



Rancho Diamante (Tentative Tract Map No. 36841)

GREENHOUSE GAS ANALYSIS

CITY OF HEMET

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REDUCTION LEVELS (ANNUAL)..... 40

LIST OF ABBREVIATED TERMS

(1)	Reference
APS	Alternative Planning Organizations
ARB	California Air Resources Board
CAA	Federal Clean Air Act
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resource Board
CAT	Climate Action Team
CBSC	California Building Standards Commission
CEC	California Energy Commission
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFC	Chlorofluorocarbons
CFR	Code of Federal Regulations
CH ₄	Methane
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
CPUC	California Public Utilities Commission
EPA	Environmental Protection Agency
EPS	Emission Performance Standard
GCC	Global Climate Change
GHGA	Greenhouse Gas Analysis
GWP	Global Warming Potential
HFC	Hydrofluorocarbons
LCA	Life-Cycle Analysis
MMs	Mitigation Measures
MMTCO ₂ e	Million Metric Ton of Carbon Dioxide Equivalent
MPOs	Metropolitan Planning Organizations
MTCO ₂ e	Metric Ton of Carbon Dioxide Equivalent
N ₂ O	Nitrogen Dioxide
NIOSH	National Institute for Occupational Safety and Health
NO _x	Oxides of Nitrogen
PFC	Perfluorocarbons
PM ₁₀	Particulate Matter 10 microns in diameter or less

PM _{2.5}	Particulate Matter 2.5 microns in diameter or less
PPM	Parts Per Million
Project	Rancho Diamante (Tentative Tract Map No. 36841)
RTP	Regional Transportation Plan
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategies
UNFCCC	United Nations' Framework Convention on Climate Change
VOC	Volatile Organic Compounds
WRCOG	Western Riverside Council of Governments

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EXECUTIVE SUMMARY

The City of Hemet has not adopted its own numeric threshold of significance for determining impacts with respect to greenhouse gas (GHG) emissions. However, the City of Hemet is a participant of the Western Riverside Council of Governments (WRCOG). WRCOG, in coordination with its member agencies has prepared a Climate Action Plan (CAP). The WRCOG’s CAP identifies an emissions reduction targets of 15% below 2010 levels by 2020 for the City of Riverside and other cities within the sub region.

As shown on Table ES-1, the proposed project’s emissions for the baseline year would be 19,215.39 MTCO₂e per year and the project’s 2030 emissions would be 17,518.95 MTCO₂e per year. This yields a reduction of approximately 8.83% which does not satisfy the project reduction target of 15%.

TABLE ES-1: 2010 VS TOTAL PROJECT YEAR 2020 GREENHOUSE GAS EMISSIONS REDUCTION LEVELS (WITHOUT PROJECT DESIGN FEATURES)

Emission Source	CO ₂ e Emissions Levels by Year (Metric Tons Per Year)	
	2010	2020
Residential		
Annual Construction-related emissions amortized over 30 years	564.48	564.48
Area	152.25	152.19
Energy Use	2,604.62	2,604.62
Mobile Sources	10,107.92	8,968.22
Waste	346.81	346.81
Water Usage	297.46	297.46
Total	14,130.40	12,933.78
Commercial		
Annual Construction-related emissions amortized over 30 years	21.84	21.84
Area	2.65E-03	2.65E-03
Energy Use	544.39	415.78
Mobile Sources	4,408.91	4,037.70
Waste	52.80	52.80
Water Usage	57.05	57.05
Total	5,084.99	4,585.17
Total (Residential + Commercial)	19,215.39	17,518.95
Reduction over 2020 BAU	8.83%	
Project Minimum Improvement	15%	
Meets Requirement?	NO	

As shown on Table ES-2, the project’s 2030 emissions would be 16,026.65 MTCO₂e per year after implementation of Project Design Features. This yields a reduction of approximately 16.59% which satisfies the project reduction target of 15%.

**TABLE ES-2: 2010 VS TOTAL PROJECT YEAR 2020 GREENHOUSE GAS EMISSIONS
REDUCTION LEVELS (WITH PROJECT DESIGN FEATURES)**

Emission Source	CO ₂ e Emissions Levels by Year (Metric Tons Per Year)	
	2010	2020
Residential		
Annual Construction-related emissions amortized over 30 years	564.48	564.48
Area	152.25	10.15
Energy Use	2,604.62	2,098.81
Mobile Sources	10,107.92	8,420.74
Waste	346.81	173.41
Water Usage	297.46	276.01
Total	14,130.40	11,543.60
Commercial		
Annual Construction-related emissions amortized over 30 years	21.84	21.84
Area	2.65E-03	2.65E-03
Energy Use	544.39	368.75
Mobile Sources	4,408.91	4,013.04
Waste	52.80	26.40
Water Usage	57.05	53.02
Total	5,084.99	4,483.05
Total (Residential + Commercial)	19,215.39	16,026.65
Reduction over 2020 BAU	16.59%	
Project Minimum Improvement	15%	
Meets Requirement?	YES	

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1 INTRODUCTION

This report presents the results of the greenhouse gas analysis (GHGA) prepared by Urban Crossroads, Inc., for the proposed Rancho Diamante (Tentative Tract Map No. 36841) (referred to as “Project”).

The purpose of this GHGA is to evaluate Project-related construction and operational emissions and determine the level of greenhouse gas (GHG) impacts as a result of constructing and operating the proposed Project.

1.1 SITE LOCATION

The proposed Rancho Diamante (Tentative Tract Map No. 36841) Project is located on the southwest corner of Warren Road and the new Stetson Avenue extension in the City of Hemet, as shown on Exhibit 1-A. State Route 79 (SR-79) is located approximately 1.75 miles west of the Project site, and State Route 74 (SR-74) is located roughly 1.5 miles to the north of the Project site. Existing residential land uses in the Project study area are located north on Stetson Avenue, east of Warren Road, and west on California Avenue. Agriculture land uses are located south of the Project site on Warren Road. The Hemet-Ryan Airport is located approximately 0.5 miles northeast of the Project site on Stetson Avenue. An existing Burlington Northern Santa Fe (BNSF) railroad line is located north of the Project site adjacent to the future Stetson Avenue extension.

1.2 PROJECT DESCRIPTION

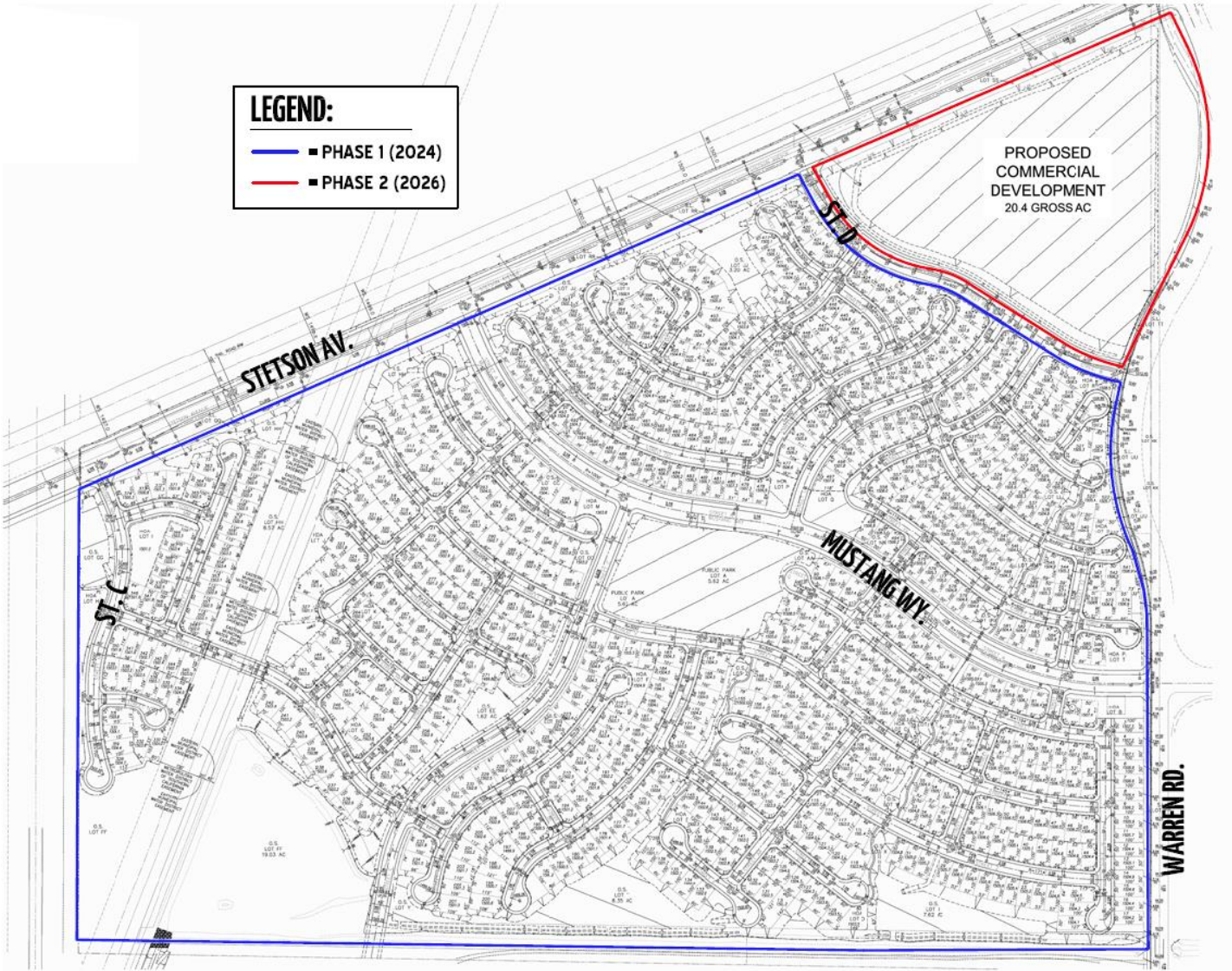
The Project is proposed to include the development of up to 588 single-family detached residential dwelling units and approximately 100,000 square feet of neighborhood commercial retail use, as shown on Exhibit 1-B. For the purposes of this analysis, potential impacts have been assessed for two development phases. The two phases and their anticipated opening years are as follows:

- Phase 1 (2024) – 588 single-family residential dwelling units;
- Phase 2 (2026) – 100,000 square feet of neighborhood retail.

EXHIBIT 1-A: LOCATION MAP



EXHIBIT 1-B: SITE PLAN



1.3 CONSISTENCY WITH AB 32

AB 32 requires California to reduce its GHG to 1990 levels by 2020. CARB identified reduction measures to achieve this goal as set forth in the CARB Scoping Plan (1). Thus, projects that are consistent with the CARB Scoping Plan are also consistent with the reduction targets required by AB 32.

The proposed Project would generate GHG emissions from a variety of sources which would all emit CO₂, CH₄ and N₂O. GHGs could also be indirectly generated by incremental electricity consumption and waste generation from the proposed Project.

As stated previously, the Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32. The Scoping Plan recommendations serve as statewide strategies to reduce the state’s existing GHG emissions and proposed Project’s contributions. Table 1-1: Project Consistency with Scoping Plan Greenhouse Gas Emissions Reduction Strategies, highlights measures that have or will be developed under the Scoping Plan and that would be applicable to the Project. Therefore, the Project will not conflict with or obstruct implementation of AB 32.

TABLE 1-1: PROJECT CONSISTENCY WITH SCOPING PLAN GREENHOUSE GAS EMISSION REDUCTION STRATEGIES

Scoping Plan Measure	Measure Number	Project Consistency
Pavley Motor Vehicle Standards (AB 1493)	T-1	The project’s residences would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
Limit High GWP Use in Consumer Products	H-4	The project’s residences would use consumer products that would comply with the regulations that are in effect at the time of manufacture.
Motor Vehicle Air Conditioning Systems – Reduction from Non-Professional Servicing	H-1	The project’s employees and residences would be prohibited from performing air conditioning repairs and required to use professional servicing.
Tire Pressure Program	T-4	Motor vehicles driven by the project’s residences would maintain proper tire pressure when their vehicles are serviced.
Low Carbon Fuel Standard	T-2	Motor vehicles driven by project’s residences would use compliant fuels in the future.
Water Use Efficiency	W-1	The project includes measures to minimize water use and maximize efficiency.
Green Buildings	GB-1	The project will be required to be constructed in compliance with state or local green building standards in effect at the time of building construction.
Air Conditioning Refrigerant Leak Test During Vehicle Smog Check	H-5	Motor vehicles driven by the project’s residences would comply with the leak test requirements during smog checks.
Renewable Portfolios Standard (33% by 2020)	E-3	The electricity used by residences in the proposed project will benefit from reduced GHG emissions resulting from increased use of renewable energy sources.

Scoping Plan Measure	Measure Number	Project Consistency
Energy Efficiency Measures (Electricity)	E-1	The project will comply with energy efficiency standards for electrical appliances and other devices at the time of building construction.
Energy Efficiency (Natural Gas)	CR-1	The project will comply with energy efficiency standards for natural gas appliances and other devices at the time of building construction.
Greening New Residential and Commercial Construction	GB-1	The project's buildings would meet green building standards that are in effect at the time of design and construction.
Greening Existing Homes and Commercial Buildings	GB-1	The proposed project's buildings would meet retrofit standards when they become effective.

1.4 REGULATORY REQUIREMENTS

The Project would be required to comply with all mandates imposed by the State of California and the South Coast Air Quality Management District aimed at the reduction of air quality emissions. Those that are applicable to the Project and that would assist in the reduction of greenhouse gas emissions are:

- Global Warming Solutions Act of 2006 (AB32) (1)
- Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies (SB 375) (2)
- Pavley Fuel Efficiency Standards (AB1493). Establishes fuel efficiency ratings for new vehicles (3).
- Title 24 California Code of Regulations (California Building Code). Establishes energy efficiency requirements for new construction (4).
- Title 20 California Code of Regulations (Appliance Energy Efficiency Standards). Establishes energy efficiency requirements for appliances (5).
- California Water Conservation in Landscaping Act of 2006 (AB1881). Requires local agencies to adopt the Department of Water Resources updated Water Efficient Landscape Ordinance or equivalent by January 1, 2010 to ensure efficient landscapes in new development and reduced water waste in existing landscapes (6).
- Statewide Retail Provider Emissions Performance Standards (SB 1368). Requires energy generators to achieve performance standards for GHG emissions (7).
- Renewable Portfolio Standards (SB 1078). Requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20 percent by 2010 and 33 percent by 2020 (8).
- Senate Bill 32 (SB 32). Requires the state to reduce statewide greenhouse gas emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15 (10) (11).

Promulgated regulations that will affect the Project's emissions are accounted for in the Project's GHG calculations provided in this report. In particular, the Pavley Standards, Low Carbon Fuel Standards, and Renewable Portfolio Standards (RPS) will be in effect for the AB 32 target year of 2020, and therefore are accounted for in the Project's emission calculations.

1.5 PROJECT DESIGN FEATURES

Energy-saving and sustainable design features and operational programs would be incorporated into facilities developed pursuant to the Rancho Diamante (Tentative Tract Map No. 36841). The Project also incorporates and expresses the following design features and attributes promoting energy efficiency and sustainability. Because these features/attributes are integral to the Project, and/or are regulatory requirements, they are not considered to be mitigation measures.

- Regional vehicle miles traveled (VMT) and associated vehicular-source emissions are reduced by the following Project design features/attributes:
 - Pedestrian connections shall be provided to surrounding areas consistent with the City's General Plan. Providing a pedestrian access network to link areas of the Project site encourages people to walk instead of drive. The Project would provide a pedestrian access network that internally links all uses and connects to all existing or planned external streets and pedestrian facilities contiguous with the project site. The Project would minimize barriers to pedestrian access and interconnectivity.
 - The Project's proposed collocation of varied residential, park, and open spaces within ¼ mile proximity together with supporting amenities would tend to decrease the propensity for vehicle travel for local residents.
- Design Building Components to Meet 2019 Title 24 Standards. The project will design building shells and building components, such as windows; roof systems: electrical and lighting systems: and heating, ventilating, and air conditioning systems to meet 2019 Title 24 Standards which expects 30% less energy use due to lighting upgrades.
- To reduce water demands and associated energy use, subsequent development proposals within the Project site would be required to implement a Water Conservation Strategy and demonstrate a minimum 25% reduction in water usage when compared to baseline water demand (total expected water demand without implementation of the Water Conservation Strategy). The 25% reduction in water usage is a goal of the City of Hemet through implementation of Emergency Order 2014-0718-01E¹.
- In order to reduce the amount of waste disposed at landfills, the Project would be required to implement a 50% waste diversion as required by AB 939.

1.6 CONSTRUCTION AND OPERATIONAL-SOURCE MITIGATION MEASURES

The Project Air Quality Impact Analysis (AQIA) establishes construction activity mitigation measures that would globally reduce air pollutant emissions generated by subsequent development proposals within the Project site. Although these measures could act to reduce GHG emissions, there is insufficient data to support any reductions associated with the construction activity mitigation measures identified in the AQIA. Thus, as a conservative measure no reduction in GHG emissions are taken for construction activity mitigation measures identified in the AQIA.

¹ Emergency Order 2014-07-18-01E mandates water supplies enact certain water restrictions.

