14.6898**	**6.7975**	**0.9384**	**7.7359**		**3,398.1152**	**3,398.1152**	**1.0990**		**3,425.5907**

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	0.0802	4.5865	1.5722	0.0216	0.6712	0.0295	0.7007	0.1838	0.0283	0.2121		2,461.3561	2,461.3561	0.2484	0.3948	2,585.2249
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0423	0.0270	0.4593	1.4100e-003	0.1677	8.6000e-004	0.1685	0.0445	7.9000e-004	0.0453		144.7966	144.7966	3.1400e-003	3.0900e-003	145.7958
Total	**0.1225**	**4.6135**	**2.0315**	**0.0230**	**0.8388**	**0.0304**	**0.8692**	**0.2283**	**0.0290**	**0.2573**		**2,606.1526**	**2,606.1526**	**0.2515**	**0.3979**	**2,731.0207**

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation and 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					6.1514	0.0000	6.1514	3.0589	0.0000	3.0589			0.0000			0.0000
Off-Road	0.8595	17.1480	21.1791	0.0351		0.7874	0.7874		0.7874	0.7874	0.0000	3,398.1152	3,398.1152	1.0990		3,425.5907
Total	**0.8595**	**17.1480**	**21.1791**	**0.0351**	**6.1514**	**0.7874**	**6.9387**	**3.0589**	**0.7874**	**3.8462**	**0.0000**	**3,398.1152**	**3,398.1152**	**1.0990**		**3,425.5907**

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	0.0802	4.5865	1.5722	0.0216	0.6712	0.0295	0.7007	0.1838	0.0283	0.2121		2,461.3561	2,461.3561	0.2484	0.3948	2,585.2249
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0423	0.0270	0.4593	1.4100e-003	0.1677	8.6000e-004	0.1685	0.0445	7.9000e-004	0.0453		144.7966	144.7966	3.1400e-003	3.0900e-003	145.7958
Total	**0.1225**	**4.6135**	**2.0315**	**0.0230**	**0.8388**	**0.0304**	**0.8692**	**0.2283**	**0.0290**	**0.2573**		**2,606.1526**	**2,606.1526**	**0.2515**	**0.3979**	**2,731.0207**

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.8800	8.9051	8.9443	0.0151		0.4500	0.4500		0.4140	0.4140		1,460.8182	1,460.8182	0.4725		1,472.6297
Total	**0.8800**	**8.9051**	**8.9443**	**0.0151**		**0.4500**	**0.4500**		**0.4140**	**0.4140**		**1,460.8182**	**1,460.8182**	**0.4725**		**1,472.6297**

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	0.0485	1.6822	0.6975	8.6300e-003	0.3069	8.6300e-003	0.3156	0.0883	8.2500e-003	0.0966		947.7570	947.7570	0.0564	0.1360	989.6911
Worker	0.6622	0.4236	7.1958	0.0222	2.6268	0.0134	2.6402	0.6966	0.0124	0.7090		2,268.4798	2,268.4798	0.0492	0.0484	2,284.1340
Total	**0.7106**	**2.1058**	**7.8932**	**0.0308**	**2.9337**	**0.0221**	**2.9557**	**0.7850**	**0.0206**	**0.8056**		**3,216.2368**	**3,216.2368**	**0.1056**	**0.1844**	**3,273.8251**

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.3700	8.0142	10.2713	0.0151		0.4845	0.4845		0.4845	0.4845	0.0000	1,460.8182	1,460.8182	0.4725		1,472.6297
Total	**0.3700**	**8.0142**	**10.2713**	**0.0151**		**0.4845**	**0.4845**		**0.4845**	**0.4845**	**0.0000**	**1,460.8182**	**1,460.8182**	**0.4725**		**1,472.6297**

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	0.0485	1.6822	0.6975	8.6300e-003	0.3069	8.6300e-003	0.3156	0.0883	8.2500e-003	0.0966		947.7570	947.7570	0.0564	0.1360	989.6911
Worker	0.6622	0.4236	7.1958	0.0222	2.6268	0.0134	2.6402	0.6966	0.0124	0.7090		2,268.4798	2,268.4798	0.0492	0.0484	2,284.1340
Total	**0.7106**	**2.1058**	**7.8932**	**0.0308**	**2.9337**	**0.0221**	**2.9557**	**0.7850**	**0.0206**	**0.8056**		**3,216.2368**	**3,216.2368**	**0.1056**	**0.1844**	**3,273.8251**

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.8247	8.2513	8.8831	0.0151		0.3970	0.3970		0.3652	0.3652		1,461.1407	1,461.1407	0.4726		1,472.9548
Total	**0.8247**	**8.2513**	**8.8831**	**0.0151**		**0.3970**	**0.3970**		**0.3652**	**0.3652**		**1,461.1407**	**1,461.1407**	**0.4726**		**1,472.9548**

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	0.0478	1.6773	0.6923	8.4800e-003	0.3069	9.0300e-003	0.3160	0.0883	8.6400e-003	0.0970		933.0545	933.0545	0.0569	0.1345	974.5439
Worker	0.6225	0.3806	6.7071	0.0215	2.6268	0.0128	2.6395	0.6966	0.0118	0.7084		2,213.9070	2,213.9070	0.0446	0.0453	2,228.5123
Total	**0.6702**	**2.0579**	**7.3993**	**0.0299**	**2.9337**	**0.0218**	**2.9555**	**0.7850**	**0.0204**	**0.8054**		**3,146.9616**	**3,146.9616**	**0.1016**	**0.1797**	**3,203.0562**