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2 CLIMATE CHANGE SETTING

2.1 INTRODUCTION TO GLOBAL CLIMATE CHANGE

Global Climate Change (GCC) is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. GCC is currently one of the most controversial environmental issues in the United States, and much debate exists within the scientific community about whether or not GCC is occurring naturally or as a result of human activity. Some data suggests that GCC has occurred in the past over the course of thousands or millions of years. These historical changes to the earth's climate have occurred naturally without human influence, as in the case of an ice age. However, many scientists believe that the climate shift taking place since the industrial revolution (1900) is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of greenhouse gases in the earth's atmosphere, including carbon dioxide, methane, nitrous oxide, and fluorinated gases. Many scientists believe that this increased rate of climate change is the result of greenhouse gases resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed Project evaluated in this GHGA cannot generate enough greenhouse gas emissions to affect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of greenhouse gases combined with the cumulative increase of all other sources of greenhouse gases, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, Section 3.0 will evaluate the potential for the proposed Project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

2.2 GLOBAL CLIMATE CHANGE DEFINED

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO₂ (carbon dioxide), N₂O (nitrous oxide), CH₄ (methane), hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth's atmosphere, but prevent radioactive heat from escaping, thus warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Gases that trap heat in the atmosphere are often referred to as greenhouse gases. Greenhouse gases are released into the atmosphere by both natural and anthropogenic (human) activity. Without the natural greenhouse gas effect, the earth's average temperature would be approximately 61° Fahrenheit (F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

Although California’s rate of growth of greenhouse gas emissions is slowing, the state is still a substantial contributor to the U.S. emissions inventory total. In 2004, California is estimated to have produced 492 million gross metric tons of CO₂e greenhouse gas emissions. Despite a population increase of 16 percent between 1990 and 2004, California has significantly slowed the rate of growth of greenhouse gas emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls (7).

2.3 GREENHOUSE GAS EMISSIONS INVENTORIES

Global

Worldwide anthropogenic (human) GHG emissions are tracked by the Intergovernmental Panel on Climate Change for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Human GHG emissions data for Annex I nations are available through 2015. For the Year 2015, the sum of these emissions totaled approximately 28,872,564 Gg CO₂e² (8) (9). The GHG emissions in more recent years may differ from the inventories presented in Table 2-1; however, the data is representative of currently available inventory data.

United States

As noted in Table 2-1, the United States, as a single country, was the number two producer of GHG emissions in 2015. The primary greenhouse gas emitted by human activities in the United States was CO₂, representing approximately 83 percent of total greenhouse gas emissions (10). Carbon dioxide from fossil fuel combustion, the largest source of US greenhouse gas emissions, accounted for approximately 78 percent of the GHG emissions.

TABLE 2-1: TOP GHG PRODUCER COUNTRIES AND THE EUROPEAN UNION ³

Emitting Countries	GHG Emissions (Gg CO ₂ e)
China	11,895,765
United States	6,586,655
European Union (28 member countries)	4,315,773
India	2,650,954
Russian Federation	2,100,849
Japan	1,322,568
Total	28,872,564

State of California

CARB compiles GHG inventories for the State of California. Based upon the 2018 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2016 greenhouse gas

² The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2005 data, the UNFCCC data for the most recent year were used. United Nations Framework Convention on Climate Change, “Annex I Parties – GHG total without LULUCF,”

³ Used <http://unfccc.int> data for Annex I countries. Consulted the CAIT Climate Data Explorer in <http://www.wri.org> site to reference Non-Annex I countries such as China and India.

emissions inventory, California emitted 429.4 MMTCO₂e including emissions resulting from imported electrical power in 2015 (11).

2.4 GREENHOUSE GASES

For the purposes of this analysis, emissions of carbon dioxide, methane, and nitrous oxide were evaluated (see Table 3-4 later in this report) because these gasses are the primary contributors to GCC from development projects. Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate these gases.

Water Vapor: Water vapor (H₂O) is the most abundant, important, and variable greenhouse gas in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. A climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change.

As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to 'hold' more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop." The extent to which this positive feedback loop will continue is unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the earth's surface and heat it up).

There are no human health effects from water vapor itself; however, when some pollutants come in contact with water vapor, they can dissolve and the water vapor can then act as a pollutant-carrying agent. The main source of water vapor is evaporation from the oceans (approximately 85 percent). Other sources include: evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.

Carbon Dioxide: Carbon dioxide (CO₂) is an odorless and colorless GHG. Outdoor levels of carbon dioxide are not high enough to result in negative health effects. Carbon dioxide is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. Carbon dioxide is naturally removed from the air by photosynthesis,

dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks (12).

Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO₂ concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30 percent. Left unchecked, the concentration of carbon dioxide in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources (13).

Methane: Methane (CH₄) is an extremely effective absorber of radiation, though its atmospheric concentration is less than carbon dioxide and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs. No health effects are known to occur from exposure to methane.

Methane has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropogenic sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide: Nitrous oxide (N₂O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage) (14).

Concentrations of nitrous oxide also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb). Nitrous oxide is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, i.e., in whipped cream bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. Nitrous oxide can be transported into the stratosphere, be deposited on the earth's surface, and be converted to other compounds by chemical reaction

Chlorofluorocarbons: Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C₂H₆) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs are no longer being used; therefore, it is not likely that health effects would be experienced. Nonetheless, in confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.

CFCs have no natural source, but were first synthesized in 1928. They were used for refrigerants, aerosol propellants and cleaning solvents. Due to the discovery that they are able

to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons: Hydrofluorocarbons (HFCs) are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the greenhouse gases, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF_3), HFC-134a ($\text{CF}_3\text{CH}_2\text{F}$), and HFC-152a (CH_3CHF_2). Prior to 1990, the only significant emissions were of HFC-23. HFC-134a emissions are increasing due to its use as a refrigerant. The U.S. EPA estimates that concentrations of HFC-23 and HFC-134a are now about 10 parts per trillion (ppt) each; and that concentrations of HFC-152a are about 1 ppt (15). No health effects are known to result from exposure to HFCs, which are manmade for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons: Perfluorocarbons (PFCs) have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above earth's surface, are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). The U.S. EPA estimates that concentrations of CF_4 in the atmosphere are over 70 ppt.

No health effects are known to result from exposure to PFCs. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur Hexafluoride: Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest global warming potential (GWP) of any gas evaluated (23,900). The U.S. EPA indicates that concentrations in the 1990s were about 4 ppt. In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.

Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Greenhouse gases have varying GWP values; GWP values represent the potential of a gas to trap heat in the atmosphere. Carbon dioxide is utilized as the reference gas for GWP, and thus has a GWP of 1.

The atmospheric lifetime and GWP of selected greenhouse gases are summarized at Table 2-2. As shown in the table below, GWP for the Second Assessment Report (SAR), the Intergovernmental Panel on Climate Change (IPCC)'s scientific and socio-economic assessment on climate change, range from 1 for carbon dioxide to 23,900 for sulfur hexafluoride and GWP for the IPCC's 4th Assessment Report (AR4) range from 1 for carbon dioxide to 22,800 for sulfur hexafluoride.

TABLE 2-2: GLOBAL WARMING POTENTIAL AND ATMOSPHERIC LIFETIME OF SELECT GHGS

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100 year time horizon)	
		Second Assessment Report (SAR)	4 th Assessment Report (AR4)
Carbon Dioxide	50-200	1	1
Methane	12 ± 3	21	25
Nitrous Oxide	120	310	298
HFC-23	264	11,700	14,800
HFC-134a	14.6	1,300	1,430
HFC-152a	1.5	140	124
Sulfur Hexafluoride (SF ₆)	3,200	23,900	22,800

Source: Table 2.14 of the IPCC Fourth Assessment Report, 2007

Public Health

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35 percent under the lower warming range (3-5.5°F) to 75 to 85 percent under the medium warming range (5.5-8°F). In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55 percent more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming range scenario (8-10.5°F), there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as

much as 70 to 90 percent. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

Agriculture

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25 percent of the water supply they need. Although higher CO₂ levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate O₃ pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts.

In addition, continued global climate change could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued global climate change could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

Global climate change has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk

is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. In contrast, wildfires in northern California could increase by up to 90 percent due to decreased precipitation.

Moreover, continued global climate change has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80 percent by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of global climate change.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12-14 inches.

2.5 HUMAN HEALTH EFFECTS

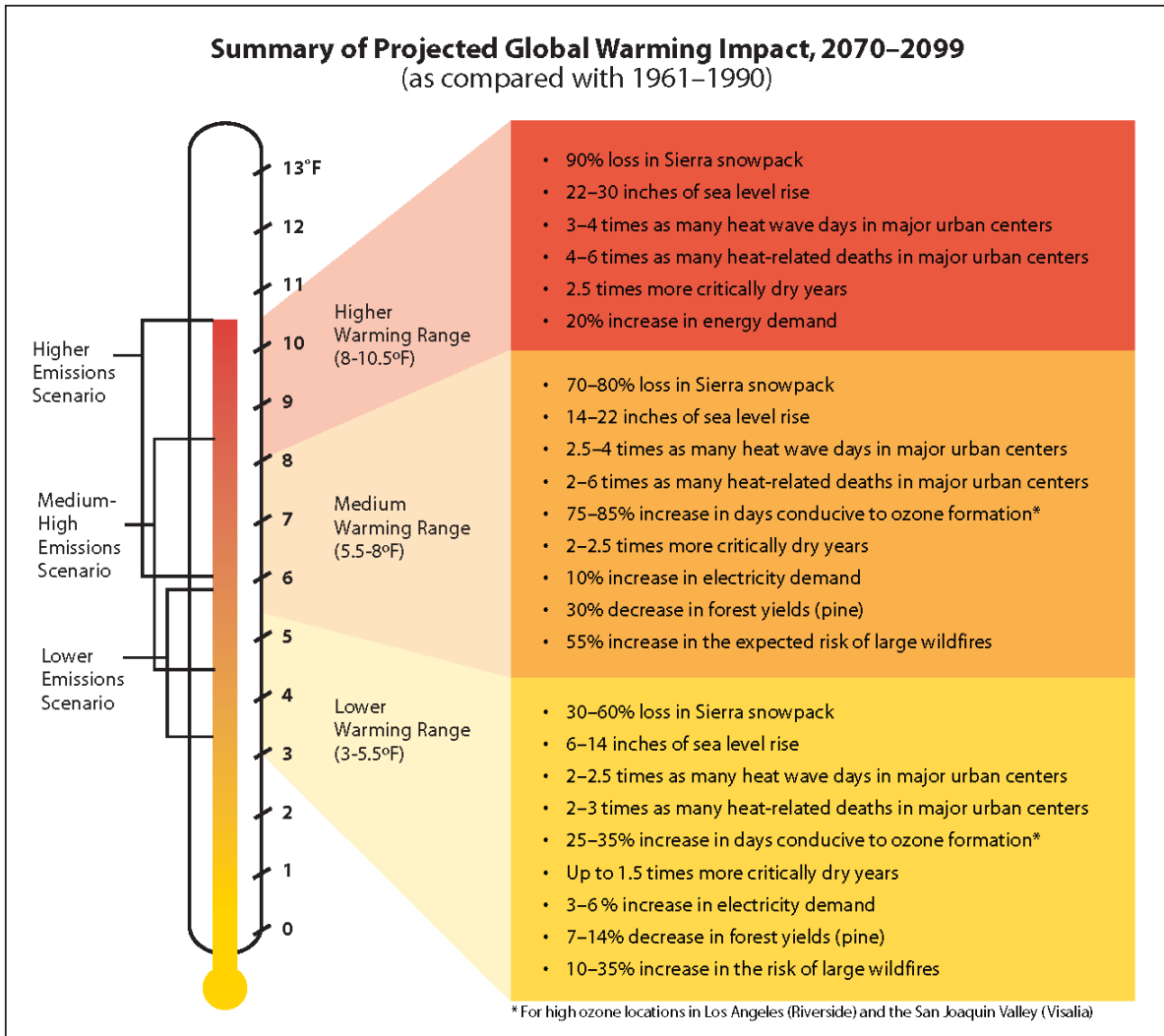
The potential health effects related directly to the emissions of carbon dioxide, methane, and nitrous oxide as they relate to development projects such as the proposed Project are still being debated in the scientific community. Their cumulative effects to global climate change have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport that higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change will likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas (16). Exhibit 2-A presents the potential impacts of global warming.

Specific health effects associated with directly emitted GHG emissions are as follows:

Water Vapor: There are no known direct health effects related to water vapor at this time. It should be noted however that when some pollutants react with water vapor, the reaction forms a transport mechanism for some of these pollutants to enter the human body through water vapor.

Carbon Dioxide: According to the National Institute for Occupational Safety and Health (NIOSH) high concentrations of carbon dioxide can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current

EXHIBIT 2-A: SUMMARY OF PROJECTED GLOBAL WARMING IMPACT



concentrations of carbon dioxide in the earth’s atmosphere are estimated to be approximately 370 parts per million (ppm), the actual reference exposure level (level at which adverse health effects typically occur) is at exposure levels of 5,000 ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of 30,000 ppm averaged over a 15 minute period (17).

Methane: Methane is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Methane is also an asphyxiant and may displace oxygen in an enclosed space (18).

Nitrous Oxide: Nitrous Oxide is often referred to as laughing gas; it is a colorless greenhouse gas. The health effects associated with exposure to elevated concentrations of nitrous oxide include dizziness, euphoria, slight hallucinations, and in extreme cases of elevated concentrations nitrous oxide can also cause brain damage (18).

Fluorinated Gases: High concentrations of fluorinated gases can also result in adverse health effects such as asphyxiation, dizziness, headache, cardiovascular disease, cardiac disorders, and in extreme cases, increased mortality (17).

Aerosols: The health effects of aerosols are similar to that of other fine particulate matter. Thus aerosols can cause elevated respiratory and cardiovascular diseases as well as increased mortality (19).

2.6 REGULATORY SETTING

INTERNATIONAL

Climate change is a global issue involving GHG emissions from all around the world; therefore, countries such as the ones discussed below have made an effort to reduce GHGs.

Intergovernmental Panel on Climate Change. In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change to assess the scientific, technical and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

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

International Climate Change Treaties. The Kyoto Protocol is an international agreement linked to the Convention. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions at an average of five percent against 1990 levels over the five-year period 2008–2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of “common but differentiated responsibilities.”

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2°C above pre-industrial levels, subject to a review in 2015. The UN Climate Change Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings are gradually gaining consensus among participants on individual climate change issues.

On September 23, 2014 more than 100 Heads of State and Government and leaders from the private sector and civil society met at the Climate Summit in New York hosted by the United Nations. At the Summit, heads of government, business and civil society announced actions in areas that would have the greatest impact on reducing emissions, including climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience.

Parties to the U.N. Framework Convention on Climate Change (UNFCCC) reached a landmark agreement on December 12, 2015 in Paris, charting a fundamentally new course in the two-decade-old global climate effort. Culminating a four-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and to strengthen them in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts, and undergo international review.

The agreement and a companion decision by parties were the key outcomes of the conference, known as the 21st session of the UNFCCC Conference of the Parties, or COP 21. Together, the Paris Agreement and the accompanying COP decision:

- Reaffirm the goal of limiting global temperature increase well below 2 degrees Celsius, while urging efforts to limit the increase to 1.5 degrees;
- Establish binding commitments by all parties to make “nationally determined contributions” (NDCs), and to pursue domestic measures aimed at achieving them;
- Commit all countries to report regularly on their emissions and “progress made in implementing and achieving” their NDCs, and to undergo international review;
- Commit all countries to submit new NDCs every five years, with the clear expectation that they will “represent a progression” beyond previous ones;
- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too;
- Extend the current goal of mobilizing \$100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025;
- Extend a mechanism to address “loss and damage” resulting from climate change, which explicitly will not “involve or provide a basis for any liability or compensation;”
- Require parties engaging in international emissions trading to avoid “double counting;” and
- Call for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to be counted toward another country’s NDC (C2ES 2015a) (20).

NATIONAL

Prior to the last decade, there have been no concrete federal regulations of GHGs or major planning for climate change adaptation. The following are actions regarding the federal government, GHGs, and fuel efficiency.

GHG Endangerment. In *Massachusetts v. Environmental Protection Agency* 549 U.S. 497 (2007), decided on April 2, 2007, the Supreme Court found that four GHGs, including carbon dioxide, are air pollutants subject to regulation under Section 202(a)(1) of the Clean Air Act. The Court held that the EPA Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs—carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section “Clean Vehicles” below. After a lengthy legal challenge, the U.S. Supreme Court declined to review an Appeals Court ruling that upheld the EPA Administrator’s findings (21).

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the U.S. On April 1, 2010, the EPA and the Department of Transportation’s National Highway Safety Administration announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the U.S.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards would cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the National Highway Safety Administration issued final rules on a second-phase joint rulemaking establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012 (EPA 2012c). The new standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and medium duty passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of carbon dioxide (CO₂) in model year 2025, which is equivalent to 54.5 miles per gallon (mpg) if achieved exclusively through fuel economy improvements.

CALIFORNIA

Legislative Actions to Reduce GHGs

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation such as the landmark Assembly Bill (AB 32) California Global Warming Solutions Act of 2006 was specifically enacted to address GHG emissions. Other legislation such as Title 24 and Title 20 energy standards were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

AB 32. The California State Legislature enacted AB 32, which requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. “GHGs” as defined under AB 32 include carbon dioxide, methane, N₂O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. The California Air Resources Board (ARB) is the state agency charged with monitoring and regulating sources of GHGs. AB 32 states the following:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

ARB approved the 1990 GHG emissions level of 427 MMTCO₂e on December 6, 2007 (ARB 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO₂e. Emissions in 2020 in a “business as usual” (BAU) scenario were estimated to be 596 MMTCO₂e, which do not account for reductions from AB 32 regulations (ARB 2008). At that level, a 28.4 percent reduction was required to achieve the 427 million MTTCO₂e 1990 inventory. In October 2010, ARB prepared an updated 2020 forecast to account for the recession and slower forecasted growth. The forecasted inventory without the benefits of adopted regulation is now estimated at 545 million MTTCO₂e. Therefore, under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels (ARB 2010).

PROGRESS IN ACHIEVING AB 32 TARGETS AND REMAINING REDUCTIONS REQUIRED

The State has made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05. The progress is shown in updated emission inventories prepared by ARB for 2000 through 2012 (ARB 2014a). The State has achieved the Executive Order S-3-05 target for 2010 of reducing GHG emissions to 2000 levels. As shown below, the 2010 emission inventory achieved this target.