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.3700	8.0142	10.2713	0.0151		0.4845	0.4845		0.4845	0.4845	0.0000	1,461.1407	1,461.1407	0.4726		1,472.9548
Total	**0.3700**	**8.0142**	**10.2713**	**0.0151**		**0.4845**	**0.4845**		**0.4845**	**0.4845**	**0.0000**	**1,461.1407**	**1,461.1407**	**0.4726**		**1,472.9548**

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	0.0478	1.6773	0.6923	8.4800e-003	0.3069	9.0300e-003	0.3160	0.0883	8.6400e-003	0.0970		933.0545	933.0545	0.0569	0.1345	974.5439
Worker	0.6225	0.3806	6.7071	0.0215	2.6268	0.0128	2.6395	0.6966	0.0118	0.7084		2,213.9070	2,213.9070	0.0446	0.0453	2,228.5123
Total	**0.6702**	**2.0579**	**7.3993**	**0.0299**	**2.9337**	**0.0218**	**2.9555**	**0.7850**	**0.0204**	**0.8054**		**3,146.9616**	**3,146.9616**	**0.1016**	**0.1797**	**3,203.0562**

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2025

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	0.7656	7.5640	8.8226	0.0151		0.3440	0.3440		0.3164	0.3164		1,461.6632	1,461.6632	0.4727		1,473.4815
Total	**0.7656**	**7.5640**	**8.8226**	**0.0151**		**0.3440**	**0.3440**		**0.3164**	**0.3164**		**1,461.6632**	**1,461.6632**	**0.4727**		**1,473.4815**

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	0.0471	1.6690	0.6895	8.3100e-003	0.3069	9.0800e-003	0.3160	0.0883	8.6900e-003	0.0970		915.5868	915.5868	0.0577	0.1325	956.5106
Worker	0.5879	0.3450	6.3091	0.0207	2.6268	0.0122	2.6390	0.6966	0.0113	0.7079		2,159.7697	2,159.7697	0.0406	0.0426	2,173.4735
Total	**0.6349**	**2.0140**	**6.9986**	**0.0290**	**2.9337**	**0.0213**	**2.9550**	**0.7850**	**0.0200**	**0.8049**		**3,075.3566**	**3,075.3566**	**0.0982**	**0.1751**	**3,129.9841**

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2025

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	0.3700	8.0142	10.2713	0.0151		0.4845	0.4845		0.4845	0.4845	0.0000	1,461.6632	1,461.6632	0.4727		1,473.4815
Total	**0.3700**	**8.0142**	**10.2713**	**0.0151**		**0.4845**	**0.4845**		**0.4845**	**0.4845**	**0.0000**	**1,461.6632**	**1,461.6632**	**0.4727**		**1,473.4815**

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	0.0471	1.6690	0.6895	8.3100e-003	0.3069	9.0800e-003	0.3160	0.0883	8.6900e-003	0.0970		915.5868	915.5868	0.0577	0.1325	956.5106
Worker	0.5879	0.3450	6.3091	0.0207	2.6268	0.0122	2.6390	0.6966	0.0113	0.7079		2,159.7697	2,159.7697	0.0406	0.0426	2,173.4735
Total	**0.6349**	**2.0140**	**6.9986**	**0.0290**	**2.9337**	**0.0213**	**2.9550**	**0.7850**	**0.0200**	**0.8049**		**3,075.3566**	**3,075.3566**	**0.0982**	**0.1751**	**3,129.9841**

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 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	9.2697					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
Total	**9.4505**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1245	0.0761	1.3414	4.2900e-003	0.5254	2.5600e-003	0.5279	0.1393	2.3500e-003	0.1417		442.7814	442.7814	8.9300e-003	9.0500e-003	445.7025
Total	**0.1245**	**0.0761**	**1.3414**	**4.2900e-003**	**0.5254**	**2.5600e-003**	**0.5279**	**0.1393**	**2.3500e-003**	**0.1417**		**442.7814**	**442.7814**	**8.9300e-003**	**9.0500e-003**	**445.7025**

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 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	9.2697					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**9.3291**	**1.3570**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1245	0.0761	1.3414	4.2900e-003	0.5254	2.5600e-003	0.5279	0.1393	2.3500e-003	0.1417		442.7814	442.7814	8.9300e-003	9.0500e-003	445.7025
Total	**0.1245**	**0.0761**	**1.3414**	**4.2900e-003**	**0.5254**	**2.5600e-003**	**0.5279**	**0.1393**	**2.3500e-003**	**0.1417**		**442.7814**	**442.7814**	**8.9300e-003**	**9.0500e-003**	**445.7025**

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Architectural Coating - 2025

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	9.2697					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**9.4406**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1176	0.0690	1.2618	4.1500e-003	0.5254	2.4500e-003	0.5278	0.1393	2.2500e-003	0.1416		431.9540	431.9540	8.1100e-003	8.5200e-003	434.6947
Total	**0.1176**	**0.0690**	**1.2618**	**4.1500e-003**	**0.5254**	**2.4500e-003**	**0.5278**	**0.1393**	**2.2500e-003**	**0.1416**		**431.9540**	**431.9540**	**8.1100e-003**	**8.5200e-003**	**434.6947**

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Architectural Coating - 2025

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	9.2697					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**9.3291**	**1.3570**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1176	0.0690	1.2618	4.1500e-003	0.5254	2.4500e-003	0.5278	0.1393	2.2500e-003	0.1416		431.9540	431.9540	8.1100e-003	8.5200e-003	434.6947
Total	**0.1176**	**0.0690**	**1.2618**	**4.1500e-003**	**0.5254**	**2.4500e-003**	**0.5278**	**0.1393**	**2.2500e-003**	**0.1416**		**431.9540**	**431.9540**	**8.1100e-003**	**8.5200e-003**	**434.6947**