- 1990: 427 million MTTCO₂e (AB 32 2020 target)
- 2000: 463 million MTTCO₂e (an average 8 percent reduction needed to achieve 1990 base)

- 2010: 450 million MTCO₂e (an average 5 percent reduction needed to achieve 1990 base)

ARB has also made substantial progress in achieving its goal of achieving 1990 emissions levels by 2020. As described earlier in this section, ARB revised the 2020 BAU inventory forecast to account for new lower growth projections, which resulted in a new lower reduction from BAU to achieve the 1990 base. The previous reduction from 2020 BAU needed to achieve 1990 levels was 28.4 percent and the latest reduction from 2020 BAU is 21.7 percent.

- 2020: 545 million MTCO₂e BAU (an average 21.7 percent reduction from BAU needed to achieve 1990 base)

ARB Scoping Plan. ARB's Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State's emissions to 1990 levels by the year 2020 to comply with AB 32 (ARB 2008). The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 GHG target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

The ARB approved the First Update to the Scoping Plan (Update) on May 22, 2014. The Update identifies the next steps for California's climate change strategy. The Update shows how California continues on its path to meet the near-term 2020 GHG limit, but also sets a path toward long-term, deep GHG emission reductions. The report establishes a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050. The Update identifies progress made to meet the near-term objectives of AB 32 and defines California's climate change priorities and activities Climate for the next several years. The Update does not set new targets for the State, but describes a path that would achieve the long term 2050 goal of Executive Order S-05-03 for emissions to decline to 80 percent below 1990 levels by 2050 (ARB 2014).

Forecasting the amount of emissions that would occur in 2020 if no actions are taken was necessary to assess the amount of reductions California must achieve to return to the 1990

emissions level by 2020 as required by AB 32. The no-action scenario is known as “business-as-usual” or BAU. The ARB originally defined the BAU scenario as emissions in the absence of any GHG emission reduction measures discussed in the Scoping Plan.

As part of CEQA compliance for the Scoping Plan, ARB prepared a Supplemental Functional Equivalent Document (FED) in 2011. The FED included an updated 2020 BAU emissions inventory projection based on current economic forecasts (i.e., as influenced by the economic downturn) and emission reduction measures already in place, replacing its prior 2020 BAU emissions inventory. ARB staff derived the updated emissions estimates by projecting emissions growth, by sector, from the state’s average emissions from 2006–2008. The new BAU estimate includes emission reductions for the million-solar-roofs program, the AB 1493 (Pavley I) motor vehicle GHG emission standards, and the Low Carbon Fuels Standard. In addition, ARB factored into the 2020 BAU inventory emissions reductions associated with 33 percent Renewable Energy Portfolio Standard (RPS) for electricity generation. The updated BAU estimate of 507 MMTCO_{2e} by 2020 requires a reduction of 80 MMTCO_{2e}, or a 16 percent reduction below the estimated BAU levels to return to 1990 levels (i.e., 427 MMTCO_{2e}) by 2020.

In order to provide a BAU reduction that is consistent with the original definition in the Scoping Plan and with threshold definitions used in thresholds adopted by lead agencies for CEQA purposes and many climate action plans, the updated inventory without regulations was also included in the Supplemental FED. The ARB 2020 BAU projection for GHG emissions in California was originally estimated to be 596 MMTCO_{2e}. The updated ARB 2020 BAU projection in the Supplemental FED is 545 MMTCO_{2e}. Considering the updated BAU estimate of 545 MMTCO_{2e} by 2020, ARB estimates a 21.7 percent reduction below the estimated statewide BAU levels is necessary to return to 1990 emission levels (i.e., 427 MMTCO_{2e}) by 2020, instead of the approximate 28.4 percent BAU reduction previously reported under the original Climate Change Scoping Plan (2008).

2017 Climate Change Scoping Plan Update

In November 2017, ARB released the final 2017 Scoping Plan Update, which identifies the State’s post-2020 reduction strategy. The 2017 Scoping Plan Update reflects the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by Senate Bill 32 (SB 32). Key programs that the proposed Second Update builds upon include the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and much cleaner cars, trucks and freight movement, utilizing cleaner, renewable energy, and strategies to reduce methane emissions from agricultural and other wastes.

The 2017 Scoping Plan establishes a new emissions limit of 260 MMTCO_{2e} for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.

California’s climate strategy will require contributions from all sectors of the economy, including the land base, and will include enhanced focus on zero- and near-zero-emission (ZE/NZE) vehicle technologies; continued investment in renewables, including solar roofs, wind, and other distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate

pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries will further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California's local air pollution control and air quality management districts (air districts) to tighten emission limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZEV buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementing SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20 percent reduction in GHG emissions from refineries by 2030.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

In addition to the statewide strategies listed above, the 2017 Scoping Plan also identifies local governments as essential partners in achieving the State's long-term GHG reduction goals and identifies local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends that local governments achieve a community-wide goal to achieve emissions of no more than 6 MTCO_{2e} or less per capita by 2030 and 2 MTCO_{2e} or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidenced-based bright-line numeric thresholds—consistent with the Scoping Plan and the State's long-term GHG goals—and projects with emissions over that amount may be required to incorporate on-site design features and mitigation measures that avoid or minimize project emissions to the degree feasible; or, a performance-based metric using a climate action plan or other plan to reduce GHG emissions is appropriate.

According to research conducted by the Lawrence Berkeley National Laboratory and supported by ARB, California, under its existing and proposed GHG reduction policies, is on track to meet the 2020 reduction targets under AB 32 and could achieve the 2030 goals under SB 32. The research utilized a new, validated model known as the California LBNL GHG Analysis of Policies Spreadsheet (CALGAPS), which simulates GHG and criteria pollutant emissions in California from 2010 to 2050 in accordance to existing and future GHG-reducing policies. The CALGAPS model showed that GHG emissions through 2020 could range from 317 to 415 MTCO_{2e} per

year, “indicating that existing state policies will likely allow California to meet its target [of 2020 levels under AB 32].” CALGAPS also showed that by 2030, emissions could range from 211 to 428 MTCO_{2e} per year, indicating that “even if all modeled policies are not implemented, reductions could be sufficient to reduce emissions 40 percent below the 1990 level [of SB 32].” CALGAPS analyzed emissions through 2050 even though it did not generally account for policies that might be put in place after 2030. Though the research indicated that the emissions would not meet the State’s 80 percent reduction goal by 2050, various combinations of policies could allow California’s cumulative emissions to remain very low through 2050 (22) (23).

Senate Bill 32. On September 8, 2016, Governor Jerry Brown signed the Senate Bill (SB) 32 and its companion bill, Assembly Bill (AB) 197. SB 32 requires the state to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80 percent below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that ARB is not only respond to the Governor, but also the Legislature (24) (25).

SB 375 - the Sustainable Communities and Climate Protection Act of 2008. Passing the Senate on August 30, 2008, Senate Bill (SB) 375 was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40 percent of the total GHG emissions in California. SB 375 states, “Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32.” SB 375 does the following: it (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

Concerning CEQA, SB 375, as codified in Public Resources Code Section 21159.28, states that CEQA findings for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts, or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network, if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that the ARB accepts as achieving the GHG emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
3. Incorporates the mitigation measures required by an applicable prior environmental document.

AB 1493 Pavley Regulations and Fuel Efficiency Standards. California AB 1493, enacted on July 22, 2002, required ARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA’s denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phase in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in about a 22 percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will result in about a 30 percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

SB 350— Clean Energy and Pollution Reduction Act of 2015. In October 2015, the legislature approved and the Governor signed SB 350, which reaffirms California’s commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the renewables portfolio standard (RPS), higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Provisions for a 50 percent reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill’s passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024, and 25 percent by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local publicly-owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States (California Leginfo 2015).

EXECUTIVE ORDERS RELATED TO GHG EMISSIONS

California’s Executive Branch has taken several actions to reduce GHGs through the use of Executive Orders. Although not regulatory, they set the tone for the state and guide the actions of state agencies.

Executive Order S-3-05. Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

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

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Executive Order S-01-07 – Low Carbon Fuel Standard. The Governor signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California’s transportation fuels by at least 10 percent by 2020. In particular, the Executive Order established a Low Carbon Fuel Standard and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, the ARB, the University of California, and other agencies to develop and propose protocols for measuring the “life-cycle carbon intensity” of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by California Energy Commission on December 24, 2007) and was submitted to ARB for consideration as an “early action” item under AB 32. The ARB adopted the Low Carbon Fuel Standard on April 23, 2009.

The Low Carbon Fuel Standard was challenged in the U.S. District Court in Fresno in 2011. The court’s ruling issued on December 29, 2011, included a preliminary injunction against ARB’s implementation of the rule. The Ninth Circuit Court of Appeals stayed the injunction on April 23, 2012, pending final ruling on appeal, allowing ARB to continue to implement and enforce the regulation. The Ninth Circuit Court’s decision, filed September 18, 2013, vacated the preliminary injunction. In essence, the court held that Low Carbon Fuel Standards adopted by ARB were not in conflict with federal law. On August 8, 2013, the Fifth District Court of Appeal (California) ruled ARB failed to comply with CEQA and the Administrative Procedure Act (APA) when adopting regulations for Low Carbon Fuel Standards. In a partially published opinion, the Court of Appeal reversed the trial court’s judgment and directed issuance of a writ of mandate setting aside Resolution 09-31 and two executive orders of ARB approving Low Carbon Fuel Standards (LCFS) regulations promulgated to reduce GHG emissions. However, the court tailored its remedy to protect the public interest by allowing the LCFS regulations to remain operative while ARB complies with the procedural requirements it failed to satisfy.

To address the Court ruling, ARB was required to bring a new LCFS regulation to its Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon intensity (low-CI) fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. The second public hearing was held on September 24 and September

25, 2015, where the LCFS Regulation was adopted. The Final Rulemaking Package adopting the regulation was filed with Office of Administrative Law (OAL) on October 2, 2015. OAL had until November 16, 2015 to make a determination (ARB 2015d).

Executive Order S-13-08. Executive Order S-13-08 states that “climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California’s economy, to the health and welfare of its population and to its natural resources.” Pursuant to the requirements in the Order, the 2009 California Climate Adaptation Strategy (California Natural Resources Agency 2009) was adopted, which is the “. . . first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States.” Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order B-30-15. On April 29, 2015, Governor Edmund G. Brown Jr. issued an executive order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor’s executive order aligns California’s GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris late 2015. The Order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050 and directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of CO₂ equivalent (MMCO_{2e}). The Order also requires the state’s climate adaptation plan to be updated every three years, and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this Order is not legally enforceable for local governments and the private sector. Legislation that would update AB 32 to make post 2020 targets and requirements a mandate is in process in the State Legislature.

CALIFORNIA REGULATIONS AND BUILDING CODES

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California’s energy consumption relatively flat even with rapid population growth.

Title 20 Appliance Efficiency Standards. California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4, Sections 1601-1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. 23 categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles or other mobile equipment (CEC 2012).

Title 24 Energy Efficiency Standards and California Green Building Standards. California Code of Regulations Title 24 Part 6: California’s Energy Efficiency Standards for Residential and

Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The newest 2016 version of Title 24 was adopted by the California Energy Commission (CEC) and became effective on January 1, 2017.

The CEC indicates that the 2016 Title 24 standards will reduce energy consumption by 5 percent for nonresidential buildings above that achieved by the 2013 Title 24 (CEC 2015).

California Code of Regulations, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2011, and is administered by the California Building Standards Commission. CALGreen is updated on a regular basis, with the most recent update consisting of the 2016 California Green Building Code Standards that became effective January 1, 2017. Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. CALGreen recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided they establish a minimum 50 percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. The State Building Code provides the minimum standard that buildings must meet in order to be certified for occupancy, which is generally enforced by the local building official. CALGreen requires:

- Short-term bicycle parking. If a commercial project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space (5.106.4.1.2).
- Designated parking. Provide designated parking in commercial projects for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling (5.410.1).
- Construction waste. A minimum 65 percent diversion of construction and demolition waste from landfills, increasing voluntarily to 80 percent for new homes and commercial projects (5.408.1, A5.408.3.1 [nonresidential], A5.408.3.1 [residential]). All (100 percent) of trees, stumps, rocks and associated vegetation and soils resulting from land clearing shall be reused or recycled (5.408.3).
- Wastewater reduction. Each building shall reduce the generation of wastewater by one of the following methods:
 - The installation of water-conserving fixtures (5.303.3) or
 - Using nonpotable water systems (5.303.4).

- Water use savings. 20 percent mandatory reduction of indoor water use with voluntary goal standards for 30, 35 and 40 percent reductions (5.303.2, A5303.2.3 [nonresidential]).
- Water meters. Separate water meters for buildings in excess of 50,000 square feet or buildings projected to consume more than 1,000 gallons per day (5.303.1).
- Irrigation efficiency. Moisture-sensing irrigation systems for larger landscaped areas (5.304.3).
- Materials pollution control. Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard (5.404).
- Building commissioning. Mandatory inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies (5.410.2)..

Model Water Efficient Landscape Ordinance. The Model Water Efficient Landscape Ordinance (Ordinance) was required by AB 1881, the Water Conservation Act. The bill required local agencies to adopt a local landscape ordinance at least as effective in conserving water as the Model Ordinance by January 1, 2010. Reductions in water use of 20 percent consistent with (SBX-7-7) 2020 mandate are expected upon compliance with the ordinance. Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed Department of Water Resources (DWR) to update the Ordinance through expedited regulation. The California Water Commission approved the revised Ordinance on July 15, 2015 effective December 15, 2015. New development projects that include landscape areas of 500 square feet or more are subject to the Ordinance. The update requires:

- More efficient irrigation systems;
- Incentives for graywater usage;
- Improvements in on-site stormwater capture;
- Limiting the portion of landscapes that can be planted with high water use plants; and
- Reporting requirements for local agencies.

SB 97 and the CEQA Guidelines Update. Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a)." Section 21097 was also added to the Public Resources Code. It provided CEQA protection until January 1, 2010 for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006, in stating that the failure to analyze adequately the effects of GHGs would not violate CEQA.

On April 13, 2009, the Office of Planning and Research submitted to the Secretary for Natural Resources its recommended amendments to the CEQA Guidelines for addressing GHG emissions. On July 3, 2009, the Natural Resources Agency commenced the Administrative

Procedure Act rulemaking process for certifying and adopting these amendments pursuant to Public Resources Code section 21083.05. Following a 55-day public comment period and two public hearings, the Natural Resources Agency proposed revisions to the text of the proposed Guidelines amendments. The Natural Resources Agency transmitted the adopted amendments and the entire rulemaking file to the Office of Administrative Law on December 31, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010.

The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

A new section, CEQA Guidelines Section 15064.4, was added to assist agencies in determining the significance of GHG emissions. The new section allows agencies the discretion to determine whether a quantitative or qualitative analysis is best for a particular project. However, little guidance is offered on the crucial next step in this assessment process—how to determine whether the project’s estimated GHG emissions are significant or cumulatively considerable.

Also amended were CEQA Guidelines Sections 15126.4 and 15130, which address mitigation measures and cumulative impacts, respectively. GHG mitigation measures are referenced in general terms, but no specific measures are championed. The revision to the cumulative impact discussion requirement (Section 15130) simply directs agencies to analyze GHG emissions in an EIR when a project’s incremental contribution of emissions may be cumulatively considerable, however it does not answer the question of when emissions are cumulatively considerable.

Section 15183.5 permits programmatic GHG analysis and later project-specific tiering, as well as the preparation of GHG Reduction Plans. Compliance with such plans can support a determination that a project’s cumulative effect is not cumulatively considerable, according to Section 15183.5(b).

In addition, the amendments revised Appendix F of the CEQA Guidelines, which focuses on Energy Conservation. The sample environmental checklist in Appendix G was amended to include GHG questions.

REGIONAL

The project is within the Southern California Air Basin (SoCAB), which is under the jurisdiction of the SCAQMD.

South Coast Air Quality Management District

SCAQMD is the agency responsible for air quality planning and regulation in the SoCAB. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the

project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the SoCAB. The Working Group developed several different options that are contained in the SCAQMD Draft Guidance Document – Interim CEQA GHG Significance Threshold, that could be applied by lead agencies. The working group has not provided additional guidance since release of the interim guidance in 2008. The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the project is less than significant:
 - Residential and Commercial land use: 3,000 MTCO₂e per year
 - Based on land use type: residential: 3,500 MTCO₂e per year; commercial: 1,400 MTCO₂e per year; or mixed use: 3,000 MTCO₂e per year
- Tier 4 has the following options:
 - Option 1: Reduce BAU emissions by a certain percentage; this percentage is currently undefined.
 - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
 - Option 3, 2020 target for service populations (SP), which includes residents and employees: 4.8 MTCO₂e/SP/year for projects and 6.6 MTCO₂e/SP/year for plans;
 - Option 3, 2035 target: 3.0 MTCO₂e/SP/year for projects and 4.1 MTCO₂e/SP/year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's interim thresholds used the Executive Order S-3-05 year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap carbon dioxide concentrations at 450 ppm, thus stabilizing global climate.

SCAQMD only has authority over GHG emissions from development projects that include air quality permits. At this time, it is unknown if the project would include stationary sources of emissions subject

to SCAQMD permits. Notwithstanding, if the Project requires a stationary permit, it would be subject to the applicable SCAQMD regulations.

SCAQMD Regulation XXVII, adopted in 2009 includes the following rules:

- Rule 2700 defines terms and post global warming potentials.
- Rule 2701, SoCal Climate Solutions Exchange, establishes a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, GHG Reduction Program created a program to produce GHG emission reductions within the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

2.7 CITY OF HEMET GENERAL PLAN UPDATE

The City of Hemet published the final City of Hemet General Plan 2030 Environmental Impact Report on January 12, 2012. The following General Plan policies and programs are considered to address GHG emissions. These programs indicate the City's intent to conserve energy and reduce emissions.