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2025

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.7100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6252**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**		**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0375	0.0220	0.4027	1.3200e-003	0.1677	7.8000e-004	0.1685	0.0445	7.2000e-004	0.0452		137.8576	137.8576	2.5900e-003	2.7200e-003	138.7324
Total	**0.0375**	**0.0220**	**0.4027**	**1.3200e-003**	**0.1677**	**7.8000e-004**	**0.1685**	**0.0445**	**7.2000e-004**	**0.0452**		**137.8576**	**137.8576**	**2.5900e-003**	**2.7200e-003**	**138.7324**

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2025

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	0.5609	11.2952	17.2957	0.0228		0.6093	0.6093		0.6093	0.6093	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.7100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2710**	**11.2952**	**17.2957**	**0.0228**		**0.6093**	**0.6093**		**0.6093**	**0.6093**	**0.0000**	**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0375	0.0220	0.4027	1.3200e-003	0.1677	7.8000e-004	0.1685	0.0445	7.2000e-004	0.0452		137.8576	137.8576	2.5900e-003	2.7200e-003	138.7324
Total	**0.0375**	**0.0220**	**0.4027**	**1.3200e-003**	**0.1677**	**7.8000e-004**	**0.1685**	**0.0445**	**7.2000e-004**	**0.0452**		**137.8576**	**137.8576**	**2.5900e-003**	**2.7200e-003**	**138.7324**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	2.7523	2.6898	27.1925	0.0647	7.3081	0.0434	7.3515	1.9479	0.0404	1.9883		6,758.1142	6,758.1142	0.3860	0.2597	6,845.1576
Unmitigated	2.7523	2.6898	27.1925	0.0647	7.3081	0.0434	7.3515	1.9479	0.0404	1.9883		6,758.1142	6,758.1142	0.3860	0.2597	6,845.1576

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	810.00	810.00	810.00	2,767,893	2,767,893
Medical Office Building	270.00	270.00	270.00	700,342	700,342
Parking Lot	0.00	0.00	0.00		
Total	1,080.00	1,080.00	1,080.00	3,468,235	3,468,235

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Congregate Care (Assisted	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Congregate Care (Assisted Living)	0.547453	0.060181	0.185039	0.126487	0.024236	0.006679	0.014707	0.004926	0.000662	0.000378	0.024745	0.000705	0.003801
Medical Office Building	0.547453	0.060181	0.185039	0.126487	0.024236	0.006679	0.014707	0.004926	0.000662	0.000378	0.024745	0.000705	0.003801
Parking Lot	0.547453	0.060181	0.185039	0.126487	0.024236	0.006679	0.014707	0.004926	0.000662	0.000378	0.024745	0.000705	0.003801

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	0.0844	0.7220	0.3148	4.6000e-003		0.0583	0.0583		0.0583	0.0583		920.3159	920.3159	0.0176	0.0169	925.7849
NaturalGas Unmitigated	0.0844	0.7220	0.3148	4.6000e-003		0.0583	0.0583		0.0583	0.0583		920.3159	920.3159	0.0176	0.0169	925.7849

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
Congregate Care (Assisted Living)	7636.73	0.0824	0.7038	0.2995	4.4900e-003		0.0569	0.0569		0.0569	0.0569		898.4384	898.4384	0.0172	0.0165	903.7773
Medical Office Building	185.959	2.0100e-003	0.0182	0.0153	1.1000e-004		1.3900e-003	1.3900e-003		1.3900e-003	1.3900e-003		21.8775	21.8775	4.2000e-004	4.0000e-004	22.0075
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
Total		**0.0844**	**0.7220**	**0.3148**	**4.6000e-003**		**0.0583**	**0.0583**		**0.0583**	**0.0583**		**920.3159**	**920.3159**	**0.0176**	**0.0169**	**925.7849**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
Congregate Care (Assisted Living)	7.63673	0.0824	0.7038	0.2995	4.4900e-003		0.0569	0.0569		0.0569	0.0569		898.4384	898.4384	0.0172	0.0165	903.7773
Medical Office Building	0.185959	2.0100e-003	0.0182	0.0153	1.1000e-004		1.3900e-003	1.3900e-003		1.3900e-003	1.3900e-003		21.8775	21.8775	4.2000e-004	4.0000e-004	22.0075
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
Total		**0.0844**	**0.7220**	**0.3148**	**4.6000e-003**		**0.0583**	**0.0583**		**0.0583**	**0.0583**		**920.3159**	**920.3159**	**0.0176**	**0.0169**	**925.7849**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

San Clemente Senior Housing - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	6.6583	3.9700	22.2266	0.0249		0.4162	0.4162		0.4162	0.4162	0.0000	4,801.9139	4,801.9139	0.1271	0.0874	4,831.1218
Unmitigated	71.7305	5.4247	147.7763	0.3254		19.2115	19.2115		19.2115	19.2115	2,341.7296	4,537.2080	6,878.9376	7.0192	0.1589	7,101.7826

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	0.4571					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.1427					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	65.5090	5.1871	127.1380	0.3243		19.0971	19.0971		19.0971	19.0971	2,341.7296	4,500.0000	6,841.7296	6.9835	0.1589	7,063.6810
Landscaping	0.6217	0.2377	20.6383	1.0900e-003		0.1145	0.1145		0.1145	0.1145		37.2080	37.2080	0.0358		38.1017
Total	**71.7305**	**5.4247**	**147.7763**	**0.3254**		**19.2115**	**19.2115**		**19.2115**	**19.2115**	**2,341.7296**	**4,537.2080**	**6,878.9376**	**7.0192**	**0.1589**	**7,101.7826**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.4571					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.1427					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.4368	3.7324	1.5882	0.0238		0.3018	0.3018		0.3018	0.3018	0.0000	4,764.7059	4,764.7059	0.0913	0.0874	4,793.0202
Landscaping	0.6217	0.2377	20.6383	1.0900e-003		0.1145	0.1145		0.1145	0.1145		37.2080	37.2080	0.0358		38.1017
Total	**6.6583**	**3.9700**	**22.2266**	**0.0249**		**0.4162**	**0.4162**		**0.4162**	**0.4162**	**0.0000**	**4,801.9139**	**4,801.9139**	**0.1271**	**0.0874**	**4,831.1218**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