The City has adopted a number of programs, including Program OS-P-34 to develop and adopt a climate action plan (CAP) for the City of Hemet. The CAP will have two primary objectives, which are to reduce total greenhouse gas (GHG) emissions in the City by 2020 and create adaptation strategies to address the impacts of climate change on the City, such as increased risk of flooding and wildfires, diminished water supplies, and public health. The City intends to design the CAP to function as a Plan for the Reduction of GHG Emissions, as defined in the State CEQA Guidelines (Section 15183.5). The CAP will be adopted in a public process following environmental review (State CEQA Guidelines Section 15183.5(b)(1)(F)).

The City has also adopted the following policies:

- **LU-1.4 Walkable Neighborhoods** Create walkable neighborhoods that integrate pedestrian paths and trails into a safe, cohesive and varied transportation system that provides connectivity to nearby land uses and encourages physical activity and less dependence on the automobile.
- **LU-1.7 Integrate Land Use and Transportation Networks** Provide a variety of transportation choices to serve adjacent land uses and integrate a comprehensive system of streets, transit, passenger rail, bike paths and pedestrian connections to serve the community.
- **LU-2.4 Concentrate Land Uses** Promote efficient use of land resources through compact building design, infill development, and land use patterns that reduce infrastructure costs and make more effective use of existing and planned transportation systems and public facilities, and minimize impacts to natural environmental resources.
- **LU-2.6 Alternative Modes of Transportation** Promote alternative modes of transportation and provide street systems that disperse rather than concentrate traffic congestion. Provide short, connecting blocks in residential neighborhoods and utilize traffic-calming design strategies to reduce traffic speeds.
- **LU-2.9 Sustainable Design** Require that new development be designed to minimize consumption of water, energy and other resources and provide long-term sustainable site and building design features.

- **LU-5.2 Land Use Connections** Promote employment and shopping centers in close proximity to residences in mixed use or transit-oriented development areas, and integrate with attractive and walkable pedestrian paths.
- **LU-9.11 Sustainable Infrastructure and Development** Require new infrastructure systems and site development to incorporate sustainable design and best practices including the use of recycled water, alternative and energy conserving techniques, and naturalized “conjunctive use” drainage basins to accommodate drainage, recharge the aquifer, promote water quality, and add aesthetic value as a neighborhood amenity.
- **OS-5.3: Development Design** Encourage the efficient use of water resources by residential, commercial, and industrial users by requiring development project proposals to incorporate best management practices into their designs, including the use of new technology in development design.
- **OS-5.4: Reclaimed Water** Use reclaimed water to irrigate parks, golf courses, public landscaped areas, and for other feasible applications as service becomes available from local water providers.
- **OS-5.5: Water Efficient Landscaping** Require new landscape installations or rehabilitation projects by public agencies, nonresidential developers, multi-family residential developers, and homeowners to use water efficiently, encourage water conservation, and prevent water waste.
- **OS-6.1: CALGreen Standards** Encourage the efficient use of energy resources by residential, commercial, and industrial users by requiring project proposals to incorporate energy-efficient products and techniques into their designs in accordance with adopted California Green Building Standards Code standards and other development standards.
- **OS-6.2: City Incentives** Through incentives such as expedited review of development projects, promote nonrequired alternative energy practices and Leadership in Energy and Environmental Design (LEED) certifications.
- **OS-6.5: Clean Energy** Support the use and production of clean energy resources through green technology and programs that promote wind, solar, renewable, biomass, and cogenerating energy resources, where compatible with adjacent land uses.
- **OS-6.6: Solar Energy** Encourage existing or new structures to maximize solar access by promoting passive solar energy design, natural ventilation, effective use of daylight, an on-site solar generation.
- **OS-6.7: Recycling** Promote the use of recycling and recycled materials in development projects and consumable products.
- **OS-7.1: Development Design and Practices** Reduce the amount of air pollution emissions from mobile and stationary sources, and enhance the South Coast Air Basin by using best management practices in development proposals and project implementation.
- **OS-7.2: Public Transportation** Pursue expansion of the public transportation system, as well as bicycle and pedestrian trails, that are linked to the regional transit network, to reduce vehicle trips.
- **OS-7.6: Transportation Trip Management** Encourage employers to implement transportation demand management (TDM) measures to reduce trips and vehicle miles traveled.

- **OS-7.8: Green Building Techniques** Encourage green building techniques that improve indoor air quality, energy efficiency and conservation in buildings, and utilization of renewable energy sources.

2.8 WESTERN RIVERSIDE COUNCIL OF GOVERNMENTS

The City of Hemet is a participant in the Western Riverside Council of Government's (WRCOG) Climate Action Plan (CAP). In order to aggressively address the threats of global climate change, the WRCOG has prepared a CAP, which provides a framework for reducing GHG emissions and managing resources to best prepare for a changing climate (26). The CAP recommends GHG emissions targets that are consistent with the reduction targets of the State of California and presents a number of strategies that will make it possible for the City to meet the recommended targets. Projects that demonstrate consistency with the strategies, actions, and emission reduction targets contained in the CAP would have a less than significant impact on climate change.

The Project will be compliant with the goal and objectives set forth in the WRCOG's CAP (as shown on Table 4-2, presented later in the report). Therefore, Project consistency with the CAP would result in a less than significant impact with respect to GHG emissions.

2.9 DISCUSSION ON EMISSIONS REDUCTION TARGET

The City of Hemet does not have an established emissions reduction target for GHG emissions. However, it is under the jurisdiction of the WRCOG. As such, the City uses WRCOG's subregion emissions reduction target of 15% below 2010. Based on guidance from CARB and the Governor's Office of Planning and Research, this reduction target level is consistent with AB-32 and serves as a basis for Projects to be consistent with meeting statewide reduction targets.

As such, if a Project meets the emissions reduction target of 15% below 2010 emissions levels by 2020 it will have a less than significant impacts related to greenhouse gas emissions and global climate change. Conversely, Projects that do not meet the remissions reduction target will require additional analysis and potentially have significant impacts related to greenhouse gas emissions and global climate change.

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3 PROJECT GREENHOUSE GAS IMPACT

3.1 INTRODUCTION

The Project has been evaluated to determine if it will result in a significant greenhouse gas impact. The significance of these potential impacts is described in the following section.

3.2 PROJECT RELATED GREENHOUSE GAS EMISSIONS

On October 17, 2017, the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model™ (CalEEMod™) v2016.3.2. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (NO_x, VOC, PM₁₀, PM_{2.5}, SO_x, and CO) and greenhouse gas (GHG) emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (27). Accordingly, the latest version of CalEEMod™ has been used for this Project to determine construction and operational air quality emissions. Output from the model runs for both construction and operational activity are provided in Appendix 3.1 and 3.4. The CalEEMod model includes GHG emissions from the following source categories: construction, area, energy, mobile, waste, water.

3.3 CONSTRUCTION AND OPERATIONAL LIFE-CYCLE ANALYSIS

A full life-cycle analysis (LCA) for construction and operational activity is not included in this analysis due to the lack of consensus guidance on LCA methodology at this time. Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the project development, infrastructure and on-going operations) depends on emission factors or econometric factors that are not well established for all processes. At this time a LCA would be extremely speculative and thus has not been prepared.

Additionally, the SCAQMD recommends analyzing direct and indirect project GHG emissions generated within California and not life-cycle emissions because the life-cycle effects from a project could occur outside of California, might not be very well understood or documented, and would be challenging to mitigate (28). Additionally, the science to calculate life cycle emissions is not yet established or well defined, therefore SCAQMD has not recommended, and is not requiring, life-cycle emissions analysis.

3.4 PROJECT RELATED GREENHOUSE GAS EMISSIONS

3.4.1 CONSTRUCTION EMISSIONS

Construction activities associated with the proposed Project will result in emissions of CO₂ and CH₄ from construction activities. The report [Rancho Diamante \(Tentative Tract Map No. 36841\) Air Quality Impact Analysis Report](#), Urban Crossroads, Inc. (2018) contains detailed information regarding construction activity (29).

For construction phase Project emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SCAQMD recommends calculating the total greenhouse gas emissions for the construction activities, dividing it by a 30-year project life then adding that number to the annual operational phase GHG emissions (30). As such, construction emissions were amortized over a 30-year period and added to the annual operational phase GHG emissions.

3.5 OPERATIONAL EMISSIONS

Operational activities associated with the proposed Project will result in emissions of CO₂, CH₄, and N₂O from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- Solid Waste
- Water Supply, Treatment and Distribution

3.5.1 AREA SOURCE EMISSIONS

Landscape Maintenance Equipment

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. The emissions associated with landscape maintenance equipment were calculated based on assumptions provided in the CalEEMod model.

3.5.2 ENERGY SOURCE EMISSIONS

Combustion Emissions Associated with Natural Gas and Electricity

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO₂ and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions. Unless otherwise noted, CalEEMod™ default parameters were used.

3.5.3 MOBILE SOURCE EMISSIONS

Vehicles

Project operational (vehicular) impacts are dependent on both overall daily vehicle trip generation and the effect of the Project on peak hour traffic volumes and traffic operations in the vicinity of the Project. The Project related operational air quality impacts derive primarily from vehicle trips generated by the Project. Trip characteristics available from the report,

Rancho Diamante (Tentative Tract Map No. 36841) Traffic Impact Analysis (Urban Crossroads) 2018 were utilized in this analysis. (31)

3.5.4 SOLID WASTE

Project land uses will result in the generation and disposal of solid waste. A large percentage of this waste will be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted will be disposed of at a landfill. GHG emissions from landfills are associated with the anaerobic breakdown of material. GHG emissions associated with the disposal of solid waste associated with the proposed Project were calculated by the CalEEMod™ model using default parameters.

3.5.5 WATER SUPPLY, TREATMENT AND DISTRIBUTION

Indirect GHG emissions result from the production of electricity used to convey, treat and distribute water and wastewater. The amount of electricity required to convey, treat and distribute water depends on the volume of water as well as the sources of the water. Unless otherwise noted, CalEEMod™ default parameters were used.

3.6 EMISSIONS SUMMARY

As shown on Table 3-1, the proposed project's emissions for the baseline year would be 19,215.39 MTCO₂e per year and the project's 2030 emissions would be 16,026.65 MTCO₂e per year. This yields a reduction of approximately 16.59% which satisfies the project reduction target of 15%.

**TABLE 3-1: 2010 VS TOTAL PROJECT YEAR 2020 GREENHOUSE GAS EMISSIONS
REDUCTION LEVELS (WITH PROJECT DESIGN FEATURES)**

Emission Source	CO ₂ e Emissions Levels by Year (Metric Tons Per Year)	
	2010	2020
Residential		
Annual Construction-related emissions amortized over 30 years	564.48	564.48
Area	152.25	10.15
Energy Use	2,604.62	2,098.81
Mobile Sources	10,107.92	8,420.74
Waste	346.81	173.41
Water Usage	297.46	276.01
Total	14,130.40	11,543.60
Commercial		
Annual Construction-related emissions amortized over 30 years	21.84	21.84
Area	2.65E-03	2.65E-03
Energy Use	544.39	368.75
Mobile Sources	4,408.91	4,013.04
Waste	52.80	26.40
Water Usage	57.05	53.02
Total	5,084.99	4,483.05
Total (Residential + Commercial)	19,215.39	16,026.65
Reduction over 2020 BAU	16.59%	
Project Minimum Improvement	15%	
Meets Requirement?	YES	

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6 CERTIFICATION

The contents of this greenhouse gas study report represent an accurate depiction of the greenhouse gas impacts associated with the proposed Rancho Diamante (Tentative Tract Map No. 36841). The information contained in this greenhouse gas report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 660-1994 ext. 217.

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EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May, 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June, 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Planned Communities and Urban Infill – Urban Land Institute • June, 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April, 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August, 2007
AB2588 Regulatory Standards – Trinity Consultants • November, 2006
Air Dispersion Modeling – Lakes Environmental • June, 2006

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APPENDIX 3.1:

CALEEMOD RESIDENTIAL (2020) EMISSIONS MODEL OUTPUTS

Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

Rancho Diamante Phase 1 (Construction - Mitigated)
Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	73.72	Acre	73.72	3,211,243.20	0
Single Family Housing	588.00	Dwelling Unit	86.55	1,324,117.20	1682

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.4	Precipitation Freq (Days)	28
Climate Zone	10			Operational Year	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

Project Characteristics -

Land Use - Average Lot Area: 6,434 SF; Average home size is assumed to be 35% maximum coverage of lot area.

Construction Phase - Construction Schedule adjusted to meet operational year.

Off-road Equipment - Hours are based on an 8-hour workday.

Off-road Equipment - Hours are based on an 8-hour workday.

Off-road Equipment - Equipment list adjusted based on past Project experience.

Off-road Equipment -

Trips and VMT -

Grading -

Architectural Coating - Rule 1113

Vehicle Trips - Construction Run Only.

Woodstoves - Construction Run Only.

Energy Use - Construction Run Only.

Water And Wastewater - Construction Run Only.

Solid Waste - Construction Run Only.

Construction Off-road Equipment Mitigation - All equipment operating >150 HP are required to be equipped with Tier 3 or better engines.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 3

Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	220.00	440.00
tblConstructionPhase	NumDays	3,100.00	1,000.00
tblConstructionPhase	NumDays	310.00	100.00
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	6,155.97	0.00
tblEnergyUse	NT24NG	6,030.00	0.00
tblEnergyUse	T24E	951.67	0.00
tblEnergyUse	T24NG	24,566.15	0.00
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	499.80	0.00
tblFireplaces	NumberNoFireplace	58.80	0.00
tblFireplaces	NumberWood	29.40	0.00
tblGrading	MaterialImported	0.00	52,300.00
tblLandUse	LandUseSquareFeet	1,058,400.00	1,324,117.20
tblLandUse	LotAcreage	190.91	86.55
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00

Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

tblSolidWaste	SolidWasteGenerationRate	689.62	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	0.00
tblVehicleTrips	HW_TTP	40.20	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	0.00
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	9.52	0.00
tblWater	IndoorWaterUseRate	38,310,567.07	0.00
tblWater	OutdoorWaterUseRate	24,152,314.02	0.00
tblWoodstoves	NumberCatalytic	29.40	0.00
tblWoodstoves	NumberNoncatalytic	29.40	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

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					
2019	0.8269	8.9203	5.5329	0.0174	1.7888	0.2943	2.0831	0.6922	0.2721	0.9643	0.0000	1,606.122 0	1,606.122 0	0.2401	0.0000	1,612.124 0
2020	1.4539	11.3886	10.9508	0.0444	2.7335	0.2157	2.9493	0.7371	0.2031	0.9402	0.0000	4,101.637 7	4,101.637 7	0.2798	0.0000	4,108.631 6
2021	1.3202	10.2020	10.0937	0.0434	2.7231	0.1609	2.8840	0.7342	0.1511	0.8853	0.0000	4,008.714 9	4,008.714 9	0.2651	0.0000	4,015.343 1
2022	1.2210	9.4331	9.4277	0.0423	2.7126	0.1369	2.8495	0.7314	0.1286	0.8600	0.0000	3,911.638 6	3,911.638 6	0.2519	0.0000	3,917.935 9
2023	3.4276	5.5581	7.6155	0.0312	2.1528	0.1114	2.2642	0.5787	0.1047	0.6834	0.0000	2,870.172 4	2,870.172 4	0.1769	0.0000	2,874.593 9
2024	2.1655	0.8180	1.9239	4.5300e- 003	0.3412	0.0390	0.3803	0.0906	0.0366	0.1272	0.0000	404.6681	404.6681	0.0471	0.0000	405.8447
Maximum	3.4276	11.3886	10.9508	0.0444	2.7335	0.2943	2.9493	0.7371	0.2721	0.9643	0.0000	4,101.637 7	4,101.637 7	0.2798	0.0000	4,108.631 6

Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

2.1 Overall Construction

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					
2019	0.4943	6.1227	5.8267	0.0174	1.0740	0.1683	1.2423	0.3716	0.1644	0.5360	0.0000	1,606.1213	1,606.1213	0.2401	0.0000	1,612.1233
2020	1.4131	11.0414	11.0761	0.0444	2.7335	0.2002	2.9338	0.7371	0.1899	0.9270	0.0000	4,101.6373	4,101.6373	0.2798	0.0000	4,108.6312
2021	1.2848	9.9269	10.2358	0.0434	2.7231	0.1488	2.8718	0.7342	0.1410	0.8752	0.0000	4,008.7145	4,008.7145	0.2651	0.0000	4,015.3427
2022	1.1910	9.2455	9.5811	0.0423	2.7126	0.1278	2.8404	0.7314	0.1213	0.8527	0.0000	3,911.6382	3,911.6382	0.2519	0.0000	3,917.9355
2023	3.4103	5.4694	7.7176	0.0312	2.1528	0.1068	2.2596	0.5787	0.1012	0.6799	0.0000	2,870.1720	2,870.1720	0.1769	0.0000	2,874.5935
2024	2.1655	0.8180	1.9239	4.5300e-003	0.3412	0.0390	0.3803	0.0906	0.0366	0.1272	0.0000	404.6679	404.6679	0.0471	0.0000	405.8445
Maximum	3.4103	11.0414	11.0761	0.0444	2.7335	0.2002	2.9338	0.7371	0.1899	0.9270	0.0000	4,101.6373	4,101.6373	0.2798	0.0000	4,108.6312

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	4.38	7.98	-1.79	0.00	5.74	17.46	6.58	9.00	15.81	10.36	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	6-3-2019	9-2-2019	4.5364	2.5414
2	9-3-2019	12-2-2019	4.0055	2.9497
3	12-3-2019	3-2-2020	3.2789	3.1757
4	3-3-2020	6-2-2020	3.2105	3.1132
5	6-3-2020	9-2-2020	3.2129	3.1155

Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

6	9-3-2020	12-2-2020	3.1728	3.0765
7	12-3-2020	3-2-2021	2.9250	2.8425
8	3-3-2021	6-2-2021	2.8961	2.8179
9	6-3-2021	9-2-2021	2.9000	2.8219
10	9-3-2021	12-2-2021	2.8600	2.7827
11	12-3-2021	3-2-2022	2.6876	2.6265
12	3-3-2022	6-2-2022	2.6899	2.6349
13	6-3-2022	9-2-2022	2.6942	2.6392
14	9-3-2022	12-2-2022	2.6556	2.6012
15	12-3-2022	3-2-2023	2.6538	2.6085
16	3-3-2023	6-2-2023	2.9687	2.9266
17	6-3-2023	9-2-2023	2.6814	2.6461
18	9-3-2023	12-2-2023	1.1707	1.1707
19	12-3-2023	3-2-2024	1.1490	1.1490
20	3-3-2024	6-2-2024	1.1512	1.1512
21	6-3-2024	9-2-2024	0.8518	0.8518
22	9-3-2024	9-30-2024	0.1935	0.1935
		Highest	4.5364	3.1757

Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

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	5.6335	0.0699	6.0622	3.2000e-004		0.0336	0.0336		0.0336	0.0336	0.0000	9.9070	9.9070	9.5100e-003	0.0000	10.1447
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.6335	0.0699	6.0622	3.2000e-004	0.0000	0.0336	0.0336	0.0000	0.0336	0.0336	0.0000	9.9070	9.9070	9.5100e-003	0.0000	10.1447

Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

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	5.6335	0.0699	6.0622	3.2000e-004		0.0336	0.0336		0.0336	0.0336	0.0000	9.9070	9.9070	9.5100e-003	0.0000	10.1447
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.6335	0.0699	6.0622	3.2000e-004	0.0000	0.0336	0.0336	0.0000	0.0336	0.0336	0.0000	9.9070	9.9070	9.5100e-003	0.0000	10.1447

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

3.0 Construction Detail

Construction Phase

Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	6/3/2019	10/18/2019	5	100	
2	Building Construction	Building Construction	10/19/2019	8/18/2023	5	1000	
3	Architectural Coating	Architectural Coating	1/19/2023	9/25/2024	5	440	
4	Paving	Paving	8/19/2023	6/21/2024	5	220	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 500

Acres of Paving: 73.72

Residential Indoor: 2,681,337; Residential Outdoor: 893,779; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 192,675 (Architectural Coating – sqft)

OffRoad Equipment

Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	2	8.00	187	0.41
Grading	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	4	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	8.00	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
Grading	13	33.00	0.00	6,538.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,560.00	589.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	312.00	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

Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

3.2 Grading - 2019**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					1.1718	0.0000	1.1718	0.5257	0.0000	0.5257	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4813	5.5538	2.9953	5.8000e-003		0.2392	0.2392		0.2200	0.2200	0.0000	521.0929	521.0929	0.1649	0.0000	525.2146
Total	0.4813	5.5538	2.9953	5.8000e-003	1.1718	0.2392	1.4109	0.5257	0.2200	0.7457	0.0000	521.0929	521.0929	0.1649	0.0000	525.2146

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	0.0188	0.8561	0.1080	2.4900e-003	0.0564	3.0400e-003	0.0594	0.0155	2.9100e-003	0.0184	0.0000	239.4690	239.4690	0.0157	0.0000	239.8603
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	8.2000e-003	5.9700e-003	0.0626	1.7000e-004	0.0181	1.1000e-004	0.0183	4.8200e-003	1.0000e-004	4.9200e-003	0.0000	15.6685	15.6685	4.3000e-004	0.0000	15.6793
Total	0.0270	0.8621	0.1706	2.6600e-003	0.0745	3.1500e-003	0.0777	0.0203	3.0100e-003	0.0233	0.0000	255.1375	255.1375	0.0161	0.0000	255.5395

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3.2 Grading - 2019

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					0.4570	0.0000	0.4570	0.2050	0.0000	0.2050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1582	2.8411	3.2688	5.8000e-003		0.1171	0.1171		0.1158	0.1158	0.0000	521.0923	521.0923	0.1649	0.0000	525.2140
Total	0.1582	2.8411	3.2688	5.8000e-003	0.4570	0.1171	0.5740	0.2050	0.1158	0.3208	0.0000	521.0923	521.0923	0.1649	0.0000	525.2140

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	0.0188	0.8561	0.1080	2.4900e-003	0.0564	3.0400e-003	0.0594	0.0155	2.9100e-003	0.0184	0.0000	239.4690	239.4690	0.0157	0.0000	239.8603
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	8.2000e-003	5.9700e-003	0.0626	1.7000e-004	0.0181	1.1000e-004	0.0183	4.8200e-003	1.0000e-004	4.9200e-003	0.0000	15.6685	15.6685	4.3000e-004	0.0000	15.6793
Total	0.0270	0.8621	0.1706	2.6600e-003	0.0745	3.1500e-003	0.0777	0.0203	3.0100e-003	0.0233	0.0000	255.1375	255.1375	0.0161	0.0000	255.5395

Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

3.3 Building Construction - 2019

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	0.0653	0.5904	0.4762	7.5000e-004		0.0359	0.0359		0.0337	0.0337	0.0000	65.5314	65.5314	0.0163	0.0000	65.9386
Total	0.0653	0.5904	0.4762	7.5000e-004		0.0359	0.0359		0.0337	0.0337	0.0000	65.5314	65.5314	0.0163	0.0000	65.9386

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	0.0519	1.7673	0.3518	3.9700e-003	0.0967	0.0133	0.1100	0.0279	0.0127	0.0406	0.0000	379.1990	379.1990	0.0323	0.0000	380.0068
Worker	0.2015	0.1467	1.5390	4.2600e-003	0.4458	2.8000e-003	0.4486	0.1184	2.5800e-003	0.1210	0.0000	385.1611	385.1611	0.0105	0.0000	385.4245
Total	0.2533	1.9140	1.8908	8.2300e-003	0.5425	0.0161	0.5586	0.1463	0.0153	0.1616	0.0000	764.3600	764.3600	0.0429	0.0000	765.4313

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3.3 Building Construction - 2019

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	0.0559	0.5055	0.4964	7.5000e-004		0.0320	0.0320		0.0303	0.0303	0.0000	65.5314	65.5314	0.0163	0.0000	65.9385
Total	0.0559	0.5055	0.4964	7.5000e-004		0.0320	0.0320		0.0303	0.0303	0.0000	65.5314	65.5314	0.0163	0.0000	65.9385

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	0.0519	1.7673	0.3518	3.9700e-003	0.0967	0.0133	0.1100	0.0279	0.0127	0.0406	0.0000	379.1990	379.1990	0.0323	0.0000	380.0068
Worker	0.2015	0.1467	1.5390	4.2600e-003	0.4458	2.8000e-003	0.4486	0.1184	2.5800e-003	0.1210	0.0000	385.1611	385.1611	0.0105	0.0000	385.4245
Total	0.2533	1.9140	1.8908	8.2300e-003	0.5425	0.0161	0.5586	0.1463	0.0153	0.1616	0.0000	764.3600	764.3600	0.0429	0.0000	765.4313

Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

3.3 Building Construction - 2020

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	0.2954	2.7051	2.3538	3.7700e-003		0.1565	0.1565		0.1470	0.1470	0.0000	325.1139	325.1139	0.0810	0.0000	327.1399
Total	0.2954	2.7051	2.3538	3.7700e-003		0.1565	0.1565		0.1470	0.1470	0.0000	325.1139	325.1139	0.0810	0.0000	327.1399

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	0.2192	8.0254	1.5701	0.0198	0.4874	0.0454	0.5327	0.1406	0.0434	0.1840	0.0000	1,897.2447	1,897.2447	0.1517	0.0000	1,901.0362
Worker	0.9393	0.6581	7.0269	0.0208	2.2462	0.0138	2.2600	0.5965	0.0127	0.6092	0.0000	1,879.2791	1,879.2791	0.0471	0.0000	1,880.4555
Total	1.1585	8.6835	8.5970	0.0406	2.7335	0.0592	2.7927	0.7371	0.0562	0.7932	0.0000	3,776.5238	3,776.5238	0.1987	0.0000	3,781.4917

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3.3 Building Construction - 2020

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	0.2546	2.3579	2.4791	3.7700e-003		0.1410	0.1410		0.1338	0.1338	0.0000	325.1135	325.1135	0.0810	0.0000	327.1395
Total	0.2546	2.3579	2.4791	3.7700e-003		0.1410	0.1410		0.1338	0.1338	0.0000	325.1135	325.1135	0.0810	0.0000	327.1395

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	0.2192	8.0254	1.5701	0.0198	0.4874	0.0454	0.5327	0.1406	0.0434	0.1840	0.0000	1,897.2447	1,897.2447	0.1517	0.0000	1,901.0362
Worker	0.9393	0.6581	7.0269	0.0208	2.2462	0.0138	2.2600	0.5965	0.0127	0.6092	0.0000	1,879.2791	1,879.2791	0.0471	0.0000	1,880.4555
Total	1.1585	8.6835	8.5970	0.0406	2.7335	0.0592	2.7927	0.7371	0.0562	0.7932	0.0000	3,776.5238	3,776.5238	0.1987	0.0000	3,781.4917

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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	0.2640	2.4468	2.3060	3.7600e-003		0.1338	0.1338		0.1256	0.1256	0.0000	323.9137	323.9137	0.0799	0.0000	325.9118
Total	0.2640	2.4468	2.3060	3.7600e-003		0.1338	0.1338		0.1256	0.1256	0.0000	323.9137	323.9137	0.0799	0.0000	325.9118

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	0.1834	7.1670	1.3789	0.0196	0.4855	0.0137	0.4992	0.1401	0.0131	0.1532	0.0000	1,875.2877	1,875.2877	0.1431	0.0000	1,878.8641
Worker	0.8728	0.5882	6.4088	0.0200	2.2376	0.0134	2.2510	0.5942	0.0124	0.6065	0.0000	1,809.5134	1,809.5134	0.0422	0.0000	1,810.5672
Total	1.0562	7.7552	7.7877	0.0396	2.7231	0.0271	2.7502	0.7342	0.0255	0.7597	0.0000	3,684.8012	3,684.8012	0.1852	0.0000	3,689.4313

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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	0.2286	2.1716	2.4481	3.7600e-003		0.1217	0.1217		0.1155	0.1155	0.0000	323.9133	323.9133	0.0799	0.0000	325.9114
Total	0.2286	2.1716	2.4481	3.7600e-003		0.1217	0.1217		0.1155	0.1155	0.0000	323.9133	323.9133	0.0799	0.0000	325.9114

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	0.1834	7.1670	1.3789	0.0196	0.4855	0.0137	0.4992	0.1401	0.0131	0.1532	0.0000	1,875.2877	1,875.2877	0.1431	0.0000	1,878.8641
Worker	0.8728	0.5882	6.4088	0.0200	2.2376	0.0134	2.2510	0.5942	0.0124	0.6065	0.0000	1,809.5134	1,809.5134	0.0422	0.0000	1,810.5672
Total	1.0562	7.7552	7.7877	0.0396	2.7231	0.0271	2.7502	0.7342	0.0255	0.7597	0.0000	3,684.8012	3,684.8012	0.1852	0.0000	3,689.4313

Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

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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	0.2359	2.1797	2.2671	3.7500e-003		0.1124	0.1124		0.1056	0.1056	0.0000	322.8033	322.8033	0.0791	0.0000	324.7819
Total	0.2359	2.1797	2.2671	3.7500e-003		0.1124	0.1124		0.1056	0.1056	0.0000	322.8033	322.8033	0.0791	0.0000	324.7819

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	0.1705	6.7263	1.2794	0.0194	0.4836	0.0115	0.4951	0.1395	0.0110	0.1505	0.0000	1,852.0335	1,852.0335	0.1350	0.0000	1,855.4088
Worker	0.8147	0.5271	5.8812	0.0192	2.2290	0.0130	2.2420	0.5919	0.0120	0.6039	0.0000	1,736.8017	1,736.8017	0.0377	0.0000	1,737.7452
Total	0.9851	7.2534	7.1606	0.0386	2.7126	0.0245	2.7371	0.7314	0.0230	0.7544	0.0000	3,588.8352	3,588.8352	0.1728	0.0000	3,593.1540

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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	0.2059	1.9921	2.4204	3.7500e-003		0.1033	0.1033		0.0983	0.0983	0.0000	322.8029	322.8029	0.0791	0.0000	324.7815
Total	0.2059	1.9921	2.4204	3.7500e-003		0.1033	0.1033		0.0983	0.0983	0.0000	322.8029	322.8029	0.0791	0.0000	324.7815

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	0.1705	6.7263	1.2794	0.0194	0.4836	0.0115	0.4951	0.1395	0.0110	0.1505	0.0000	1,852.0335	1,852.0335	0.1350	0.0000	1,855.4088
Worker	0.8147	0.5271	5.8812	0.0192	2.2290	0.0130	2.2420	0.5919	0.0120	0.6039	0.0000	1,736.8017	1,736.8017	0.0377	0.0000	1,737.7452
Total	0.9851	7.2534	7.1606	0.0386	2.7126	0.0245	2.7371	0.7314	0.0230	0.7544	0.0000	3,588.8352	3,588.8352	0.1728	0.0000	3,593.1540

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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	0.1381	1.2736	1.4281	2.3800e-003		0.0617	0.0617		0.0580	0.0580	0.0000	204.9309	204.9309	0.0499	0.0000	206.1789
Total	0.1381	1.2736	1.4281	2.3800e-003		0.0617	0.0617		0.0580	0.0580	0.0000	204.9309	204.9309	0.0499	0.0000	206.1789

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	0.0828	3.1923	0.7071	0.0120	0.3069	3.2500e-003	0.3101	0.0885	3.1100e-003	0.0917	0.0000	1,144.3630	1,144.3630	0.0656	0.0000	1,146.0026
Worker	0.4856	0.3016	3.4403	0.0117	1.4146	8.0600e-003	1.4226	0.3756	7.4200e-003	0.3830	0.0000	1,060.3689	1,060.3689	0.0215	0.0000	1,060.9068
Total	0.5683	3.4938	4.1474	0.0237	1.7215	0.0113	1.7328	0.4642	0.0105	0.4747	0.0000	2,204.7320	2,204.7320	0.0871	0.0000	2,206.9094

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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	0.1208	1.1850	1.5302	2.3800e-003		0.0572	0.0572		0.0545	0.0545	0.0000	204.9307	204.9307	0.0499	0.0000	206.1787
Total	0.1208	1.1850	1.5302	2.3800e-003		0.0572	0.0572		0.0545	0.0545	0.0000	204.9307	204.9307	0.0499	0.0000	206.1787

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	0.0828	3.1923	0.7071	0.0120	0.3069	3.2500e-003	0.3101	0.0885	3.1100e-003	0.0917	0.0000	1,144.3630	1,144.3630	0.0656	0.0000	1,146.0026
Worker	0.4856	0.3016	3.4403	0.0117	1.4146	8.0600e-003	1.4226	0.3756	7.4200e-003	0.3830	0.0000	1,060.3689	1,060.3689	0.0215	0.0000	1,060.9068
Total	0.5683	3.4938	4.1474	0.0237	1.7215	0.0113	1.7328	0.4642	0.0105	0.4747	0.0000	2,204.7320	2,204.7320	0.0871	0.0000	2,206.9094

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3.4 Architectural Coating - 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					
Archit. Coating	2.4509					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0316	0.2146	0.2982	4.9000e-004		0.0117	0.0117		0.0117	0.0117	0.0000	42.0436	42.0436	2.5200e-003	0.0000	42.1065
Total	2.4824	0.2146	0.2982	4.9000e-004		0.0117	0.0117		0.0117	0.0117	0.0000	42.0436	42.0436	2.5200e-003	0.0000	42.1065

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	0.1454	0.0903	1.0300	3.5100e-003	0.4235	2.4100e-003	0.4259	0.1125	2.2200e-003	0.1147	0.0000	317.4680	317.4680	6.4400e-003	0.0000	317.6291
Total	0.1454	0.0903	1.0300	3.5100e-003	0.4235	2.4100e-003	0.4259	0.1125	2.2200e-003	0.1147	0.0000	317.4680	317.4680	6.4400e-003	0.0000	317.6291

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3.4 Architectural Coating - 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	tons/yr										MT/yr					
Archit. Coating	2.4509					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0316	0.2146	0.2982	4.9000e-004		0.0117	0.0117		0.0117	0.0117	0.0000	42.0435	42.0435	2.5200e-003	0.0000	42.1064
Total	2.4824	0.2146	0.2982	4.9000e-004		0.0117	0.0117		0.0117	0.0117	0.0000	42.0435	42.0435	2.5200e-003	0.0000	42.1064

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	0.1454	0.0903	1.0300	3.5100e-003	0.4235	2.4100e-003	0.4259	0.1125	2.2200e-003	0.1147	0.0000	317.4680	317.4680	6.4400e-003	0.0000	317.6291
Total	0.1454	0.0903	1.0300	3.5100e-003	0.4235	2.4100e-003	0.4259	0.1125	2.2200e-003	0.1147	0.0000	317.4680	317.4680	6.4400e-003	0.0000	317.6291

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3.4 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.9151					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0233	0.1568	0.2329	3.8000e-004		7.8400e-003	7.8400e-003		7.8400e-003	7.8400e-003	0.0000	32.8519	32.8519	1.8500e-003	0.0000	32.8981
Total	1.9383	0.1568	0.2329	3.8000e-004		7.8400e-003	7.8400e-003		7.8400e-003	7.8400e-003	0.0000	32.8519	32.8519	1.8500e-003	0.0000	32.8981

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	0.1072	0.0639	0.7534	2.6400e-003	0.3309	1.8700e-003	0.3328	0.0879	1.7200e-003	0.0896	0.0000	239.2022	239.2022	4.5900e-003	0.0000	239.3169
Total	0.1072	0.0639	0.7534	2.6400e-003	0.3309	1.8700e-003	0.3328	0.0879	1.7200e-003	0.0896	0.0000	239.2022	239.2022	4.5900e-003	0.0000	239.3169

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3.4 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	tons/yr										MT/yr					
Archit. Coating	1.9151					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0233	0.1568	0.2329	3.8000e-004		7.8400e-003	7.8400e-003		7.8400e-003	7.8400e-003	0.0000	32.8518	32.8518	1.8500e-003	0.0000	32.8981
Total	1.9383	0.1568	0.2329	3.8000e-004		7.8400e-003	7.8400e-003		7.8400e-003	7.8400e-003	0.0000	32.8518	32.8518	1.8500e-003	0.0000	32.8981

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	0.1072	0.0639	0.7534	2.6400e-003	0.3309	1.8700e-003	0.3328	0.0879	1.7200e-003	0.0896	0.0000	239.2022	239.2022	4.5900e-003	0.0000	239.3169
Total	0.1072	0.0639	0.7534	2.6400e-003	0.3309	1.8700e-003	0.3328	0.0879	1.7200e-003	0.0896	0.0000	239.2022	239.2022	4.5900e-003	0.0000	239.3169

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3.5 Paving - 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	0.0491	0.4841	0.6928	1.0800e-003		0.0242	0.0242		0.0223	0.0223	0.0000	95.1276	95.1276	0.0308	0.0000	95.8968
Paving	0.0417					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0908	0.4841	0.6928	1.0800e-003		0.0242	0.0242		0.0223	0.0223	0.0000	95.1276	95.1276	0.0308	0.0000	95.8968

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	2.6900e-003	1.6700e-003	0.0191	6.0000e-005	7.8300e-003	4.0000e-005	7.8800e-003	2.0800e-003	4.0000e-005	2.1200e-003	0.0000	5.8703	5.8703	1.2000e-004	0.0000	5.8733
Total	2.6900e-003	1.6700e-003	0.0191	6.0000e-005	7.8300e-003	4.0000e-005	7.8800e-003	2.0800e-003	4.0000e-005	2.1200e-003	0.0000	5.8703	5.8703	1.2000e-004	0.0000	5.8733

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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	0.0491	0.4841	0.6928	1.0800e-003		0.0242	0.0242		0.0223	0.0223	0.0000	95.1275	95.1275	0.0308	0.0000	95.8967
Paving	0.0417					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0908	0.4841	0.6928	1.0800e-003		0.0242	0.0242		0.0223	0.0223	0.0000	95.1275	95.1275	0.0308	0.0000	95.8967

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	2.6900e-003	1.6700e-003	0.0191	6.0000e-005	7.8300e-003	4.0000e-005	7.8800e-003	2.0800e-003	4.0000e-005	2.1200e-003	0.0000	5.8703	5.8703	1.2000e-004	0.0000	5.8733
Total	2.6900e-003	1.6700e-003	0.0191	6.0000e-005	7.8300e-003	4.0000e-005	7.8800e-003	2.0800e-003	4.0000e-005	2.1200e-003	0.0000	5.8703	5.8703	1.2000e-004	0.0000	5.8733

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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	0.0618	0.5953	0.9141	1.4300e-003		0.0293	0.0293		0.0269	0.0269	0.0000	125.1658	125.1658	0.0405	0.0000	126.1779
Paving	0.0549					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1166	0.5953	0.9141	1.4300e-003		0.0293	0.0293		0.0269	0.0269	0.0000	125.1658	125.1658	0.0405	0.0000	126.1779

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	3.3400e-003	1.9900e-003	0.0235	8.0000e-005	0.0103	6.0000e-005	0.0104	2.7400e-003	5.0000e-005	2.7900e-003	0.0000	7.4483	7.4483	1.4000e-004	0.0000	7.4518
Total	3.3400e-003	1.9900e-003	0.0235	8.0000e-005	0.0103	6.0000e-005	0.0104	2.7400e-003	5.0000e-005	2.7900e-003	0.0000	7.4483	7.4483	1.4000e-004	0.0000	7.4518

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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	0.0618	0.5953	0.9141	1.4300e-003		0.0293	0.0293		0.0269	0.0269	0.0000	125.1657	125.1657	0.0405	0.0000	126.1777
Paving	0.0549					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1166	0.5953	0.9141	1.4300e-003		0.0293	0.0293		0.0269	0.0269	0.0000	125.1657	125.1657	0.0405	0.0000	126.1777

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	3.3400e-003	1.9900e-003	0.0235	8.0000e-005	0.0103	6.0000e-005	0.0104	2.7400e-003	5.0000e-005	2.7900e-003	0.0000	7.4483	7.4483	1.4000e-004	0.0000	7.4518
Total	3.3400e-003	1.9900e-003	0.0235	8.0000e-005	0.0103	6.0000e-005	0.0104	2.7400e-003	5.0000e-005	2.7900e-003	0.0000	7.4483	7.4483	1.4000e-004	0.0000	7.4518

4.0 Operational Detail - Mobile

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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	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive 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	5.6335	0.0699	6.0622	3.2000e-004		0.0336	0.0336		0.0336	0.0336	0.0000	9.9070	9.9070	9.5100e-003	0.0000	10.1447
Unmitigated	5.6335	0.0699	6.0622	3.2000e-004		0.0336	0.0336		0.0336	0.0336	0.0000	9.9070	9.9070	9.5100e-003	0.0000	10.1447

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	0.4589					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.9923					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1823	0.0699	6.0622	3.2000e-004		0.0336	0.0336		0.0336	0.0336	0.0000	9.9070	9.9070	9.5100e-003	0.0000	10.1447
Total	5.6335	0.0699	6.0622	3.2000e-004		0.0336	0.0336		0.0336	0.0336	0.0000	9.9070	9.9070	9.5100e-003	0.0000	10.1447

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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	0.4589					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.9923					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1823	0.0699	6.0622	3.2000e-004		0.0336	0.0336		0.0336	0.0336	0.0000	9.9070	9.9070	9.5100e-003	0.0000	10.1447
Total	5.6335	0.0699	6.0622	3.2000e-004		0.0336	0.0336		0.0336	0.0336	0.0000	9.9070	9.9070	9.5100e-003	0.0000	10.1447

7.0 Water Detail

7.1 Mitigation Measures Water

Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Rancho Diamante Phase 1 (Construction - Mitigated) - Riverside-South Coast County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated)
Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	73.72	Acre	73.72	3,211,243.20	0
Single Family Housing	588.00	Dwelling Unit	86.55	1,324,117.20	1682

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.4	Precipitation Freq (Days)	28
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

Project Characteristics -

Land Use - Total Lot Acreage based on information provided in the Site Plan.

Construction Phase - Operations Run Only.

Off-road Equipment - Operations Run Only.

Trips and VMT - Operations Run Only.

Vehicle Trips - Operations Run Only.

Woodstoves - Gas Stoves and Fireplaces Only.

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	120.00	1.00
tblFireplaces	NumberGas	499.80	588.00
tblFireplaces	NumberNoFireplace	58.80	0.00
tblFireplaces	NumberWood	29.40	0.00
tblLandUse	LandUseSquareFeet	1,058,400.00	1,324,117.20
tblLandUse	LotAcreage	190.91	86.55
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	29.40	0.00
tblWoodstoves	NumberNoncatalytic	29.40	0.00

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	5.6508	0.1923	6.1368	1.1000e-003		0.0433	0.0433		0.0433	0.0433	0.0000	151.1077	151.1077	0.0124	2.5900e-003	152.1883
Energy	0.0970	0.8290	0.3528	5.2900e-003		0.0670	0.0670		0.0670	0.0670	0.0000	2,593.0708	2,593.0708	0.0858	0.0316	2,604.6181
Mobile	1.8643	16.0000	23.5524	0.0968	7.1562	0.0917	7.2479	1.9176	0.0865	2.0040	0.0000	8,956.4951	8,956.4951	0.4689	0.0000	8,968.2171
Waste						0.0000	0.0000		0.0000	0.0000	139.9866	0.0000	139.9866	8.2730	0.0000	346.8110
Water						0.0000	0.0000		0.0000	0.0000	12.1542	244.4381	256.5923	1.2584	0.0316	297.4595
Total	7.6122	17.0213	30.0420	0.1032	7.1562	0.2020	7.3582	1.9176	0.1968	2.1144	152.1408	11,945.1116	12,097.2524	10.0985	0.0657	12,369.2938

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

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	5.6366	0.0704	6.0850	3.2000e-004		0.0335	0.0335		0.0335	0.0335	0.0000	9.9070	9.9070	9.6600e-003	0.0000	10.1486
Energy	0.0557	0.4762	0.2026	3.0400e-003		0.0385	0.0385		0.0385	0.0385	0.0000	2,090.0322	2,090.0322	0.0741	0.0233	2,098.8136
Mobile	1.8162	15.4541	22.2587	0.0909	6.6624	0.0859	6.7483	1.7852	0.0810	1.8662	0.0000	8,409.4074	8,409.4074	0.4532	0.0000	8,420.7376
Waste						0.0000	0.0000		0.0000	0.0000	69.9933	0.0000	69.9933	4.1365	0.0000	173.4055
Water						0.0000	0.0000		0.0000	0.0000	12.1542	223.0640	235.2182	1.2576	0.0314	276.0089
Total	7.5085	16.0006	28.5462	0.0942	6.6624	0.1579	6.8202	1.7852	0.1530	1.9382	82.1475	10,732.4106	10,814.5581	5.9310	0.0546	10,979.1142

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	1.36	6.00	4.98	8.68	6.90	21.86	7.31	6.90	22.28	8.33	46.01	10.15	10.60	41.27	16.85	11.24

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/3/2019	6/3/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

Acres of Grading (Grading Phase): 0

Acres of Paving: 73.72

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

3.2 Site Preparation - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000	0.0000	0.0000	0.0000	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive 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	1.8162	15.4541	22.2587	0.0909	6.6624	0.0859	6.7483	1.7852	0.0810	1.8662	0.0000	8,409.4074	8,409.4074	0.4532	0.0000	8,420.7376
Unmitigated	1.8643	16.0000	23.5524	0.0968	7.1562	0.0917	7.2479	1.9176	0.0865	2.0040	0.0000	8,956.4951	8,956.4951	0.4689	0.0000	8,968.2171

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	5,550.72	5,609.52	5027.40	18,740,891	17,447,770
Total	5,550.72	5,609.52	5,027.40	18,740,891	17,447,770

4.3 Trip Type Information

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120
Single Family Housing	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,538.5310	1,538.5310	0.0635	0.0131	1,544.0352
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,633.0273	1,633.0273	0.0674	0.0140	1,638.8695
NaturalGas Mitigated	0.0557	0.4762	0.2026	3.0400e-003		0.0385	0.0385		0.0385	0.0385	0.0000	551.5012	551.5012	0.0106	0.0101	554.7784
NaturalGas Unmitigated	0.0970	0.8290	0.3528	5.2900e-003		0.0670	0.0670		0.0670	0.0670	0.0000	960.0435	960.0435	0.0184	0.0176	965.7486

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

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					
Other Asphalt Surfaces	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
Single Family Housing	1.79905e+007	0.0970	0.8290	0.3528	5.2900e-003		0.0670	0.0670		0.0670	0.0670	0.0000	960.0435	960.0435	0.0184	0.0176	965.7486
Total		0.0970	0.8290	0.3528	5.2900e-003		0.0670	0.0670		0.0670	0.0670	0.0000	960.0435	960.0435	0.0184	0.0176	965.7486

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					
Other Asphalt Surfaces	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
Single Family Housing	1.03347e+007	0.0557	0.4762	0.2026	3.0400e-003		0.0385	0.0385		0.0385	0.0385	0.0000	551.5012	551.5012	0.0106	0.0101	554.7784
Total		0.0557	0.4762	0.2026	3.0400e-003		0.0385	0.0385		0.0385	0.0385	0.0000	551.5012	551.5012	0.0106	0.0101	554.7784

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	5.12529e+006	1,633.0273	0.0674	0.0140	1,638.8695
Total		1,633.0273	0.0674	0.0140	1,638.8695

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	4.82871e+006	1,538.5310	0.0635	0.0131	1,544.0352
Total		1,538.5310	0.0635	0.0131	1,544.0352

6.0 Area Detail

6.1 Mitigation Measures Area

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

Use only Natural Gas Hearths

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive 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	5.6366	0.0704	6.0850	3.2000e-004		0.0335	0.0335		0.0335	0.0335	0.0000	9.9070	9.9070	9.6600e-003	0.0000	10.1486
Unmitigated	5.6508	0.1923	6.1368	1.1000e-003		0.0433	0.0433		0.0433	0.0433	0.0000	151.1077	151.1077	0.0124	2.5900e-003	152.1883

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

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	0.4589					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.9923					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0143	0.1219	0.0519	7.8000e-004		9.8600e-003	9.8600e-003		9.8600e-003	9.8600e-003	0.0000	141.2006	141.2006	2.7100e-003	2.5900e-003	142.0397
Landscaping	0.1854	0.0704	6.0850	3.2000e-004		0.0335	0.0335		0.0335	0.0335	0.0000	9.9070	9.9070	9.6600e-003	0.0000	10.1486
Total	5.6508	0.1923	6.1368	1.1000e-003		0.0433	0.0433		0.0433	0.0433	0.0000	151.1077	151.1077	0.0124	2.5900e-003	152.1883

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

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	0.4589					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.9923					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1854	0.0704	6.0850	3.2000e-004		0.0335	0.0335		0.0335	0.0335	0.0000	9.9070	9.9070	9.6600e-003	0.0000	10.1486
Total	5.6366	0.0704	6.0850	3.2000e-004		0.0335	0.0335		0.0335	0.0335	0.0000	9.9070	9.9070	9.6600e-003	0.0000	10.1486

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	235.2182	1.2576	0.0314	276.0089
Unmitigated	256.5923	1.2584	0.0316	297.4595

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	38.3106 / 24.1523	256.5923	1.2584	0.0316	297.4595
Total		256.5923	1.2584	0.0316	297.4595

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	38.3106 / 18.1142	235.2182	1.2576	0.0314	276.0089
Total		235.2182	1.2576	0.0314	276.0089

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	69.9933	4.1365	0.0000	173.4055
Unmitigated	139.9866	8.2730	0.0000	346.8110

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	689.62	139.9866	8.2730	0.0000	346.8110
Total		139.9866	8.2730	0.0000	346.8110

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	344.81	69.9933	4.1365	0.0000	173.4055
Total		69.9933	4.1365	0.0000	173.4055

9.0 Operational Offroad

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

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
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Rancho Diamante Phase 1 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

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APPENDIX 3.2:

CALEEMOD COMMERCIAL (2020) EMISSIONS MODEL OUTPUTS

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

Rancho Diamante Phase 2 (Construction - Mitigated)
Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Regional Shopping Center	100.00	1000sqft	19.67	100,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.4	Precipitation Freq (Days)	28
Climate Zone	10			Operational Year	2026
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

Project Characteristics -

Land Use - Total Lot Acreage based on information provided in the Site Plan.

Construction Phase - Architectural Coating activities to be conducted simultaneous with Paving activities.

Off-road Equipment - Equipment list adjusted based on past Project experience.

Off-road Equipment - Hours are based on an 8-hour workday.

Off-road Equipment -

Off-road Equipment - Hours are based on an 8-hour workday.

Architectural Coating - Rule 1113

Vehicle Trips - Construction Run Only.

Energy Use - Construction Run Only.

Water And Wastewater - Construction Run Only.

Solid Waste - Construction Run Only.

Construction Off-road Equipment Mitigation - All equipment operating >150 HP are required to be equipped with Tier 3 or better engines.

Grading -

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	PhaseStartDate	1/29/2026	1/1/2026
tblEnergyUse	LightingElect	5.61	0.00
tblEnergyUse	NT24E	2.44	0.00
tblEnergyUse	NT24NG	0.30	0.00
tblEnergyUse	T24E	4.58	0.00
tblEnergyUse	T24NG	1.92	0.00
tblLandUse	LotAcreage	2.30	19.67
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblSolidWaste	SolidWasteGenerationRate	105.00	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	64.70	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	16.30	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	54.00	0.00

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	WD_TR	42.70	0.00
tblWater	IndoorWaterUseRate	7,407,252.15	0.00
tblWater	OutdoorWaterUseRate	4,539,928.74	0.00

2.0 Emissions Summary

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

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					
2024	0.1323	1.2967	1.0820	2.4800e-003	0.3648	0.0537	0.4185	0.1614	0.0497	0.2110	0.0000	217.6426	217.6426	0.0618	0.0000	219.1875
2025	0.2075	1.8873	2.3618	4.6300e-003	0.0591	0.0741	0.1332	0.0160	0.0696	0.0856	0.0000	404.8584	404.8584	0.0814	0.0000	406.8939
2026	0.2463	0.1168	0.1999	3.3000e-004	2.9700e-003	5.5700e-003	8.5400e-003	7.9000e-004	5.2400e-003	6.0300e-003	0.0000	28.8122	28.8122	6.8800e-003	0.0000	28.9842
Maximum	0.2463	1.8873	2.3618	4.6300e-003	0.3648	0.0741	0.4185	0.1614	0.0696	0.2110	0.0000	404.8584	404.8584	0.0814	0.0000	406.8939

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					
2024	0.0761	1.1148	1.3723	2.4800e-003	0.1510	0.0445	0.1955	0.0653	0.0438	0.1091	0.0000	217.6423	217.6423	0.0618	0.0000	219.1873
2025	0.1852	1.8316	2.5360	4.6300e-003	0.0591	0.0701	0.1292	0.0160	0.0670	0.0830	0.0000	404.8580	404.8580	0.0814	0.0000	406.8935
2026	0.2463	0.1168	0.1999	3.3000e-004	2.9700e-003	5.5700e-003	8.5400e-003	7.9000e-004	5.2400e-003	6.0300e-003	0.0000	28.8121	28.8121	6.8800e-003	0.0000	28.9842
Maximum	0.2463	1.8316	2.5360	4.6300e-003	0.1510	0.0701	0.1955	0.0653	0.0670	0.1091	0.0000	404.8580	404.8580	0.0814	0.0000	406.8935