San Clemente Senior Housing

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Medical Office Building	7.50	1000sqft	0.17	7,500.00	0
Parking Lot	312.00	Space	2.71	124,800.00	0
Congregate Care (Assisted Living)	250.00	Dwelling Unit	3.75	250,000.00	715

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total project site 6.63 acres

Construction Phase - Construction begins fall 2023 and would occur for 18-24 months, ending in 2025. Overlap of building construction and architectural coating.

Off-road Equipment -

Off-road Equipment - Based on equipment assumptions provided to LSA.

Off-road Equipment - Based on equipment assumptions provided to LSA.

Off-road Equipment - Based on equipment assumptions provided to LSA.

Off-road Equipment -

Off-road Equipment - Based on equipment assumptions provided to LSA.

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Demolition - Demolition of existing building

Grading - Project would cut 71,752 cubic yards of soil and fill 60,973 cubic yards of soil for a net total export of 10,779 cubic yards of soil.

Vehicle Trips - Based on 270 trips for medical office and 810 trips for assisted living

Construction Off-road Equipment Mitigation - Assuming use of Tier 3 construction equipment

Area Mitigation -

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
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	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	180.00
tblConstructionPhase	NumDays	230.00	360.00
tblConstructionPhase	NumDays	20.00	35.00
tblConstructionPhase	NumDays	20.00	10.00
tblGrading	MaterialExported	0.00	10,779.00
tblLandUse	LotAcreage	2.81	2.71
tblLandUse	LotAcreage	15.63	3.75
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblVehicleTrips	ST_TR	2.93	3.24
tblVehicleTrips	ST_TR	8.57	36.00
tblVehicleTrips	SU_TR	3.15	3.24
tblVehicleTrips	SU_TR	1.42	36.00
tblVehicleTrips	WD_TR	2.60	3.24
tblVehicleTrips	WD_TR	34.80	36.00

2.0 Emissions Summary

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	2.3659	28.3386	17.6431	0.0581	14.5086	1.0505	15.5591	7.0258	0.9675	7.9933	0.0000	5,999.5696	5,999.5696	1.3503	0.3985	6,152.0750
2024	11.1403	11.7237	18.9133	0.0511	3.4590	0.4823	3.9413	0.9243	0.4489	1.3732	0.0000	5,206.9151	5,206.9151	0.6002	0.1925	5,279.2916
2025	12.6938	19.5134	33.3616	0.0741	3.6267	0.8386	4.4653	0.9688	0.7760	1.7447	0.0000	7,466.3979	7,466.3979	1.3120	0.1900	7,555.8212
Maximum	**12.6938**	**28.3386**	**33.3616**	**0.0741**	**14.5086**	**1.0505**	**15.5591**	**7.0258**	**0.9675**	**7.9933**	**0.0000**	**7,466.3979**	**7,466.3979**	**1.3503**	**0.3985**	**7,555.8212**

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	1.1405	21.9593	23.1965	0.0581	6.9902	0.8178	7.8081	3.2871	0.8165	4.1036	0.0000	5,999.5696	5,999.5696	1.3503	0.3985	6,152.0750
2024	10.5643	11.6248	20.3237	0.0511	3.4590	0.6040	4.0630	0.9243	0.6024	1.5267	0.0000	5,206.9151	5,206.9151	0.6002	0.1925	5,279.2916
2025	11.8326	22.8887	37.5513	0.0741	3.6267	1.2135	4.8402	0.9688	1.2119	2.1806	0.0000	7,466.3979	7,466.3979	1.3120	0.1900	7,555.8212
Maximum	**11.8326**	**22.8887**	**37.5513**	**0.0741**	**6.9902**	**1.2135**	**7.8081**	**3.2871**	**1.2119**	**4.1036**	**0.0000**	**7,466.3979**	**7,466.3979**	**1.3503**	**0.3985**	**7,555.8212**

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	N20	CO2e
Percent Reduction	10.16	5.21	-15.95	0.00	34.82	-11.13	30.27	41.92	-19.99	29.70	0.00	0.00	0.00	0.00	0.00	0.00

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	71.7305	5.4247	147.7763	0.3254		19.2115	19.2115		19.2115	19.2115	2,341.7296	4,537.2080	6,878.9376	7.0192	0.1589	7,101.7826
Energy	0.0844	0.7220	0.3148	4.6000e-003		0.0583	0.0583		0.0583	0.0583		920.3159	920.3159	0.0176	0.0169	925.7849
Mobile	2.7312	2.8879	26.9521	0.0623	7.3081	0.0434	7.3515	1.9479	0.0404	1.9883		6,501.3642	6,501.3642	0.3984	0.2704	6,591.8865
Total	**74.5461**	**9.0347**	**175.0432**	**0.3923**	**7.3081**	**19.3133**	**26.6213**	**1.9479**	**19.3102**	**21.2581**	**2,341.7296**	**11,958.8880**	**14,300.6176**	**7.4353**	**0.4462**	**14,619.4540**

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	6.6583	3.9700	22.2266	0.0249		0.4162	0.4162		0.4162	0.4162	0.0000	4,801.9139	4,801.9139	0.1271	0.0874	4,831.1218
Energy	0.0844	0.7220	0.3148	4.6000e-003		0.0583	0.0583		0.0583	0.0583		920.3159	920.3159	0.0176	0.0169	925.7849
Mobile	2.7312	2.8879	26.9521	0.0623	7.3081	0.0434	7.3515	1.9479	0.0404	1.9883		6,501.3642	6,501.3642	0.3984	0.2704	6,591.8865
Total	**9.4738**	**7.5799**	**49.4935**	**0.0918**	**7.3081**	**0.5180**	**7.8260**	**1.9479**	**0.5149**	**2.4628**	**0.0000**	**12,223.5939**	**12,223.5939**	**0.5431**	**0.3746**	**12,348.7931**

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	N20	CO2e
Percent Reduction	87.29	16.10	71.72	76.61	0.00	97.32	70.60	0.00	97.33	88.41	100.00	-2.21	14.52	92.70	16.05	15.53

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/4/2023	9/29/2023	5	20	
2	Site Preparation and Grading	Grading	9/30/2023	11/17/2023	5	35	
3	Building Construction	Building Construction	11/20/2023	4/4/2025	5	360	
4	Architectural Coating	Architectural Coating	8/5/2024	4/11/2025	5	180	
5	Paving	Paving	3/22/2025	4/4/2025	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 52.5

Acres of Paving: 2.71

Residential Indoor: 506,250; Residential Outdoor: 168,750; Non-Residential Indoor: 11,250; Non-Residential Outdoor: 3,750; Striped Parking Area: 7,488 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation and Grading	Excavators	1	8.00	158	0.38
Site Preparation and Grading	Graders	1	8.00	187	0.41
Site Preparation and Grading	Rubber Tired Dozers	2	8.00	247	0.40

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Preparation and Grading	Tractors/Loaders/Backhoes	2	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	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
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

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
Demolition	4	10.00	0.00	285.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation and Grading	6	15.00	0.00	1,347.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	6	235.00	48.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	47.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 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					3.0809	0.0000	3.0809	0.4665	0.0000	0.4665			0.0000			0.0000
Off-Road	1.8917	18.3872	13.1278	0.0285		0.8459	0.8459		0.7885	0.7885		2,746.7727	2,746.7727	0.7259		2,764.9198
Total	**1.8917**	**18.3872**	**13.1278**	**0.0285**	**3.0809**	**0.8459**	**3.9268**	**0.4665**	**0.7885**	**1.2550**		**2,746.7727**	**2,746.7727**	**0.7259**		**2,764.9198**

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	0.0280	1.7705	0.5885	8.0000e-003	0.2485	0.0110	0.2595	0.0681	0.0105	0.0785		912.1833	912.1833	0.0919	0.1463	958.0854
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0308	0.0198	0.2853	9.0000e-004	0.1118	5.7000e-004	0.1124	0.0296	5.3000e-004	0.0302		91.9157	91.9157	2.1500e-003	2.1900e-003	92.6223
Total	**0.0587**	**1.7903**	**0.8738**	**8.9000e-003**	**0.3603**	**0.0115**	**0.3718**	**0.0977**	**0.0110**	**0.1087**		**1,004.0990**	**1,004.0990**	**0.0940**	**0.1485**	**1,050.7077**

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 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					1.3864	0.0000	1.3864	0.2099	0.0000	0.2099			0.0000			0.0000
Off-Road	0.6704	13.3995	16.8378	0.0285		0.6255	0.6255		0.6255	0.6255	0.0000	2,746.7727	2,746.7727	0.7259		2,764.9198
Total	**0.6704**	**13.3995**	**16.8378**	**0.0285**	**1.3864**	**0.6255**	**2.0119**	**0.2099**	**0.6255**	**0.8354**	**0.0000**	**2,746.7727**	**2,746.7727**	**0.7259**		**2,764.9198**

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	0.0280	1.7705	0.5885	8.0000e-003	0.2485	0.0110	0.2595	0.0681	0.0105	0.0785		912.1833	912.1833	0.0919	0.1463	958.0854
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0308	0.0198	0.2853	9.0000e-004	0.1118	5.7000e-004	0.1124	0.0296	5.3000e-004	0.0302		91.9157	91.9157	2.1500e-003	2.1900e-003	92.6223
Total	**0.0587**	**1.7903**	**0.8738**	**8.9000e-003**	**0.3603**	**0.0115**	**0.3718**	**0.0977**	**0.0110**	**0.1087**		**1,004.0990**	**1,004.0990**	**0.0940**	**0.1485**	**1,050.7077**

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation and 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					13.6698	0.0000	13.6698	6.7975	0.0000	6.7975			0.0000			0.0000
Off-Road	2.2442	23.5273	15.6257	0.0351		1.0200	1.0200		0.9384	0.9384		3,398.1152	3,398.1152	1.0990		3,425.5907
Total	**2.2442**	**23.5273**	**15.6257**	**0.0351**	**13.6698**	**1.0200**	**14.6898**	**6.7975**	**0.9384**	**7.7359**		**3,398.1152**	**3,398.1152**	**1.0990**		**3,425.5907**

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	0.0755	4.7816	1.5895	0.0216	0.6712	0.0296	0.7008	0.1838	0.0283	0.2121		2,463.5809	2,463.5809	0.2481	0.3952	2,587.5509
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0462	0.0297	0.4279	1.3500e-003	0.1677	8.6000e-004	0.1685	0.0445	7.9000e-004	0.0453		137.8735	137.8735	3.2200e-003	3.2900e-003	138.9334
Total	**0.1217**	**4.8113**	**2.0173**	**0.0230**	**0.8388**	**0.0305**	**0.8693**	**0.2283**	**0.0291**	**0.2574**		**2,601.4544**	**2,601.4544**	**0.2513**	**0.3985**	**2,726.4843**