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	13.39	7.20	-12.75	0.00	50.09	9.90	40.53	53.94	6.80	34.55	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	9-26-2024	12-25-2024	1.3946	1.1584
2	12-26-2024	3-25-2025	0.5183	0.4983
3	3-26-2025	6-25-2025	0.5276	0.5079
4	6-26-2025	9-25-2025	0.5276	0.5080
5	9-26-2025	12-25-2025	0.5215	0.5021
6	12-26-2025	3-25-2026	0.3976	0.3963
		Highest	1.3946	1.1584

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	0.4078	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.4078	1.0000e-005	1.2700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

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	0.4078	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.4078	1.0000e-005	1.2700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003

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

3.0 Construction Detail

Construction Phase

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	9/26/2024	11/6/2024	5	30	
2	Building Construction	Building Construction	11/7/2024	12/31/2025	5	300	
3	Paving	Paving	1/1/2026	1/28/2026	5	20	
4	Architectural Coating	Architectural Coating	1/1/2026	2/25/2026	5	40	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 150

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 150,000; Non-Residential Outdoor: 50,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	8.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Graders	2	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Grading	Scrapers	4	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

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
Grading	13	33.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	32.00	16.00	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
Architectural Coating	1	6.00	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

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

3.2 Grading - 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					
Fugitive Dust					0.3505	0.0000	0.3505	0.1576	0.0000	0.1576	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0972	0.9927	0.7136	1.7400e-003		0.0408	0.0408		0.0376	0.0376	0.0000	152.9842	152.9842	0.0495	0.0000	154.2212
Total	0.0972	0.9927	0.7136	1.7400e-003	0.3505	0.0408	0.3913	0.1576	0.0376	0.1951	0.0000	152.9842	152.9842	0.0495	0.0000	154.2212

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	1.7600e-003	1.0500e-003	0.0124	4.0000e-005	5.4400e-003	3.0000e-005	5.4700e-003	1.4400e-003	3.0000e-005	1.4700e-003	0.0000	3.9327	3.9327	8.0000e-005	0.0000	3.9346
Total	1.7600e-003	1.0500e-003	0.0124	4.0000e-005	5.4400e-003	3.0000e-005	5.4700e-003	1.4400e-003	3.0000e-005	1.4700e-003	0.0000	3.9327	3.9327	8.0000e-005	0.0000	3.9346

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

3.2 Grading - 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	tons/yr										MT/yr					
Fugitive Dust					0.1367	0.0000	0.1367	0.0614	0.0000	0.0614	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0448	0.8257	0.9786	1.7400e-003		0.0324	0.0324		0.0323	0.0323	0.0000	152.9840	152.9840	0.0495	0.0000	154.2210
Total	0.0448	0.8257	0.9786	1.7400e-003	0.1367	0.0324	0.1691	0.0614	0.0323	0.0937	0.0000	152.9840	152.9840	0.0495	0.0000	154.2210

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	1.7600e-003	1.0500e-003	0.0124	4.0000e-005	5.4400e-003	3.0000e-005	5.4700e-003	1.4400e-003	3.0000e-005	1.4700e-003	0.0000	3.9327	3.9327	8.0000e-005	0.0000	3.9346
Total	1.7600e-003	1.0500e-003	0.0124	4.0000e-005	5.4400e-003	3.0000e-005	5.4700e-003	1.4400e-003	3.0000e-005	1.4700e-003	0.0000	3.9327	3.9327	8.0000e-005	0.0000	3.9346

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

3.3 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	0.0306	0.2813	0.3359	5.6000e-004		0.0128	0.0128		0.0120	0.0120	0.0000	48.4481	48.4481	0.0117	0.0000	48.7416
Total	0.0306	0.2813	0.3359	5.6000e-004		0.0128	0.0128		0.0120	0.0120	0.0000	48.4481	48.4481	0.0117	0.0000	48.7416

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	5.2000e-004	0.0204	4.3900e-003	8.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.7000e-004	2.0000e-005	5.9000e-004	0.0000	7.3200	7.3200	4.1000e-004	0.0000	7.3303
Worker	2.2200e-003	1.3300e-003	0.0156	5.0000e-005	6.8600e-003	4.0000e-005	6.9000e-003	1.8200e-003	4.0000e-005	1.8600e-003	0.0000	4.9576	4.9576	1.0000e-004	0.0000	4.9599
Total	2.7400e-003	0.0217	0.0200	1.3000e-004	8.8300e-003	6.0000e-005	8.8900e-003	2.3900e-003	6.0000e-005	2.4500e-003	0.0000	12.2776	12.2776	5.1000e-004	0.0000	12.2903

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

3.3 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	tons/yr										MT/yr					
Off-Road	0.0269	0.2664	0.3612	5.6000e-004		0.0120	0.0120		0.0114	0.0114	0.0000	48.4480	48.4480	0.0117	0.0000	48.7415
Total	0.0269	0.2664	0.3612	5.6000e-004		0.0120	0.0120		0.0114	0.0114	0.0000	48.4480	48.4480	0.0117	0.0000	48.7415

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	5.2000e-004	0.0204	4.3900e-003	8.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.7000e-004	2.0000e-005	5.9000e-004	0.0000	7.3200	7.3200	4.1000e-004	0.0000	7.3303
Worker	2.2200e-003	1.3300e-003	0.0156	5.0000e-005	6.8600e-003	4.0000e-005	6.9000e-003	1.8200e-003	4.0000e-005	1.8600e-003	0.0000	4.9576	4.9576	1.0000e-004	0.0000	4.9599
Total	2.7400e-003	0.0217	0.0200	1.3000e-004	8.8300e-003	6.0000e-005	8.8900e-003	2.3900e-003	6.0000e-005	2.4500e-003	0.0000	12.2776	12.2776	5.1000e-004	0.0000	12.2903

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3.3 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	0.1900	1.7443	2.2365	3.7700e-003		0.0737	0.0737		0.0692	0.0692	0.0000	324.3345	324.3345	0.0782	0.0000	326.2884
Total	0.1900	1.7443	2.2365	3.7700e-003		0.0737	0.0737		0.0692	0.0692	0.0000	324.3345	324.3345	0.0782	0.0000	326.2884

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	3.4000e-003	0.1349	0.0284	5.1000e-004	0.0132	1.4000e-004	0.0133	3.8000e-003	1.3000e-004	3.9400e-003	0.0000	48.6742	48.6742	2.6900e-003	0.0000	48.7413
Worker	0.0141	8.0700e-003	0.0969	3.5000e-004	0.0459	2.5000e-004	0.0462	0.0122	2.3000e-004	0.0124	0.0000	31.8496	31.8496	5.8000e-004	0.0000	31.8641
Total	0.0175	0.1430	0.1253	8.6000e-004	0.0591	3.9000e-004	0.0595	0.0160	3.6000e-004	0.0164	0.0000	80.5238	80.5238	3.2700e-003	0.0000	80.6054

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3.3 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	tons/yr										MT/yr					
Off-Road	0.1677	1.6886	2.4108	3.7700e-003		0.0697	0.0697		0.0666	0.0666	0.0000	324.3341	324.3341	0.0782	0.0000	326.2881
Total	0.1677	1.6886	2.4108	3.7700e-003		0.0697	0.0697		0.0666	0.0666	0.0000	324.3341	324.3341	0.0782	0.0000	326.2881

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	3.4000e-003	0.1349	0.0284	5.1000e-004	0.0132	1.4000e-004	0.0133	3.8000e-003	1.3000e-004	3.9400e-003	0.0000	48.6742	48.6742	2.6900e-003	0.0000	48.7413
Worker	0.0141	8.0700e-003	0.0969	3.5000e-004	0.0459	2.5000e-004	0.0462	0.0122	2.3000e-004	0.0124	0.0000	31.8496	31.8496	5.8000e-004	0.0000	31.8641
Total	0.0175	0.1430	0.1253	8.6000e-004	0.0591	3.9000e-004	0.0595	0.0160	3.6000e-004	0.0164	0.0000	80.5238	80.5238	3.2700e-003	0.0000	80.6054

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3.4 Paving - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.1500e-003	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0193	20.0193	6.4700e-003	0.0000	20.1811
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.1500e-003	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0193	20.0193	6.4700e-003	0.0000	20.1811

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	4.8000e-004	2.7000e-004	3.2400e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.1024	1.1024	2.0000e-005	0.0000	1.1028
Total	4.8000e-004	2.7000e-004	3.2400e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.1024	1.1024	2.0000e-005	0.0000	1.1028

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

3.4 Paving - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.1500e-003	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0192	20.0192	6.4700e-003	0.0000	20.1811
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.1500e-003	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0192	20.0192	6.4700e-003	0.0000	20.1811

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	4.8000e-004	2.7000e-004	3.2400e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.1024	1.1024	2.0000e-005	0.0000	1.1028
Total	4.8000e-004	2.7000e-004	3.2400e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.1024	1.1024	2.0000e-005	0.0000	1.1028

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3.5 Architectural Coating - 2026

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	0.2318					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5600e-003	0.0306	0.0482	8.0000e-005		1.3700e-003	1.3700e-003		1.3700e-003	1.3700e-003	0.0000	6.8087	6.8087	3.7000e-004	0.0000	6.8180
Total	0.2363	0.0306	0.0482	8.0000e-005		1.3700e-003	1.3700e-003		1.3700e-003	1.3700e-003	0.0000	6.8087	6.8087	3.7000e-004	0.0000	6.8180

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	3.8000e-004	2.1000e-004	2.6000e-003	1.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	0.8819	0.8819	2.0000e-005	0.0000	0.8823
Total	3.8000e-004	2.1000e-004	2.6000e-003	1.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	0.8819	0.8819	2.0000e-005	0.0000	0.8823

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

3.5 Architectural Coating - 2026

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	0.2318					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5600e-003	0.0306	0.0482	8.0000e-005		1.3700e-003	1.3700e-003		1.3700e-003	1.3700e-003	0.0000	6.8087	6.8087	3.7000e-004	0.0000	6.8180
Total	0.2363	0.0306	0.0482	8.0000e-005		1.3700e-003	1.3700e-003		1.3700e-003	1.3700e-003	0.0000	6.8087	6.8087	3.7000e-004	0.0000	6.8180

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	3.8000e-004	2.1000e-004	2.6000e-003	1.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	0.8819	0.8819	2.0000e-005	0.0000	0.8823
Total	3.8000e-004	2.1000e-004	2.6000e-003	1.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	0.8819	0.8819	2.0000e-005	0.0000	0.8823

4.0 Operational Detail - Mobile

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

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	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Regional Shopping Center	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Regional Shopping Center	0.00	0.00	0.00	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
Regional Shopping Center	0.556393	0.035040	0.189382	0.106465	0.012088	0.004430	0.017405	0.070208	0.001420	0.001115	0.004429	0.000881	0.000745

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

	ROG	NOx	CO	SO2	Fugitive 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	0.4078	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003
Unmitigated	0.4078	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003

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	0.0464					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3614					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2000e-004	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003
Total	0.4078	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

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	0.0464					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3614					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2000e-004	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003
Total	0.4078	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Rancho Diamante Phase 2 (Construction - Mitigated) - Riverside-South Coast County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Rancho Diamante Phase 2 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

Rancho Diamante Phase 2 (Operations - OY2020 - Mitigated)
Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Regional Shopping Center	100.00	1000sqft	19.67	100,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.4	Precipitation Freq (Days)	28
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Rancho Diamante Phase 2 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

Project Characteristics -

Land Use - Total Lot Acreage based on information provided in the Site Plan.

Construction Phase - Operations Run Only.

Off-road Equipment - Operations Run Only.

Trips and VMT - Operations Run Only.

Vehicle Trips - Operations Run Only.

Mobile Land Use Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	1.00
tblLandUse	LotAcreage	2.30	19.67
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblVehicleTrips	ST_TR	49.97	46.12
tblVehicleTrips	SU_TR	25.24	21.10
tblVehicleTrips	WD_TR	42.70	37.75

2.0 Emissions Summary

Rancho Diamante Phase 2 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	0.4078	1.0000e-005	1.2800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6500e-003
Energy	1.2000e-003	0.0109	9.1400e-003	7.0000e-005		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004	0.0000	414.2656	414.2656	0.0168	3.6500e-003	415.7757
Mobile	1.0724	8.7315	11.1149	0.0435	3.0200	0.0406	3.0606	0.8092	0.0382	0.8475	0.0000	4,031.275 2	4,031.275 2	0.2570	0.0000	4,037.701 1
Waste						0.0000	0.0000		0.0000	0.0000	21.3141	0.0000	21.3141	1.2596	0.0000	52.8047
Water						0.0000	0.0000		0.0000	0.0000	2.3500	46.8018	49.1518	0.2433	6.1000e-003	57.0517
Total	1.4814	8.7424	11.1253	0.0436	3.0200	0.0414	3.0614	0.8092	0.0391	0.8483	23.6640	4,492.345 1	4,516.009 1	1.7768	9.7500e-003	4,563.335 8

Rancho Diamante Phase 2 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

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	0.4078	1.0000e-005	1.2800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6500e-003
Energy	8.9000e-004	8.0600e-003	6.7700e-003	5.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	367.4133	367.4133	0.0150	3.2200e-003	368.7485
Mobile	1.0702	8.7069	11.0566	0.0432	2.9978	0.0403	3.0381	0.8033	0.0380	0.8413	0.0000	4,006.6357	4,006.6357	0.2563	0.0000	4,013.0440
Waste						0.0000	0.0000		0.0000	0.0000	10.6570	0.0000	10.6570	0.6298	0.0000	26.4023
Water						0.0000	0.0000		0.0000	0.0000	2.3500	42.7841	45.1341	0.2431	6.0600e-003	53.0196
Total	1.4789	8.7150	11.0647	0.0433	2.9978	0.0409	3.0387	0.8033	0.0386	0.8419	13.0070	4,416.8356	4,429.8426	1.1443	9.2800e-003	4,461.2171

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.17	0.31	0.54	0.64	0.74	1.16	0.74	0.74	1.18	0.76	45.03	1.68	1.91	35.60	4.82	2.24

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/3/2019	6/3/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Rancho Diamante Phase 2 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Rancho Diamante Phase 2 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

3.2 Site Preparation - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000	0.0000	0.0000	0.0000	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile

Rancho Diamante Phase 2 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive 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	1.0702	8.7069	11.0566	0.0432	2.9978	0.0403	3.0381	0.8033	0.0380	0.8413	0.0000	4,006.6357	4,006.6357	0.2563	0.0000	4,013.0440
Unmitigated	1.0724	8.7315	11.1149	0.0435	3.0200	0.0406	3.0606	0.8092	0.0382	0.8475	0.0000	4,031.2752	4,031.2752	0.2570	0.0000	4,037.7011

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Regional Shopping Center	3,775.00	4,612.00	2110.00	7,908,902	7,850,663
Total	3,775.00	4,612.00	2,110.00	7,908,902	7,850,663

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Rancho Diamante Phase 2 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Regional Shopping Center	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	358.6403	358.6403	0.0148	3.0600e-003	359.9233
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	402.4189	402.4189	0.0166	3.4400e-003	403.8585
NaturalGas Mitigated	8.9000e-004	8.0600e-003	6.7700e-003	5.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	8.7730	8.7730	1.7000e-004	1.6000e-004	8.8251
NaturalGas Unmitigated	1.2000e-003	0.0109	9.1400e-003	7.0000e-005		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004	0.0000	11.8468	11.8468	2.3000e-004	2.2000e-004	11.9172

Rancho Diamante Phase 2 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

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					
Regional Shopping Center	222000	1.2000e-003	0.0109	9.1400e-003	7.0000e-005		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004	0.0000	11.8468	11.8468	2.3000e-004	2.2000e-004	11.9172
Total		1.2000e-003	0.0109	9.1400e-003	7.0000e-005		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004	0.0000	11.8468	11.8468	2.3000e-004	2.2000e-004	11.9172

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					
Regional Shopping Center	164400	8.9000e-004	8.0600e-003	6.7700e-003	5.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	8.7730	8.7730	1.7000e-004	1.6000e-004	8.8251
Total		8.9000e-004	8.0600e-003	6.7700e-003	5.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	8.7730	8.7730	1.7000e-004	1.6000e-004	8.8251

Rancho Diamante Phase 2 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Regional Shopping Center	1.263e+006	402.4189	0.0166	3.4400e-003	403.8585
Total		402.4189	0.0166	3.4400e-003	403.8585

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Regional Shopping Center	1.1256e+006	358.6403	0.0148	3.0600e-003	359.9233
Total		358.6403	0.0148	3.0600e-003	359.9233

6.0 Area Detail

6.1 Mitigation Measures Area

Rancho Diamante Phase 2 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

	ROG	NOx	CO	SO2	Fugitive 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	0.4078	1.0000e-005	1.2800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6500e-003
Unmitigated	0.4078	1.0000e-005	1.2800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6500e-003

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	0.0464					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3614					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2000e-004	1.0000e-005	1.2800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6500e-003
Total	0.4078	1.0000e-005	1.2800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6500e-003

Rancho Diamante Phase 2 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

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	0.0464					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3614					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2000e-004	1.0000e-005	1.2800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6500e-003
Total	0.4078	1.0000e-005	1.2800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6500e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Rancho Diamante Phase 2 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	45.1341	0.2431	6.0600e-003	53.0196
Unmitigated	49.1518	0.2433	6.1000e-003	57.0517

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Regional Shopping Center	7.40725 / 4.53993	49.1518	0.2433	6.1000e-003	57.0517
Total		49.1518	0.2433	6.1000e-003	57.0517

Rancho Diamante Phase 2 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Regional Shopping Center	7.40725 / 3.40495	45.1341	0.2431	6.0600e-003	53.0196
Total		45.1341	0.2431	6.0600e-003	53.0196

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Rancho Diamante Phase 2 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	10.6570	0.6298	0.0000	26.4023
Unmitigated	21.3141	1.2596	0.0000	52.8047

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Regional Shopping Center	105	21.3141	1.2596	0.0000	52.8047
Total		21.3141	1.2596	0.0000	52.8047

Rancho Diamante Phase 2 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Regional Shopping Center	52.5	10.6570	0.6298	0.0000	26.4023
Total		10.6570	0.6298	0.0000	26.4023

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Rancho Diamante Phase 2 (Operations - OY2020 - Mitigated) - Riverside-South Coast County, Annual

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APPENDIX 3.3:

CALEEMOD RESIDENTIAL (2010) EMISSIONS MODEL OUTPUTS

Rancho Diamante Phase 1 (Operations - OY 2010) - Riverside-South Coast County, Annual

Rancho Diamante Phase 1 (Operations - OY 2010)
Riverside-South Coast County, Annual

1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	588.00	Dwelling Unit	86.55	1,324,117.20	1682
Other Asphalt Surfaces	73.72	Acre	73.72	3,211,243.20	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.4	Precipitation Freq (Days)	28
Climate Zone	10			Operational Year	2010
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Lot Acreage based on information provided in the Site Plan.