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation and 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					6.1514	0.0000	6.1514	3.0589	0.0000	3.0589			0.0000			0.0000
Off-Road	0.8595	17.1480	21.1791	0.0351		0.7874	0.7874		0.7874	0.7874	0.0000	3,398.1152	3,398.1152	1.0990		3,425.5907
Total	**0.8595**	**17.1480**	**21.1791**	**0.0351**	**6.1514**	**0.7874**	**6.9387**	**3.0589**	**0.7874**	**3.8462**	**0.0000**	**3,398.1152**	**3,398.1152**	**1.0990**		**3,425.5907**

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	0.0755	4.7816	1.5895	0.0216	0.6712	0.0296	0.7008	0.1838	0.0283	0.2121		2,463.5809	2,463.5809	0.2481	0.3952	2,587.5509
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0462	0.0297	0.4279	1.3500e-003	0.1677	8.6000e-004	0.1685	0.0445	7.9000e-004	0.0453		137.8735	137.8735	3.2200e-003	3.2900e-003	138.9334
Total	**0.1217**	**4.8113**	**2.0173**	**0.0230**	**0.8388**	**0.0305**	**0.8693**	**0.2283**	**0.0291**	**0.2574**		**2,601.4544**	**2,601.4544**	**0.2513**	**0.3985**	**2,726.4843**

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.8800	8.9051	8.9443	0.0151		0.4500	0.4500		0.4140	0.4140		1,460.8182	1,460.8182	0.4725		1,472.6297
Total	**0.8800**	**8.9051**	**8.9443**	**0.0151**		**0.4500**	**0.4500**		**0.4140**	**0.4140**		**1,460.8182**	**1,460.8182**	**0.4725**		**1,472.6297**

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	0.0468	1.7572	0.7197	8.6400e-003	0.3069	8.6900e-003	0.3156	0.0883	8.3100e-003	0.0966		949.1510	949.1510	0.0562	0.1363	991.1734
Worker	0.7237	0.4652	6.7033	0.0211	2.6268	0.0134	2.6402	0.6966	0.0124	0.7090		2,160.0177	2,160.0177	0.0504	0.0515	2,176.6236
Total	**0.7705**	**2.2224**	**7.4230**	**0.0298**	**2.9337**	**0.0221**	**2.9558**	**0.7850**	**0.0207**	**0.8056**		**3,109.1687**	**3,109.1687**	**0.1066**	**0.1878**	**3,167.7970**

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.3700	8.0142	10.2713	0.0151		0.4845	0.4845		0.4845	0.4845	0.0000	1,460.8182	1,460.8182	0.4725		1,472.6297
Total	**0.3700**	**8.0142**	**10.2713**	**0.0151**		**0.4845**	**0.4845**		**0.4845**	**0.4845**	**0.0000**	**1,460.8182**	**1,460.8182**	**0.4725**		**1,472.6297**

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	0.0468	1.7572	0.7197	8.6400e-003	0.3069	8.6900e-003	0.3156	0.0883	8.3100e-003	0.0966		949.1510	949.1510	0.0562	0.1363	991.1734
Worker	0.7237	0.4652	6.7033	0.0211	2.6268	0.0134	2.6402	0.6966	0.0124	0.7090		2,160.0177	2,160.0177	0.0504	0.0515	2,176.6236
Total	**0.7705**	**2.2224**	**7.4230**	**0.0298**	**2.9337**	**0.0221**	**2.9558**	**0.7850**	**0.0207**	**0.8056**		**3,109.1687**	**3,109.1687**	**0.1066**	**0.1878**	**3,167.7970**

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.8247	8.2513	8.8831	0.0151		0.3970	0.3970		0.3652	0.3652		1,461.1407	1,461.1407	0.4726		1,472.9548
Total	**0.8247**	**8.2513**	**8.8831**	**0.0151**		**0.3970**	**0.3970**		**0.3652**	**0.3652**		**1,461.1407**	**1,461.1407**	**0.4726**		**1,472.9548**

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	0.0461	1.7522	0.7141	8.4900e-003	0.3069	9.0800e-003	0.3160	0.0883	8.6900e-003	0.0970		934.4607	934.4607	0.0568	0.1348	976.0366
Worker	0.6826	0.4179	6.2550	0.0204	2.6268	0.0128	2.6395	0.6966	0.0118	0.7084		2,108.2213	2,108.2213	0.0458	0.0482	2,123.7134
Total	**0.7286**	**2.1701**	**6.9691**	**0.0289**	**2.9337**	**0.0219**	**2.9555**	**0.7850**	**0.0205**	**0.8054**		**3,042.6820**	**3,042.6820**	**0.1026**	**0.1829**	**3,099.7499**

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.3700	8.0142	10.2713	0.0151		0.4845	0.4845		0.4845	0.4845	0.0000	1,461.1407	1,461.1407	0.4726		1,472.9548
Total	**0.3700**	**8.0142**	**10.2713**	**0.0151**		**0.4845**	**0.4845**		**0.4845**	**0.4845**	**0.0000**	**1,461.1407**	**1,461.1407**	**0.4726**		**1,472.9548**

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	0.0461	1.7522	0.7141	8.4900e-003	0.3069	9.0800e-003	0.3160	0.0883	8.6900e-003	0.0970		934.4607	934.4607	0.0568	0.1348	976.0366
Worker	0.6826	0.4179	6.2550	0.0204	2.6268	0.0128	2.6395	0.6966	0.0118	0.7084		2,108.2213	2,108.2213	0.0458	0.0482	2,123.7134
Total	**0.7286**	**2.1701**	**6.9691**	**0.0289**	**2.9337**	**0.0219**	**2.9555**	**0.7850**	**0.0205**	**0.8054**		**3,042.6820**	**3,042.6820**	**0.1026**	**0.1829**	**3,099.7499**