Construction Phase - Operations Run Only.

Off-road Equipment - Operations Run Only.

Grading -

Trips and VMT - Operations Run Only.

Vehicle Trips - Trip Rates based on ITE 10th Edition (2017)

Woodstoves - Gas Stoves and Fireplaces Only.

Rancho Diamante Phase 1 (Operations - OY 2010) - Riverside-South Coast County, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	310.00	1.00
tblConstructionPhase	PhaseEndDate	10/29/2012	6/1/2010
tblConstructionPhase	PhaseStartDate	8/23/2011	6/1/2010
tblFireplaces	NumberGas	499.80	588.00
tblFireplaces	NumberNoFireplace	58.80	0.00
tblFireplaces	NumberWood	29.40	0.00
tblGrading	AcresOfGrading	0.00	2.50
tblLandUse	LandUseSquareFeet	1,058,400.00	1,324,117.20
tblLandUse	LotAcreage	190.91	86.55
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	29.40	0.00
tblWoodstoves	NumberNoncatalytic	29.40	0.00

2.0 Emissions Summary

Rancho Diamante Phase 1 (Operations - OY 2010) - Riverside-South Coast County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	5.8006	0.1993	6.5062	1.1000e-003		0.0418	0.0418		0.0418	0.0418	0.0000	151.1077	151.1077	0.0148	2.5900e-003	152.2486
Energy	0.0970	0.8290	0.3528	5.2900e-003		0.0670	0.0670		0.0670	0.0670	0.0000	2,593.0708	2,593.0708	0.0858	0.0316	2,604.6181
Mobile	5.6919	32.5542	66.9897	0.1104	7.1656	0.8728	8.0384	1.9226	0.8332	2.7558	0.0000	10,082.0754	10,082.0754	1.0338	0.0000	10,107.9192
Waste						0.0000	0.0000		0.0000	0.0000	139.9866	0.0000	139.9866	8.2730	0.0000	346.8110
Water						0.0000	0.0000		0.0000	0.0000	12.1542	244.4381	256.5923	1.2584	0.0316	297.4595
Total	11.5895	33.5824	73.8486	0.1168	7.1656	0.9816	8.1472	1.9226	0.9420	2.8646	152.1408	13,070.6920	13,222.8328	10.6658	0.0657	13,509.0563

Rancho Diamante Phase 1 (Operations - OY 2010) - Riverside-South Coast County, Annual

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	5.8006	0.1993	6.5062	1.1000e-003		0.0418	0.0418		0.0418	0.0418	0.0000	151.1077	151.1077	0.0148	2.5900e-003	152.2486
Energy	0.0970	0.8290	0.3528	5.2900e-003		0.0670	0.0670		0.0670	0.0670	0.0000	2,593.0708	2,593.0708	0.0858	0.0316	2,604.6181
Mobile	5.6919	32.5542	66.9897	0.1104	7.1656	0.8728	8.0384	1.9226	0.8332	2.7558	0.0000	10,082.0754	10,082.0754	1.0338	0.0000	10,107.9192
Waste						0.0000	0.0000		0.0000	0.0000	139.9866	0.0000	139.9866	8.2730	0.0000	346.8110
Water						0.0000	0.0000		0.0000	0.0000	12.1542	244.4381	256.5923	1.2584	0.0316	297.4595
Total	11.5895	33.5824	73.8486	0.1168	7.1656	0.9816	8.1472	1.9226	0.9420	2.8646	152.1408	13,070.6920	13,222.8328	10.6658	0.0657	13,509.0563

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	6/1/2010	6/1/2010	5	1	

Acres of Grading (Site Preparation Phase): 0

Rancho Diamante Phase 1 (Operations - OY 2010) - Riverside-South Coast County, Annual

Acres of Grading (Grading Phase): 2.5

Acres of Paving: 73.72

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	0	8.00	158	0.38
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Graders	0	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Scrapers	0	8.00	367	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Rancho Diamante Phase 1 (Operations - OY 2010) - Riverside-South Coast County, Annual

3.2 Grading - 2010

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					1.3300e-003	0.0000	1.3300e-003	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	0.0000	0.0000	0.0000	0.0000	1.3300e-003	0.0000	1.3300e-003	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000	0.0000	0.0000	0.0000	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile

Rancho Diamante Phase 1 (Operations - OY 2010) - Riverside-South Coast County, Annual

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	tons/yr										MT/yr					
Mitigated	5.6919	32.5542	66.9897	0.1104	7.1656	0.8728	8.0384	1.9226	0.8332	2.7558	0.0000	10,082.0754	10,082.0754	1.0338	0.0000	10,107.9192
Unmitigated	5.6919	32.5542	66.9897	0.1104	7.1656	0.8728	8.0384	1.9226	0.8332	2.7558	0.0000	10,082.0754	10,082.0754	1.0338	0.0000	10,107.9192

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	5,550.72	5,609.52	5027.40	18,740,891	18,740,891
Total	5,550.72	5,609.52	5,027.40	18,740,891	18,740,891

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Rancho Diamante Phase 1 (Operations - OY 2010) - Riverside-South Coast County, Annual

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.466931	0.060112	0.168008	0.175941	0.037203	0.008410	0.015268	0.056562	0.001254	0.001542	0.005522	0.000888	0.002360
Single Family Housing	0.466931	0.060112	0.168008	0.175941	0.037203	0.008410	0.015268	0.056562	0.001254	0.001542	0.005522	0.000888	0.002360

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,633.0273	1,633.0273	0.0674	0.0140	1,638.8695
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,633.0273	1,633.0273	0.0674	0.0140	1,638.8695
NaturalGas Mitigated	0.0970	0.8290	0.3528	5.2900e-003		0.0670	0.0670		0.0670	0.0670	0.0000	960.0435	960.0435	0.0184	0.0176	965.7486
NaturalGas Unmitigated	0.0970	0.8290	0.3528	5.2900e-003		0.0670	0.0670		0.0670	0.0670	0.0000	960.0435	960.0435	0.0184	0.0176	965.7486

Rancho Diamante Phase 1 (Operations - OY 2010) - Riverside-South Coast County, Annual

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					
Other Asphalt Surfaces	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
Single Family Housing	1.79905e+007	0.0970	0.8290	0.3528	5.2900e-003		0.0670	0.0670		0.0670	0.0670	0.0000	960.0435	960.0435	0.0184	0.0176	965.7486
Total		0.0970	0.8290	0.3528	5.2900e-003		0.0670	0.0670		0.0670	0.0670	0.0000	960.0435	960.0435	0.0184	0.0176	965.7486

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					
Other Asphalt Surfaces	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
Single Family Housing	1.79905e+007	0.0970	0.8290	0.3528	5.2900e-003		0.0670	0.0670		0.0670	0.0670	0.0000	960.0435	960.0435	0.0184	0.0176	965.7486
Total		0.0970	0.8290	0.3528	5.2900e-003		0.0670	0.0670		0.0670	0.0670	0.0000	960.0435	960.0435	0.0184	0.0176	965.7486

Rancho Diamante Phase 1 (Operations - OY 2010) - Riverside-South Coast County, Annual

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	5.12529e+006	1,633.0273	0.0674	0.0140	1,638.8695
Total		1,633.0273	0.0674	0.0140	1,638.8695

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	5.12529e+006	1,633.0273	0.0674	0.0140	1,638.8695
Total		1,633.0273	0.0674	0.0140	1,638.8695

6.0 Area Detail

6.1 Mitigation Measures Area

Rancho Diamante Phase 1 (Operations - OY 2010) - Riverside-South Coast County, Annual

	ROG	NOx	CO	SO2	Fugitive 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	5.8006	0.1993	6.5062	1.1000e-003		0.0418	0.0418		0.0418	0.0418	0.0000	151.1077	151.1077	0.0148	2.5900e-003	152.2486
Unmitigated	5.8006	0.1993	6.5062	1.1000e-003		0.0418	0.0418		0.0418	0.0418	0.0000	151.1077	151.1077	0.0148	2.5900e-003	152.2486

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	0.5625					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.9923					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0143	0.1219	0.0519	7.8000e-004		9.8600e-003	9.8600e-003		9.8600e-003	9.8600e-003	0.0000	141.2006	141.2006	2.7100e-003	2.5900e-003	142.0397
Landscaping	0.2316	0.0774	6.4543	3.2000e-004		0.0319	0.0319		0.0319	0.0319	0.0000	9.9070	9.9070	0.0121	0.0000	10.2089
Total	5.8006	0.1993	6.5062	1.1000e-003		0.0418	0.0418		0.0418	0.0418	0.0000	151.1077	151.1077	0.0148	2.5900e-003	152.2486

Rancho Diamante Phase 1 (Operations - OY 2010) - Riverside-South Coast County, Annual

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	0.5625					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.9923					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0143	0.1219	0.0519	7.8000e-004		9.8600e-003	9.8600e-003		9.8600e-003	9.8600e-003	0.0000	141.2006	141.2006	2.7100e-003	2.5900e-003	142.0397
Landscaping	0.2316	0.0774	6.4543	3.2000e-004		0.0319	0.0319		0.0319	0.0319	0.0000	9.9070	9.9070	0.0121	0.0000	10.2089
Total	5.8006	0.1993	6.5062	1.1000e-003		0.0418	0.0418		0.0418	0.0418	0.0000	151.1077	151.1077	0.0148	2.5900e-003	152.2486

7.0 Water Detail**7.1 Mitigation Measures Water**

Rancho Diamante Phase 1 (Operations - OY 2010) - Riverside-South Coast County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	256.5923	1.2584	0.0316	297.4595
Unmitigated	256.5923	1.2584	0.0316	297.4595

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	38.3106 / 24.1523	256.5923	1.2584	0.0316	297.4595
Total		256.5923	1.2584	0.0316	297.4595

Rancho Diamante Phase 1 (Operations - OY 2010) - Riverside-South Coast County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	38.3106 / 24.1523	256.5923	1.2584	0.0316	297.4595
Total		256.5923	1.2584	0.0316	297.4595

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	139.9866	8.2730	0.0000	346.8110
Unmitigated	139.9866	8.2730	0.0000	346.8110

Rancho Diamante Phase 1 (Operations - OY 2010) - Riverside-South Coast County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	689.62	139.9866	8.2730	0.0000	346.8110
Total		139.9866	8.2730	0.0000	346.8110

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	689.62	139.9866	8.2730	0.0000	346.8110
Total		139.9866	8.2730	0.0000	346.8110

9.0 Operational Offroad

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

Rancho Diamante Phase 1 (Operations - OY 2010) - Riverside-South Coast County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

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APPENDIX 3.4:

CALEEMOD COMMERCIAL (2010) EMISSIONS MODEL OUTPUTS

Rancho Diamante Phase 2 (Operations - OY 2010) - Riverside-South Coast County, Annual

Rancho Diamante Phase 2 (Operations - OY 2010)
Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Regional Shopping Center	100.00	1000sqft	19.67	100,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.4	Precipitation Freq (Days)	28
Climate Zone	10			Operational Year	2010
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Lot Acreage based on information provided in the Site Plan.

Construction Phase - Operations Run Only.

Off-road Equipment - Operations Run Only.

Trips and VMT - Operations Run Only.

Grading -

Vehicle Trips - Trip Rates based on ITE 10th Edition (2017)

Energy Use -

Rancho Diamante Phase 2 (Operations - OY 2010) - Riverside-South Coast County, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	30.00	1.00
tblLandUse	LotAcreage	2.30	19.67
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblVehicleTrips	ST_TR	49.97	46.12
tblVehicleTrips	SU_TR	25.24	21.10
tblVehicleTrips	WD_TR	42.70	37.75

2.0 Emissions Summary

Rancho Diamante Phase 2 (Operations - OY 2010) - Riverside-South Coast County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	0.4774	1.0000e-005	1.4200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.7000e-003
Energy	1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004	0.0000	542.4142	542.4142	0.0221	4.7700e-003	544.3874
Mobile	3.1064	15.0523	31.5321	0.0481	3.0240	0.3932	3.4172	0.8114	0.3754	1.1868	0.0000	4,394.8587	4,394.8587	0.5621	0.0000	4,408.9100
Waste						0.0000	0.0000		0.0000	0.0000	21.3141	0.0000	21.3141	1.2596	0.0000	52.8047
Water						0.0000	0.0000		0.0000	0.0000	2.3500	46.8018	49.1518	0.2433	6.1000e-003	57.0517
Total	3.5852	15.0650	31.5442	0.0482	3.0240	0.3942	3.4182	0.8114	0.3764	1.1877	23.6640	4,984.0772	5,007.7412	2.0871	0.0109	5,063.1564

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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	0.4774	1.0000e-005	1.4200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.7000e-003
Energy	1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004	0.0000	542.4142	542.4142	0.0221	4.7700e-003	544.3874
Mobile	3.1064	15.0523	31.5321	0.0481	3.0240	0.3932	3.4172	0.8114	0.3754	1.1868	0.0000	4,394.8587	4,394.8587	0.5621	0.0000	4,408.9100
Waste						0.0000	0.0000		0.0000	0.0000	21.3141	0.0000	21.3141	1.2596	0.0000	52.8047
Water						0.0000	0.0000		0.0000	0.0000	2.3500	46.8018	49.1518	0.2433	6.1000e-003	57.0517
Total	3.5852	15.0650	31.5442	0.0482	3.0240	0.3942	3.4182	0.8114	0.3764	1.1877	23.6640	4,984.0772	5,007.7412	2.0871	0.0109	5,063.1564

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	6/13/2010	6/14/2010	5	1	

Acres of Grading (Site Preparation Phase): 0

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Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	0	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37

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
Grading	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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3.2 Grading - 2010

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000	0.0000	0.0000	0.0000	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile

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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	tons/yr										MT/yr					
Mitigated	3.1064	15.0523	31.5321	0.0481	3.0240	0.3932	3.4172	0.8114	0.3754	1.1868	0.0000	4,394.8587	4,394.8587	0.5621	0.0000	4,408.9100
Unmitigated	3.1064	15.0523	31.5321	0.0481	3.0240	0.3932	3.4172	0.8114	0.3754	1.1868	0.0000	4,394.8587	4,394.8587	0.5621	0.0000	4,408.9100

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Regional Shopping Center	3,775.00	4,612.00	2110.00	7,908,902	7,908,902
Total	3,775.00	4,612.00	2,110.00	7,908,902	7,908,902

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Regional Shopping Center	0.466931	0.060112	0.168008	0.175941	0.037203	0.008410	0.015268	0.056562	0.001254	0.001542	0.005522	0.000888	0.002360

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5.0 Energy Detail

Historical Energy Use: Y

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	528.5929	528.5929	0.0218	4.5200e-003	530.4840
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	528.5929	528.5929	0.0218	4.5200e-003	530.4840
NaturalGas Mitigated	1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004	0.0000	13.8212	13.8212	2.6000e-004	2.5000e-004	13.9034
NaturalGas Unmitigated	1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004	0.0000	13.8212	13.8212	2.6000e-004	2.5000e-004	13.9034

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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					
Regional Shopping Center	259000	1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004	0.0000	13.8212	13.8212	2.6000e-004	2.5000e-004	13.9034
Total		1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004	0.0000	13.8212	13.8212	2.6000e-004	2.5000e-004	13.9034

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					
Regional Shopping Center	259000	1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004	0.0000	13.8212	13.8212	2.6000e-004	2.5000e-004	13.9034
Total		1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004	0.0000	13.8212	13.8212	2.6000e-004	2.5000e-004	13.9034

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Regional Shopping Center	1.659e+006	528.5929	0.0218	4.5200e-003	530.4840
Total		528.5929	0.0218	4.5200e-003	530.4840

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Regional Shopping Center	1.659e+006	528.5929	0.0218	4.5200e-003	530.4840
Total		528.5929	0.0218	4.5200e-003	530.4840

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive 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	0.4774	1.0000e-005	1.4200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.7000e-003
Unmitigated	0.4774	1.0000e-005	1.4200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.7000e-003

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	0.1159					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3614					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.6000e-004	1.0000e-005	1.4200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.7000e-003
Total	0.4774	1.0000e-005	1.4200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.7000e-003

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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	0.1159					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3614					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.6000e-004	1.0000e-005	1.4200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.7000e-003
Total	0.4774	1.0000e-005	1.4200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.7000e-003

7.0 Water Detail

7.1 Mitigation Measures Water

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	49.1518	0.2433	6.1000e-003	57.0517
Unmitigated	49.1518	0.2433	6.1000e-003	57.0517

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Regional Shopping Center	7.40725 / 4.53993	49.1518	0.2433	6.1000e-003	57.0517
Total		49.1518	0.2433	6.1000e-003	57.0517

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Regional Shopping Center	7.40725 / 4.53993	49.1518	0.2433	6.1000e-003	57.0517
Total		49.1518	0.2433	6.1000e-003	57.0517

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	21.3141	1.2596	0.0000	52.8047
Unmitigated	21.3141	1.2596	0.0000	52.8047

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Regional Shopping Center	105	21.3141	1.2596	0.0000	52.8047
Total		21.3141	1.2596	0.0000	52.8047

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Regional Shopping Center	105	21.3141	1.2596	0.0000	52.8047
Total		21.3141	1.2596	0.0000	52.8047

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

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