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2025

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	0.7656	7.5640	8.8226	0.0151		0.3440	0.3440		0.3164	0.3164		1,461.6632	1,461.6632	0.4727		1,473.4815
Total	**0.7656**	**7.5640**	**8.8226**	**0.0151**		**0.3440**	**0.3440**		**0.3164**	**0.3164**		**1,461.6632**	**1,461.6632**	**0.4727**		**1,473.4815**

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	0.0454	1.7438	0.7108	8.3200e-003	0.3069	9.1300e-003	0.3160	0.0883	8.7300e-003	0.0971		916.9965	916.9965	0.0575	0.1328	958.0049
Worker	0.6466	0.3786	5.8877	0.0197	2.6268	0.0122	2.6390	0.6966	0.0113	0.7079		2,056.8791	2,056.8791	0.0417	0.0453	2,071.4143
Total	**0.6919**	**2.1224**	**6.5986**	**0.0281**	**2.9337**	**0.0214**	**2.9550**	**0.7850**	**0.0200**	**0.8050**		**2,973.8755**	**2,973.8755**	**0.0992**	**0.1781**	**3,029.4192**

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2025

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	0.3700	8.0142	10.2713	0.0151		0.4845	0.4845		0.4845	0.4845	0.0000	1,461.6632	1,461.6632	0.4727		1,473.4815
Total	**0.3700**	**8.0142**	**10.2713**	**0.0151**		**0.4845**	**0.4845**		**0.4845**	**0.4845**	**0.0000**	**1,461.6632**	**1,461.6632**	**0.4727**		**1,473.4815**

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	0.0454	1.7438	0.7108	8.3200e-003	0.3069	9.1300e-003	0.3160	0.0883	8.7300e-003	0.0971		916.9965	916.9965	0.0575	0.1328	958.0049
Worker	0.6466	0.3786	5.8877	0.0197	2.6268	0.0122	2.6390	0.6966	0.0113	0.7079		2,056.8791	2,056.8791	0.0417	0.0453	2,071.4143
Total	**0.6919**	**2.1224**	**6.5986**	**0.0281**	**2.9337**	**0.0214**	**2.9550**	**0.7850**	**0.0200**	**0.8050**		**2,973.8755**	**2,973.8755**	**0.0992**	**0.1781**	**3,029.4192**

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 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	9.2697					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
Total	**9.4505**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1365	0.0836	1.2510	4.0900e-003	0.5254	2.5600e-003	0.5279	0.1393	2.3500e-003	0.1417		421.6443	421.6443	9.1600e-003	9.6300e-003	424.7427
Total	**0.1365**	**0.0836**	**1.2510**	**4.0900e-003**	**0.5254**	**2.5600e-003**	**0.5279**	**0.1393**	**2.3500e-003**	**0.1417**		**421.6443**	**421.6443**	**9.1600e-003**	**9.6300e-003**	**424.7427**

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 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	9.2697					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**9.3291**	**1.3570**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1365	0.0836	1.2510	4.0900e-003	0.5254	2.5600e-003	0.5279	0.1393	2.3500e-003	0.1417		421.6443	421.6443	9.1600e-003	9.6300e-003	424.7427
Total	**0.1365**	**0.0836**	**1.2510**	**4.0900e-003**	**0.5254**	**2.5600e-003**	**0.5279**	**0.1393**	**2.3500e-003**	**0.1417**		**421.6443**	**421.6443**	**9.1600e-003**	**9.6300e-003**	**424.7427**

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Architectural Coating - 2025

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	9.2697					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**9.4406**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1293	0.0757	1.1776	3.9500e-003	0.5254	2.4500e-003	0.5278	0.1393	2.2500e-003	0.1416		411.3758	411.3758	8.3300e-003	9.0600e-003	414.2829
Total	**0.1293**	**0.0757**	**1.1776**	**3.9500e-003**	**0.5254**	**2.4500e-003**	**0.5278**	**0.1393**	**2.2500e-003**	**0.1416**		**411.3758**	**411.3758**	**8.3300e-003**	**9.0600e-003**	**414.2829**

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Architectural Coating - 2025

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	9.2697					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**9.3291**	**1.3570**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1293	0.0757	1.1776	3.9500e-003	0.5254	2.4500e-003	0.5278	0.1393	2.2500e-003	0.1416		411.3758	411.3758	8.3300e-003	9.0600e-003	414.2829
Total	**0.1293**	**0.0757**	**1.1776**	**3.9500e-003**	**0.5254**	**2.4500e-003**	**0.5278**	**0.1393**	**2.2500e-003**	**0.1416**		**411.3758**	**411.3758**	**8.3300e-003**	**9.0600e-003**	**414.2829**

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2025

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.7100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6252**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**		**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0413	0.0242	0.3758	1.2600e-003	0.1677	7.8000e-004	0.1685	0.0445	7.2000e-004	0.0452		131.2902	131.2902	2.6600e-003	2.8900e-003	132.2179
Total	**0.0413**	**0.0242**	**0.3758**	**1.2600e-003**	**0.1677**	**7.8000e-004**	**0.1685**	**0.0445**	**7.2000e-004**	**0.0452**		**131.2902**	**131.2902**	**2.6600e-003**	**2.8900e-003**	**132.2179**

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2025

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	0.5609	11.2952	17.2957	0.0228		0.6093	0.6093		0.6093	0.6093	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.7100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2710**	**11.2952**	**17.2957**	**0.0228**		**0.6093**	**0.6093**		**0.6093**	**0.6093**	**0.0000**	**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0413	0.0242	0.3758	1.2600e-003	0.1677	7.8000e-004	0.1685	0.0445	7.2000e-004	0.0452		131.2902	131.2902	2.6600e-003	2.8900e-003	132.2179
Total	**0.0413**	**0.0242**	**0.3758**	**1.2600e-003**	**0.1677**	**7.8000e-004**	**0.1685**	**0.0445**	**7.2000e-004**	**0.0452**		**131.2902**	**131.2902**	**2.6600e-003**	**2.8900e-003**	**132.2179**

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	2.7312	2.8879	26.9521	0.0623	7.3081	0.0434	7.3515	1.9479	0.0404	1.9883		6,501.3642	6,501.3642	0.3984	0.2704	6,591.8865
Unmitigated	2.7312	2.8879	26.9521	0.0623	7.3081	0.0434	7.3515	1.9479	0.0404	1.9883		6,501.3642	6,501.3642	0.3984	0.2704	6,591.8865

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	810.00	810.00	810.00	2,767,893	2,767,893
Medical Office Building	270.00	270.00	270.00	700,342	700,342
Parking Lot	0.00	0.00	0.00		
Total	1,080.00	1,080.00	1,080.00	3,468,235	3,468,235

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Congregate Care (Assisted	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Congregate Care (Assisted Living)	0.547453	0.060181	0.185039	0.126487	0.024236	0.006679	0.014707	0.004926	0.000662	0.000378	0.024745	0.000705	0.003801
Medical Office Building	0.547453	0.060181	0.185039	0.126487	0.024236	0.006679	0.014707	0.004926	0.000662	0.000378	0.024745	0.000705	0.003801
Parking Lot	0.547453	0.060181	0.185039	0.126487	0.024236	0.006679	0.014707	0.004926	0.000662	0.000378	0.024745	0.000705	0.003801

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	0.0844	0.7220	0.3148	4.6000e-003		0.0583	0.0583		0.0583	0.0583		920.3159	920.3159	0.0176	0.0169	925.7849
NaturalGas Unmitigated	0.0844	0.7220	0.3148	4.6000e-003		0.0583	0.0583		0.0583	0.0583		920.3159	920.3159	0.0176	0.0169	925.7849

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
Congregate Care (Assisted Living)	7636.73	0.0824	0.7038	0.2995	4.4900e-003		0.0569	0.0569		0.0569	0.0569		898.4384	898.4384	0.0172	0.0165	903.7773
Medical Office Building	185.959	2.0100e-003	0.0182	0.0153	1.1000e-004		1.3900e-003	1.3900e-003		1.3900e-003	1.3900e-003		21.8775	21.8775	4.2000e-004	4.0000e-004	22.0075
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
Total		**0.0844**	**0.7220**	**0.3148**	**4.6000e-003**		**0.0583**	**0.0583**		**0.0583**	**0.0583**		**920.3159**	**920.3159**	**0.0176**	**0.0169**	**925.7849**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
Congregate Care (Assisted Living)	7.63673	0.0824	0.7038	0.2995	4.4900e-003		0.0569	0.0569		0.0569	0.0569		898.4384	898.4384	0.0172	0.0165	903.7773
Medical Office Building	0.185959	2.0100e-003	0.0182	0.0153	1.1000e-004		1.3900e-003	1.3900e-003		1.3900e-003	1.3900e-003		21.8775	21.8775	4.2000e-004	4.0000e-004	22.0075
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
Total		**0.0844**	**0.7220**	**0.3148**	**4.6000e-003**		**0.0583**	**0.0583**		**0.0583**	**0.0583**		**920.3159**	**920.3159**	**0.0176**	**0.0169**	**925.7849**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	6.6583	3.9700	22.2266	0.0249		0.4162	0.4162		0.4162	0.4162	0.0000	4,801.9139	4,801.9139	0.1271	0.0874	4,831.1218
Unmitigated	71.7305	5.4247	147.7763	0.3254		19.2115	19.2115		19.2115	19.2115	2,341.7296	4,537.2080	6,878.9376	7.0192	0.1589	7,101.7826

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	0.4571					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.1427					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	65.5090	5.1871	127.1380	0.3243		19.0971	19.0971		19.0971	19.0971	2,341.7296	4,500.0000	6,841.7296	6.9835	0.1589	7,063.6810
Landscaping	0.6217	0.2377	20.6383	1.0900e-003		0.1145	0.1145		0.1145	0.1145		37.2080	37.2080	0.0358		38.1017
Total	**71.7305**	**5.4247**	**147.7763**	**0.3254**		**19.2115**	**19.2115**		**19.2115**	**19.2115**	**2,341.7296**	**4,537.2080**	**6,878.9376**	**7.0192**	**0.1589**	**7,101.7826**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.4571					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.1427					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.4368	3.7324	1.5882	0.0238		0.3018	0.3018		0.3018	0.3018	0.0000	4,764.7059	4,764.7059	0.0913	0.0874	4,793.0202
Landscaping	0.6217	0.2377	20.6383	1.0900e-003		0.1145	0.1145		0.1145	0.1145		37.2080	37.2080	0.0358		38.1017
Total	**6.6583**	**3.9700**	**22.2266**	**0.0249**		**0.4162**	**0.4162**		**0.4162**	**0.4162**	**0.0000**	**4,801.9139**	**4,801.9139**	**0.1271**	**0.0874**	**4,831.1218**

7.0 Water Detail

7.1 Mitigation Measures Water

San Clemente Senior Housing - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation