Renaissance Ranch Specific Plan

ENERGY ANALYSIS

COUNTY OF RIVERSIDE

Prepared by:

William Maddux
bmaddux@urbanxroads.com
(619) 778-1971

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LIST OF ABBREVIATED TERMS

%	Percent
(1)	Reference
APN	Assessor's Parcel Number
BACM	best available control measures
BTU	British Thermal Unit, 7
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CEQA Guidelines	California Environmental Quality Act Guidelines
County	County of Riverside
CPEP	Clean Power and Electrification Pathway
CPUC	California Public Utilities Commission
CTA	core transport agents
DMV	Department of Motor Vehicles
EIA	Energy Information Administration
ECORP	ECORP Consulting, Inc.
EMFAC	EMissions FACtor
EPA	Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
GHG	greenhouse gas
GT&S	Gas Transmission and Storage
IEPR	Integrated Energy Policy Report
ISO	California Independent Service Operator
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
LDA	light-duty-auto vehicles
LDT1	light-duty-trucks
LDT2	light-duty-trucks
MHDT	medium-heavy duty trucks
MMcfd	million cubic feet per day
MPOs	Metropolitan Planning Organizations
PG&E	Pacific Gas and Electric
Project	Renaissance Ranch Specific Plan Project
RPS	Renewable Portfolio Standard

SB	Senate Bill
SB 350	Clean Energy and Pollution Reduction Act of 2015
SCAB	South California Air Basin
SCE	Southern California Edison
SDAB	San Diego Air Basin
SDG&E	San Diego Gas & Electric
sf	square foot
SoCalGas	Southern California Gas
SONGS	San Onofre Nuclear Generating Station
TEA-21	The Transportation Equity Act for the 21st Century
U.S.	United States
VMT	vehicle miles traveled

EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Renaissance Ranch Specific Plan Energy Analysis* is summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the 2019 California Environmental Quality Act (CEQA) Statute and Guidelines (*CEQA Guidelines*) (1). Table ES-1 shows the findings of significance for potential energy impacts under CEQA.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Energy Impact #1: Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	5.0	*Less Than Significant*	*n/a*
Energy Impact #2: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	5.0	*Less Than Significant*	*n/a*

ES.2 PROJECT REQUIREMENTS

The Project would be required to comply with regulations imposed by the federal and state agencies that regulate energy use and consumption through various means and programs. Those that are directly and indirectly applicable to the Project and that would assist in the reduction of energy usage include:

- Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)
- The Transportation Equity Act for the 21st Century (TEA-21)
- Integrated Energy Policy Report (IEPR)
- State of California Energy Plan
- California Code Title 24, Part 6, Energy Efficiency Standards
- AB 1493 Pavley Regulations and Fuel Efficiency Standards
- California's Renewable Portfolio Standard (RPS)
- Clean Energy and Pollution Reduction Act of 2015 (SB 350)

Consistency with the above regulations are discussed in detail in section 3 of this energy study.

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1 INTRODUCTION

This report presents the results of the energy analysis prepared by Urban Crossroads, Inc., for the proposed Renaissance Ranch Specific Plan (Project). The purpose of this report is to ensure that energy implication is considered by the County of Riverside (County), as the lead agency, and to quantify anticipated energy usage associated with construction and operation of the proposed Project, determine if the usage amounts are efficient, typical, or wasteful for the land use type, and to emphasize avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

1.1 SITE LOCATION

The Project site is located east of Horsethief Canyon Road and south of the I-15 Freeway in the County of Riverside, California. Refer to Exhibit 1-A for the Project location. The nearest airport is a private air strip, the Mc Conville Airstrip, which is located approximately 6 miles southwest of the Project site. The nearest residential land uses are located immediately to the south and west of the Project site in the County of Riverside.

1.2 PROJECT DESCRIPTION

Project is proposing to amend the Specific Plan with a mix of industrial and business park uses, as described below:

- 423,403 square feet of high-cube cold storage warehousing use within the Light Industrial area
- 740,956 square feet of high-cube fulfillment center warehousing use within the Light Industrial area
- 740,956 square feet of high-cube transload/short-term storage warehousing use within the Light Industrial area
- 211,702 square feet of manufacturing use within the Light Industrial area
- 156,816 square feet of warehousing use within the Business Park area
- 235,224 square feet of industrial park use within the Business Park area

The Project land use plan is shown in Exhibit 1-B. The anticipated Project opening year is 2025. This analysis is intended to describe energy usage associated with the construction and expected operational activities at the Project site.

EXHIBIT 1-A: LOCATION MAP

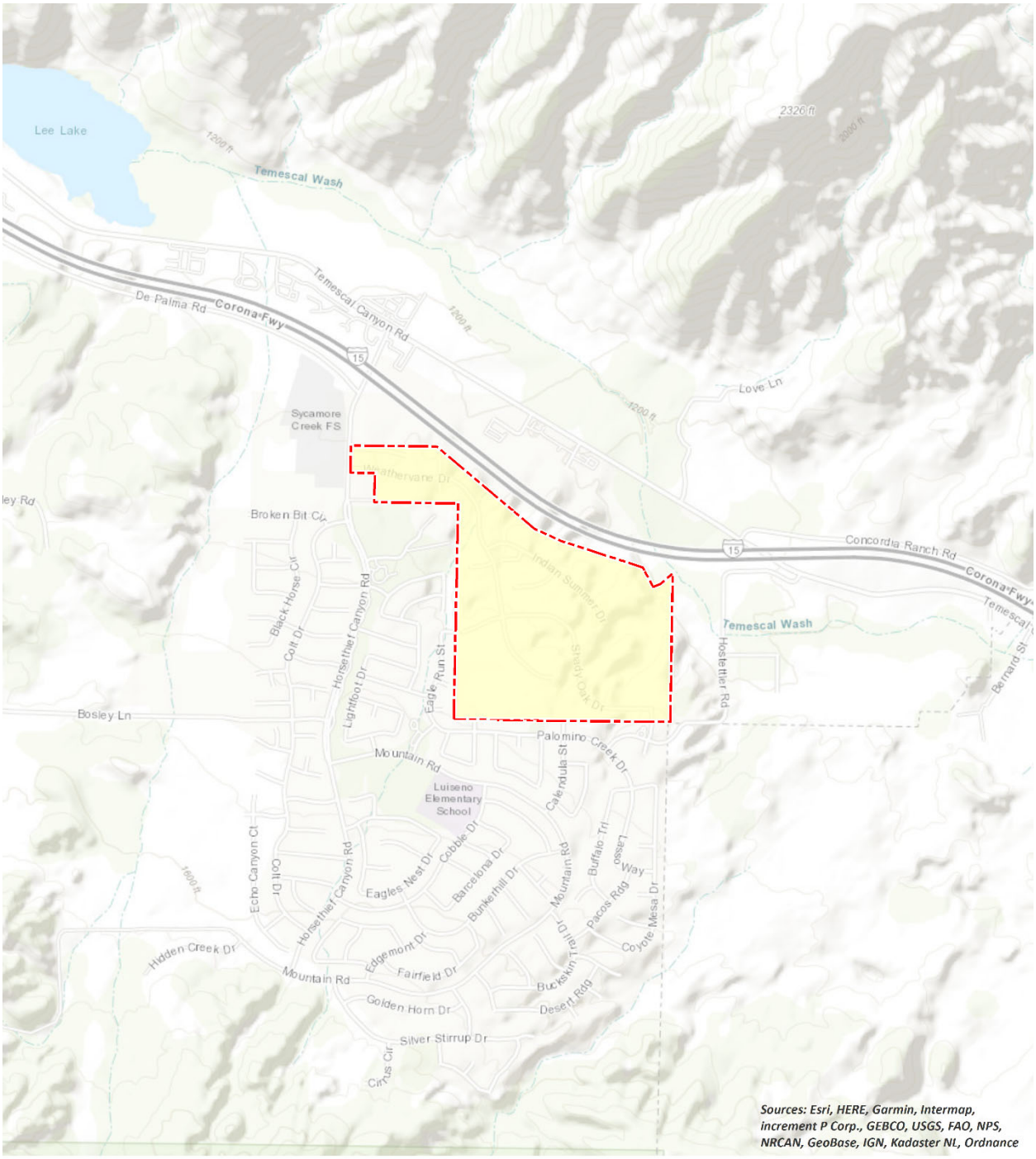

EXHIBIT 1-B: LAND USE PLAN

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2 EXISTING CONDITIONS

This section provides an overview of the existing energy conditions in the Project region.

2.1 OVERVIEW

The most recent data for California's estimated total energy consumption is from 2018, released by the United States (U.S.) Energy Information Administration's (EIA) California State Profile and Energy Estimates included:

- Approximately 7,900 trillion British Thermal Unit (BTU) of energy was consumed;
- Approximately 3,444 trillion BTU of petroleum;
- Approximately 2,210 trillion BTU of natural gas;
- Approximately 33.3 trillion BTU coal (2)

The California Energy Commission's (CEC) Transportation Energy Demand Forecast 2018-2030 was released in order to support the 2017 Integrated Energy Policy Report. The Transportation energy Demand Forecast 2018-2030 lays out graphs and data supporting their projections of California's future transportation energy demand. The projected inputs consider expected variable changes in fuel prices, income, population, and other variables. Predictions regarding fuel demand included:

- Gasoline demand in the transportation sector is expected to decline from approximately 15.8 billion gallons in 2017 to between 12.3 billion and 12.7 billion gallons in 2030 (3)
- Diesel demand in the transportation sector is expected to rise, increasing from approximately 3.7 billion diesel gallons in 2015 to approximately 4.7 billion in 2030 (3)
    - Data from the Department of Energy states that approximately 3.9 billion gallons of diesel fuel were consumed in 2017 (4)

The most recent data provided by the EIA for energy use in California by demand sector is from 2018 and is reported as follows:

- Approximately 39.1% transportation;
- Approximately 23.5% industrial;
- Approximately 18.3% residential; and
- Approximately 19.2% commercial (5)

In 2020, total system electric generation for California was 277,704 gigawatt hours (GWh). California's massive electricity in-state generation system generated approximately 200,475 GWh which accounted for approximately 72.2% of the electricity it uses; the rest was imported from the Pacific Northwest (8.6%) and the U.S. Southwest (19.2%) (6). Natural gas is the main source for electricity generation at 34.23% of the total in-state electric generation system power as shown in Table 2-1. Renewables account for 31.7% of the total electrical system power.

TABLE 2-1: TOTAL ELECTRICITY SYSTEM POWER (CALIFORNIA 2020)

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	Total California Energy Mix (GWh)	Total California Power Mix
Coal	248	0.12%	219	7,765	8,233	2.96%
Natural Gas	86,136	42.97%	62	8,859	95,057	34.23%
Oil	36	0.02%	0	0	36	0.01%
Other	411	0.20%	0	11	422	0.15%
Nuclear	16,163	8.06%	39	8,743	24,945	8.98%
Large Hydro	33,145	16.53%	6,387	1,071	40,603	14.62%
Unspecified	0	0.00%	6,609	13,767	20,376	7.34%
Non-Renewables and Unspecified Totals	136,139	67.91%	13,315	40,218	189,672	68.30%
Biomass	5,851	2.92%	903	33	6,787	2.44%
Geothermal	10,943	5.46%	99	2,218	13,260	4.77%
Small Hydro	5,349	2.67%	292	4	5,646	2.03%
Solar	28,513	14.22%	282	5,295	34,090	12.28%
Wind	13,680	6.82%	9,038	5,531	28,249	10.17%
Renewables Totals	64,336	32.09%	10,615	13,081	88,032	31.70%
Total	200,475	100.00%	23,930	53,299	277,704	100.00%

Source: https://www.energy.ca.gov/almanac/electricity_data/total_system_power.html

An updated summary of, and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below:

- California was the seventh-largest producer of crude oil among the 50 states in 2018, and, as of January 2019, it ranked third in oil refining capacity.
- California is the largest consumer of jet fuel among the 50 states and accounted for one-fifth of the nation's jet fuel consumption in 2018. (7)
- California's total energy consumption is second highest in the nation, but, in 2018, the state's per capita energy consumption was the fourth-lowest, due in part to its mild climate and its energy efficiency programs. (8)
- In 2018, California ranked first in the nation as a producer of electricity from solar, geothermal, and biomass resources and fourth in the nation in conventional hydroelectric power generation.
- In 2018, large- and small-scale solar photovoltaic (PV) and solar thermal installations provided 19% of California's net electricity generation (9).

As indicated above, California is one of the nation's leading energy-producing states, and California's per capita energy use is among the nation's most efficient. Given the nature of the

Project, the remainder of this discussion will focus on the three sources of energy that are most relevant to the project—namely, electricity, natural gas, and transportation fuel for vehicle trips associated with the uses planned for the Project.

2.2 ELECTRICITY

The usage associated with electricity use were calculated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2. The Southern California region's electricity reliability has been of concern for the past several years due to the planned retirement of aging facilities that depend upon once-through cooling technologies, as well as the June 2013 retirement of the San Onofre Nuclear Generating Station (SONGS). While the once-through cooling phase-out has been ongoing since the May 2010 adoption of the State Water Resources Control Board's once-through cooling policy, the retirement of SONGS complicated the situation. California ISO studies revealed the extent to which the South California Air Basin (SCAB) and the San Diego Air Basin (SDAB) region were vulnerable to low-voltage and post-transient voltage instability concerns. A preliminary plan to address these issues was detailed in the 2013 Integrative Energy Policy Report (IEPR) after a collaborative process with other energy agencies, utilities, and air districts (10). Similarly, the subsequent 2018 and 2019 IEPR's identify broad strategies that are aimed at maintaining electricity system reliability.

Electricity is provided to the Project by Southern California Edison (SCE). SCE provides electric power to more than 15 million persons in 15 counties and in 180 incorporated cities, within a service area encompassing approximately 50,000 square miles. Based on SCE's 2018 Power Content Label Mix, SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers (11).

California's electricity industry is an organization of traditional utilities, private generating companies, and state agencies, each with a variety of roles and responsibilities to ensure that electrical power is provided to consumers. The California Independent Service Operator (ISO) is a nonprofit public benefit corporation and is the impartial operator of the State's wholesale power grid and is charged with maintaining grid reliability, and to direct uninterrupted electrical energy supplies to California's homes and communities. While utilities [such as SCE] still own transmission assets, the ISO routes electrical power along these assets, maximizing the use of the transmission system and its power generation resources. The ISO matches buyers and sellers of electricity to ensure that enough power is available to meet demand. To these ends, every five minutes the ISO forecasts electrical demands, accounts for operating reserves, and assigns the lowest cost power plant unit to meet demands while ensuring adequate system transmission capacities and capabilities (12).

Part of the ISO's charge is to plan and coordinate grid enhancements to ensure that electrical power is provided to California consumers. To this end, transmission owners (investor-owned utilities such as SCE) file annual transmission expansion/modification plans to accommodate the State's growing electrical needs. The ISO reviews and either approves or denies the proposed additions. In addition, and perhaps most importantly, the ISO works with other areas in the

western United States electrical grid to ensure that adequate power supplies are available to the State. In this manner, continuing reliable and affordable electrical power is assured to existing and new consumers throughout the State.

Table 2-2 identifies SCE's specific proportional shares of electricity sources in 2019. As indicated in Table 2-2, the 2019 SCE Power Mix has renewable energy at 35.1% of the overall energy resources. Geothermal resources are at 5.9%, wind power is at 11.5%, large hydroelectric sources are at 7.9%, solar energy is at 16%, and coal is at 0%. (13).

TABLE 2-2: SCE 2019 POWER CONTENT MIX

Energy Resources	2019 SCE Power Mix
Eligible Renewable	**35.1%**
Biomass & waste	0.6%
Geothermal	5.9%
Small Hydroelectric	1.0%
Solar	16.0%
Wind	11.5%
Coal	**0%**
Large Hydroelectric	**7.9%**
Natural Gas	**16.1%**
Nuclear	**8.2%**
Other	**0.1%**
Unspecified Sources of power*	32.6%
Total	**100%**

* "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.

2.3 NATURAL GAS

The usage associated with natural gas use were calculated using the CalEEMod Version 2016.3.2. The following summary of natural gas customers & volumes, supplies, delivery of supplies, storage, service options, and operations is excerpted from information provided by the California Public Utilities Commission (CPUC).

> *"The CPUC regulates natural gas utility service for approximately 10.8 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller natural gas utilities. The CPUC also regulates independent storage operators: Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.*
>
> *California's natural gas utilities provide service to over 11 million gas meters. SoCalGas and PG&E provide service to about 5.9 million and 4.3 million customers, respectively,*

while SDG&E provides service to over 800, 000 customers. In 2018, California gas utilities forecasted that they would deliver about 4740 million cubic feet per day (MMcfd) of gas to their customers, on average, under normal weather conditions.

The overwhelming majority of natural gas utility customers in California are residential and small commercials customers, referred to as "core" customers. Larger volume gas customers, like electric generators and industrial customers, are called "noncore" customers. Although very small in number relative to core customers, noncore customers consume about 65% of the natural gas delivered by the state's natural gas utilities, while core customers consume about 35%.

A significant amount of gas (about 19%, or 1131 MMcfd, of the total forecasted California consumption in 2018) is also directly delivered to some California large volume consumers, without being transported over the regulated utility pipeline system. Those customers, referred to as "bypass" customers, take service directly from interstate pipelines or directly from California producers.

SDG&E and Southwest Gas' southern division are wholesale customers of SoCalGas, i.e., they receive deliveries of gas from SoCalGas and in turn deliver that gas to their own customers. (Southwest Gas also provides natural gas distribution service in the Lake Tahoe area.) Similarly, West Coast Gas, a small gas utility, is a wholesale customer of PG&E. Some other wholesale customers are municipalities like the cities of Palo Alto, Long Beach, and Vernon, which are not regulated by the CPUC.

Natural gas from out-of-state production basins is delivered into California via the interstate natural gas pipeline system. The major interstate pipelines that deliver out-of-state natural gas to California gas utilities are Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline, Ruby Pipeline, Mojave Pipeline, and Tuscarora. Another pipeline, the North Baja - Baja Norte Pipeline takes gas off the El Paso Pipeline at the California/Arizona border, and delivers that gas through California into Mexico. While the Federal Energy Regulatory Commission (FERC) regulates the transportation of natural gas on the interstate pipelines, and authorizes rates for that service, the California Public Utilities Commission may participate in FERC regulatory proceedings to represent the interests of California natural gas consumers.

The gas transported to California gas utilities via the interstate pipelines, as well as some of the California-produced gas, is delivered into the PG&E and SoCalGas intrastate natural gas transmission pipelines systems (commonly referred to as California's "backbone" pipeline system). Natural gas on the utilities' backbone pipeline systems is then delivered to the local transmission and distribution pipeline systems, or to natural gas storage fields. Some large volume noncore customers take natural gas delivery directly off the high-pressure backbone and local transmission pipeline systems, while core customers and other noncore customers take delivery off the utilities' distribution pipeline systems. The state's natural gas utilities operate over 100,000 miles of transmission and distribution pipelines, and thousands more miles of service lines.

Bypass customers take most of their deliveries directly off the Kern/Mojave pipeline system, but they also take a significant amount of gas from California production.

PG&E and SoCalGas own and operate several natural gas storage fields that are located within their service territories in northern and southern California, respectively. These storage fields, and four independently owned storage utilities - Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage - help meet peak seasonal and daily natural gas demand and allow California natural gas customers to secure natural gas supplies more efficiently. PG&E is a 25% owner of the Gill Ranch Storage field. These storage fields provide a significant amount of infrastructure capacity to help meet California's natural gas requirements, and without these storage fields, California would need much more pipeline capacity in order to meet peak gas requirements.

Prior to the late 1980s, California regulated utilities provided virtually all natural gas services to all their customers. Since then, the Commission has gradually restructured the California gas industry in order to give customers more options while assuring regulatory protections for those customers that wish to, or are required to, continue receiving utility-provided services.

The option to purchase natural gas from independent suppliers is one of the results of this restructuring process. Although the regulated utilities procure natural gas supplies for most core customers, core customers have the option to purchase natural gas from independent natural gas marketers, called "core transport agents" (CTA). Contact information for core transport agents can be found on the utilities' web sites. Noncore customers, on the other hand, make natural gas supply arrangements directly with producers or with marketers.

Another option resulting from the restructuring process occurred in 1993, when the Commission removed the utilities' storage service responsibility for noncore customers, along with the cost of this service from noncore customers' transportation rates. The Commission also encouraged the development of independent storage fields, and in subsequent years, all the independent storage fields in California were established. Noncore customers and marketers may now take storage service from the utility or from an independent storage provider (if available), and pay for that service, or may opt to take no storage service at all. For core customers, the Commission assures that the utility has adequate storage capacity set aside to meet core requirements, and core customers pay for that service.

In a 1997 decision, the Commission adopted PG&E's "Gas Accord", which unbundled PG&E's backbone transmission costs from noncore transportation rates. This decision gave customers and marketers the opportunity to obtain pipeline capacity rights on PG&E's backbone transmission pipeline system, if desired, and pay for that service at rates authorized by the Commission. The Gas Accord also required PG&E to set aside a certain amount of backbone transmission capacity in order to deliver gas to its core customers. Subsequent Commission decisions modified and extended the initial terms of the Gas Accord. The "Gas Accord" framework is still in place today for PG&E's backbone

and storage rates and services and is now simply referred to as PG&E Gas Transmission and Storage (GT&S).

In a 2006 decision, the Commission adopted a similar gas transmission framework for Southern California, called the "firm access rights" system. SoCalGas and SDG&E implemented the firm access rights system in 2008, and it is now referred to as the backbone transmission system framework. As under the PG&E backbone transmission system, SoCalGas backbone transmission costs are unbundled from noncore transportation rates. Noncore customers and marketers may obtain, and pay for, firm backbone transmission capacity at various receipt points on the SoCalGas system. A certain amount of backbone transmission capacity is obtained for core customers to assure meeting their requirements.

Many if not most noncore customers now use a marketer to provide for several of the services formerly provided by the utility. That is, a noncore customer may simply arrange for a marketer to procure its supplies, and obtain any needed storage and backbone transmission capacity, in order to assure that it will receive its needed deliveries of natural gas supplies. Core customers still mainly rely on the utilities for procurement service, but they have the option to take procurement service from a CTA. Backbone transmission and storage capacity is either set aside or obtained for core customers in amounts to assure very high levels of service.

In order properly operate their natural gas transmission pipeline and storage systems, PG&E and SoCalGas must balance the amount of gas received into the pipeline system and delivered to customers or to storage fields. Some of these utilities' storage capacity is dedicated to this service, and under most circumstances, customers do not need to precisely match their deliveries with their consumption. However, when too much or too little gas is expected to be delivered into the utilities' systems, relative to the amount being consumed, the utilities require customers to more precisely match up their deliveries with their consumption. And, if customers do not meet certain delivery requirements, they could face financial penalties. The utilities do not profit from these financial penalties - the amounts are then returned to customers as a whole. If the utilities find that they are unable to deliver all the gas that is expected to be consumed, they may even call for a curtailment of some gas deliveries. These curtailments are typically required for just the largest, noncore customers. It has been many years since there has been a significant curtailment of core customers in California." (14)

As indicated in the preceding discussions, natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available via existing delivery systems, thereby increasing the availability and reliability of resources in total. The CPUC oversees utility purchases and transmission of natural gas to ensure reliable and affordable natural gas deliveries to existing and new consumers throughout the State.

2.4 TRANSPORTATION ENERGY RESOURCES

The Project would generate additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. In March 2019, the Department of Motor Vehicles (DMV) identified 36.4 million registered vehicles in California (15), and those vehicles consume an estimated 17.8 billion gallons of fuel each year[1]. Gasoline (and other vehicle fuels) are commercially provided commodities and would be available to the Project patrons and employees via commercial outlets.

California's on-road transportation system includes 394,383 land miles, more than 27.5 million passenger vehicles and light trucks, and almost 8.1 million medium- and heavy-duty vehicles (15). While gasoline consumption has been declining since 2008 it is still by far the dominant fuel. Petroleum comprises about 91% of all transportation energy use, excluding fuel consumed for aviation and most marine vessels (16). Nearly 17.8 billion gallons of on-highway fuel are burned each year, including 14.6 billion gallons of gasoline (including ethanol) and 3.2 billion gallons of diesel fuel (including biodiesel and renewable diesel). In 2019, Californians also used 194 million cubic feet of natural gas as a transportation fuel (17), or the equivalent of 183 billion gallons of gasoline.

[1] Fuel consumptions estimated utilizing information from EMFAC2017.

3 REGULATORY BACKGROUND

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States (U.S.) Environmental Protection Agency (EPA) are three federal agencies with substantial influence over energy policies and programs. On the state level, the CPUC and the CEC are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below.

3.1 FEDERAL REGULATIONS

3.1.1 INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT OF 1991 (ISTEA)

The ISTEA promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

3.1.2 THE TRANSPORTATION EQUITY ACT FOR THE 21ST CENTURY (TEA-21)

The TEA-21 was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

3.2 CALIFORNIA REGULATIONS

3.2.1 INTEGRATED ENERGY POLICY REPORT (IEPR)

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code § 25301a]). The Energy Commission prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The 2019 IEPR was adopted January 31, 2020, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2019 IEPR focuses on a variety of topics such as including the environmental performance of the electricity generation system, landscape-scale planning, the response to the gas leak at the Aliso Canyon natural gas storage facility, transportation fuel supply reliability issues, updates on Southern California electricity reliability, methane leakage, climate adaptation activities for the energy sector, climate and sea level rise scenarios, and the California Energy Demand Forecast (18). The 2020 IEPR Update is currently in progress but is not anticipated to be adopted until February 2021.

3.2.2 STATE OF CALIFORNIA ENERGY PLAN

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies several strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

3.2.3 CALIFORNIA CODE TITLE 24, PART 6, ENERGY EFFICIENCY STANDARDS

California Code of Regulations (CCR) 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 greenhouse gas (GHG) emissions. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020. The 2019 Title 24 Standards are applicable to building permit applications submitted on or after January 1, 2020. The 2019 Title 24 standards require solar PV systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, and update indoor and outdoor lighting standards for nonresidential buildings. The CEC anticipates that single-family homes built with the 2019 standards will use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar PV systems, homes built under the 2019 standards will about 53% less energy than homes built under the 2016 standards. Nonresidential buildings will use approximately 30% less energy due to lighting upgrades compared to the prior code (19).

3.2.4 AB 1493 PAVLEY REGULATIONS AND FUEL EFFICIENCY STANDARDS

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Under this legislation, CARB adopted regulations to reduce GHG emissions from non-commercial passenger vehicles

(cars and light-duty trucks). Although aimed at reducing GHG emissions, specifically, a co-benefit of the Pavley standards is an improvement in fuel efficiency and consequently a reduction in fuel consumption.

3.2.5 CALIFORNIA'S RENEWABLE PORTFOLIO STANDARD (RPS)

First established in 2002 under Senate Bill (SB) 1078, California's Renewable Portfolio Standards (RPS) requires retail sellers of electric services to increase procurement from eligible renewable resources to 33 percent (%) of total retail sales by 2020 (20).

3.2.6 CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015 (SB 350)

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 RPS, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 25% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the CPUC, the CEC, and local publicly owned utilities.
- Reorganize the 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).

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4 PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES

4.1 EVALUATION CRITERIA

In compliance with Appendix G of the *State CEQA Guidelines* (1), this report analyzes the project's anticipated energy use during construction and operations to determine if the Project would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

4.2 METHODOLOGY

Appendix F of the *State CEQA Guidelines* (21), provides some guidance for assessing these criteria, which implies that the means of achieving the goal of energy conservation includes decreasing overall per capita energy consumption; decreasing reliance on fossil fuels such as coal, natural gas, and oil; and increasing reliance on renewable energy sources. Additionally, the CEQA Guidelines state "[a] lead agency may consider the extent to which an energy source serving the project has already undergone environmental review that adequately analyzed and mitigated the effects of energy production." Therefore, this evaluation considers the effects of statewide plans such as the State's renewable portfolio standards, building code energy efficiency standards, and fuel efficiency standards.

Information from the CalEEMod Version 2016.3.2 outputs for Renaissance Ranch (22) was utilized in this analysis, detailing Project related construction equipment, transportation energy demands, and facility energy demands.

4.2.1 CALEEMOD

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 CalEEMod Version 2016.3.2. The purpose of this model is to calculate construction-source and operational-source criteria pollutants and GHG emissions from direct and indirect sources as well as energy usage (23). Accordingly, CalEEMod has been used to determine the proposed Project's anticipated transportation and facility energy demands. Output from the annual construction and operations model runs are provided in Appendices 4.1 and 4.2.

4.2.2 LAND USES MODELED IN CALEEMOD

For purposes of analysis, the following land uses were modeled based on consultation with the Project Applicant and information provided in the Renaissance Ranch CalEEMod and off-model outputs prepared ECORP Consulting, Inc. (ECORP). The following land uses represents a conservative estimate of that would occur under the Project:

- General Light Industry 740,960
- Industrial Park 235,220

- Manufacturing 211,700
- Refrigerated Warehouse 423,400
- Unrefrigerated Warehouse-No Rail 156,820
- Unrefrigerated Warehouse-No Rail 740,960
- Other Asphalt Surfaces 3,300
- Other Non-Asphalt Surfaces 11,500

4.2.3 EMISSION FACTORS MODEL

On August 19, 2019, the EPA approved the 2017 version of the EMissions FACtor model (EMFAC) web database for use in State Implementation Plan and transportation conformity analyses. EMFAC2017 is a mathematical model that was developed to calculate emission rates, fuel consumption, VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources (24). This energy study utilizes the different fuel types for each vehicle class from the annual EMFAC2017 emission inventory in order to derive the average vehicle fuel economy which is then used to determine the estimated annual fuel consumption associated with vehicle usage during Project construction (2021) and operational (2025) activities. Year 2021 and 2025 are used as these years represent the start year of Project construction and the opening year of Project operations.

4.2.4 CONSTRUCTION DURATION

The construction schedule utilized in the analysis, shown in Table 4-1, represents a "worst-case" analysis scenario should construction occur any time after the respective dates since fuel efficiency for equipment and vehicles increase as time passes due to regulations becoming more stringent[2]. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines*.

4.2.5 CONSTRUCTION EQUIPMENT

A detailed summary of construction equipment assumptions by phase is provided at Table 4-2. Please refer to specific detailed modeling inputs/outputs contained in Appendices 4.1 and 4.2 of this energy study.

[2] As shown in the CalEEMod User's Guide Version 2016.3.2, Section 4.3 "OFFROAD Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

TABLE 4-1: CONSTRUCTION DURATION

Phase Name	Start Date	End Date	Days
Site Preparation	7/7/2021	7/7/2021	1
Grading	7/8/2021	7/21/2021	10
Building Construction	7/22/2021	7/28/2021	5
Paving	7/22/2021	7/28/2021	5
Architectural Coating	8/1/2021	1/14/2022	120
Site Preparation - Offsite	1/15/2022	10/21/2022	200
Installation of Waterline - Offsite	10/22/2022	11/30/2025	810
Paving - Offsite	10/22/2022	11/28/2025	810
Architectural Coating - Offsite	10/22/2022	11/30/2025	810

Source: Ecorp Consulting, Inc. 2021.

4.3 CONSTRUCTION ENERGY DEMANDS

4.3.1 CONSTRUCTION EQUIPMENT ELECTRICITY USAGE ESTIMATES

The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity consumption during construction of the proposed Project. Based on the *2021 National Construction Estimator*, Richard Pray (2021) (25), the typical power cost per 1,000 square feet of construction per month is estimated to be $2.38. The proposed Project includes the development of 740,960 sf of general light industry land uses, 235,220 of industrial park land uses, 211,700 sf of manufacturing uses, 423,400 sf of refrigerated warehouse space, 897,780 sf of unrefrigerated warehouse space without rail, 3,300 of other asphalt surfaces and 11,500 of non-asphalt surfaces. Based on information provided in the Renaissance Ranch CalEEMod output, facility construction activities would occur over a 52-month period, one-month for off-site improvements and 51 months for on-site improvements (22). Based on Table 4-3, the total power cost of the on-site electricity usage during the construction of the Project is estimated to be approximately $306,393.73.

TABLE 4-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Activity/Duration	Equipment	Quantity	Usage Hours
Site Preparation	Rubber Tired Dozers	6	8
	Tractors/Loaders/Backhoes	8	8
Grading	Excavators	4	8
	Graders	2	8
	Rubber Tired Dozers	2	8
	Scrapers	4	8
	Tractors/Loaders/Backhoes	4	8
Building Construction	Cranes	2	7
	Forklifts	6	8
	Generator Sets	2	8
	Tractors/Loaders/Backhoes	6	7
	Welders	2	8
Paving	Pavers	4	8
	Paving Equipment	4	8
	Rollers	4	8
Architectural Coating	Air Compressors	2	6
Site Preparation - Offsite	Graders	1	8
	Tractors/Loaders/Backhoes	1	8
Installation of water line - Offsite	Concrete/Industrial Saws	1	7
	Excavators	1	8
	Forklifts	1	6
	Tractors/Loaders/Backhoes	1	8
Paving - Offsite	Cement and Mortar Mixers	1	6
	Pavers	1	7
	Rollers	1	7
	Tractors/Loaders/Backhoes	1	7
Architectural Coating - Offsite	Air Compressors	1	6

Source: Ecorp Consulting, Inc. 2021.

TABLE 4-3: CONSTRUCTION POWER COST

Land Use	Power Cost (per 1,000 SF of building per month of construction)	Total Building Size (1,000 SF)	Construction Duration (months)	Total Project Construction Power Cost
General Light Industry	$2.38	740.960	51	$89,937.72
Industrial Park	$2.38	235.220	51	$28,551.00
Manufacturing	$2.38	211.700	51	$25,696.15
Refrigerated Warehouse	$2.38	423.400	51	$51,392.29
Unrefrigerated Warehouse-No Rail	$2.38	156.820	51	$19,034.81
Unrefrigerated Warehouse-No Rail	$2.38	740.960	51	$89,937.72
Other Asphalt Surfaces	$2.38	3.300	51	$400.55
Other Non-Asphalt Surfaces	$2.38	11.500	51	$1,395.87
Off-Site Improvements	$2.38	20.000	1	$47.60
TOTAL PROJECT CONSTRUCTION COST				***$306,393.73***

The SCE's general service rate schedule were used to determine the Project's electrical usage. As of January 1, 2021, SCE's general service rate is $0.11 per kilowatt hours (kWh) of electricity for industrial services (26). As shown on Table 4-4, the total electricity usage from on-site Project construction related activities is estimated to be approximately 2,784,965 kWh.

TABLE 4-4: CONSTRUCTION ELECTRICITY USAGE

Land Use	Cost per kWh	Total Project Construction Electricity Usage (kWh)
General Light Industry	$0.11	817,616
Industrial Park	$0.11	259,555
Manufacturing	$0.11	233,601
Refrigerated Warehouse	$0.11	467,203
Unrefrigerated Warehouse-No Rail	$0.11	173,044
Unrefrigerated Warehouse-No Rail	$0.11	817,616
Other Asphalt Surfaces	$0.11	3,641
Other Non-Asphalt Surfaces	$0.11	12,690
Off-Site Improvements	$0.11	433
TOTAL PROJECT CONSTRUCTION ELECTRICTY USAGE (kWh)		***2,784,965***

4.3.2 CONSTRUCTION EQUIPMENT FUEL ESTIMATES

Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. Project construction activity timeline estimates, construction equipment schedules, equipment power ratings, load factors, and associated fuel consumption estimates are presented in Table 4-5. Daily use of equipment is based on the CalEEMod outputs prepared by ECORP and included in Appendix 4.1. The aggregate fuel consumption rate for all

TABLE 4-5: CONSTRUCTION EQUIPMENT FUEL CONSUMPTION ESTIMATES

Activity/ Duration	Duration (Days)	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption (gal. diesel fuel)
Site Preparation	120	Rubber Tired Dozers	247	6	8.00	0.40	4,742	30,762
		Tractors/Loaders/Backhoes	97	8	8.00	0.37	2,297	14,899
Grading	200	Graders	158	4	8.00	0.38	1,921	20,771
		Rubber Tired Dozers	187	2	8.00	0.41	1,227	13,262
		Scrapers	247	2	8.00	0.40	1,581	17,090
		Tractors/Loaders/Backhoes	367	4	8.00	0.48	5,637	60,942
		Cranes	97	4	8.00	0.37	1,148	12,416
Building Construction	810	Forklifts	231	2	7.00	0.29	938	41,063
		Generator Sets	89	6	8.00	0.20	854	37,409
		Tractors/Loaders/Backhoes	84	2	8.00	0.74	995	43,546
		Welders	97	6	7.00	0.37	1,507	65,999
Paving	810	Pavers	46	2	8.00	0.45	331	14,501
		Paving Equipment	130	4	8.00	0.42	1,747	76,499
		Rollers	132	4	8.00	0.36	1,521	66,579
Architectural Coating	810	Air Compressors	80	4	8.00	0.38	973	42,593
Site Preparation - Offsite	1	Graders	187	1	8	0.41	613	33
		Tractors/Loaders/Backhoes	97	1	8	0.37	287	16
Installation of Waterline - Offsite	10	Concrete/Industrial Saws	81	1	7	0.73	414	224
		Cranes	231	0	4	0.29	0	0
		Excavators	158	1	8	0.38	480	260
		Forklifts	89	1	6	0.20	107	58
		Tractors/Loaders/Backhoes	97	1	8	0.37	287	155

TABLE 4-5: CONSTRUCTION EQUIPMENT FUEL CONSUMPTION ESTIMATES

Activity/ Duration	Duration (Days)	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption (gal. diesel fuel)
Paving - Offsite	5	Cement and Mortar Mixers	9	1	6	0.56	30	8
		Pavers	130	1	7	0.42	382	103
		Rollers	80	1	7	0.38	213	58
		Tractors/Loaders/Backhoes	97	1	7	0.37	251	68
Architectural Coating - Offsite	5	Air Compressors	78	1	6	0.48	225	61
CONSTRUCTION FUEL DEMAND (GALLONS DIESEL FUEL)								***559,372***

Source: Ecorp Consulting, Inc. 2021

equipment is estimated at 18.5 horsepower hour per gallon (hp-hr-gal.), obtained from CARB 2018 Emissions Factors Tables and cited fuel consumption rate factors presented in Table D-24 of the Moyer guidelines (27).

For the purposes of this analysis, the calculations are based on all construction equipment being diesel-powered which is consistent with industry standards. Diesel fuel would be supplied by existing commercial fuel providers serving the County and region[3].

As presented in Table 4-5, Project construction activities would consume an estimated 559,372 gallons of diesel fuel. Project construction would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

4.3.3 CONSTRUCTION TRIPS AND VMT

Based on the CalEEMod outputs in Appendix 4.1, the trips and trip length are the quantity and length of on-road vehicle trips for workers, vendors, and hauling for each construction phase used to develop the associated VMT. The trips identified in Table 4-6 are based on the CalEEMod output prepared by ECORP.

TABLE 4-6: CONSTRUCTION TRIPS AND VMT

Phase Name	Worker Trips / Day	Vendor Trips / Day	Worker Trip Length	Vendor Trip Length
Site Preparation	18	0	14.7	6.9
Grading	20	0	14.7	6.9
Building Construction	1325	517	14.7	6.9
Paving	15	0	14.7	6.9
Architectural Coating	265	0	14.7	6.9
Site Preparation - Offsite	5	0	14.7	6.9
Installation of Waterline - Offsite	10	3	14.7	6.9
Paving - Offsite	10	0	14.7	6.9
Architectural Coating - Offsite	2	0	14.7	6.9

Source: Ecorp Consulting, Inc. 2021

4.3.4 CONSTRUCTION WORKER FUEL ESTIMATES

With respect to estimated VMT for the Project, the construction worker trips would generate an estimated 13,040,837 VMT during the 52 months of construction (22). Based on the data for Riverside County and included in the 2017 version of the Emission Factor (EMFAC2017) model developed by CARB, it is estimated that 70.7% of all vendor trips are from light-duty-auto vehicles

[3] Based on Appendix A of the CalEEMod User's Guide, Construction consists of several types of off-road equipment. Since the majority of the off-road construction equipment used for construction projects are diesel fueled, CalEEMod assumes all of the equipment operates on diesel fuel.

(LDA), 7.2% are from light-duty-trucks (LDT1[4]), and 22.1% are from light-duty-trucks (LDT2[5]). Data regarding Project related construction worker trips were based on EMFAC2017 defaults for the Riverside County annual emission inventory.

Vehicle fuel efficiencies for LDA, LDT1, and LDT2 were estimated using information generated within EMFAC2017. EMFAC2017 is a mathematical model that was developed to calculate emission rates based on fuel consumption and VMT from motor vehicles that operate on highways, freeways, and local roads in California and is the primary tool used by CARB to project changes in future emissions from on-road mobile sources (24). For construction worker emissions, EMFAC2017 was run for the LDA, LDT1, and LDT2 vehicle classes within the Riverside County (South-Coast) sub-area for the 2021. Data from EMFAC2017 is shown in Appendix 4.3.

As generated by EMFAC2017, an aggregated fuel economy of LDAs ranging from model year 1974 to model year 2021 are estimated to have a fuel efficiency of 31.83 miles per gallon (mpg). Table 4-7 provides an estimated annual fuel consumption resulting from LDAs related to the Project construction worker trips. Based on Table 4-7, it is estimated that 325,936 gallons of fuel will be consumed related to construction worker trips during full construction of the Project.

TABLE 4-7: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES – LDA

Construction Activity	Duration (Days)	Worker LDA Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	120	10	14.7	17,640	31.83	554
Grading	200	11	14.7	32,340	31.83	1,016
Building Construction	810	715	14.7	8,513,505	31.83	267,459
Paving	810	9	14.7	107,163	31.83	3,367
Architectural Coating	810	143	14.7	1,702,701	31.83	53,492
Site Preparation - Offsite	1	3	14.7	44	31.83	1
Installation of Waterline - Offsite	10	6	14.7	882	31.83	28
Paving - Offsite	5	6	14.7	441	31.83	14
Architectural Coating - Offsite	5	2	14.7	147	31.83	5
TOTAL CONSTRUCTION WORKER (LDA) FUEL CONSUMPTION						***325,936***

The EMFAC2017 aggregated fuel economy of LDT1s ranging from model year 1974 to model year 2021 are estimated to have a fuel efficiency of 26.78. Table 4-8 provides an estimated annual fuel consumption resulting from LDT1s related to the Project construction worker trips. Based on Table 4-8, it is estimated that 24,863 gallons of fuel will be consumed related to construction worker trips during full construction of the Project.

[4] Vehicles under the LDT1 category have a gross vehicle weight rating (GVWR) of less than 6,000 lbs. and equivalent test weight (ETW) of less than or equal to 3,750 lbs.

[5] Vehicles under the LDT2 category have a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs.

TABLE 4-8: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES – LDT1

Construction Activity	Duration (Days)	Worker LDT1 Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	120	2	6.9	3,312	26.78	124
Grading	200	2	6.9	2,760	26.78	103
Building Construction	810	96	6.9	536,544	26.78	20,039
Paving	810	2	6.9	11,178	26.78	417
Architectural Coating	810	20	6.9	111,780	26.78	4,175
Site Preparation - Offsite	1	1	6.9	7	26.78	0
Installation of Waterline - Offsite	10	1	6.9	69	26.78	3
Paving - Offsite	5	1	6.9	35	26.78	1
Architectural Coating - Offsite	5	1	6.9	35	26.78	1
TOTAL CONSTRUCTION WORKER (LDT2) FUEL CONSUMPTION						***24,863***

The EMFAC2017 aggregated fuel economy of LDT2s ranging from model year 1974 to model year 2021 is estimated to have a fuel efficiency of 25.09 mpg. Table 4-9 provides an estimated annual fuel consumption resulting from LDT2s related to the Project construction worker trips. Based on Table 4-9, it is estimated that 79,729 gallons of fuel will be consumed related to construction worker trips during full construction of the Project.

TABLE 4-9: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES – LDT2

Construction Activity	Duration (Days)	Worker LDT2 Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	120	4	6.9	3,312	25.09	132
Grading	200	5	6.9	6,900	25.09	275
Building Construction	810	293	6.9	1,637,577	25.09	65,273
Paving	810	4	6.9	22,356	25.09	891
Architectural Coating	810	59	6.9	329,751	25.09	13,144
Site Preparation - Offsite	1	2	6.9	14	25.09	1
Installation of Waterline - Offsite	10	3	6.9	207	25.09	8
Paving - Offsite	5	3	6.9	104	25.09	4
Architectural Coating - Offsite	5	1	6.9	35	25.09	1
TOTAL CONSTRUCTION WORKER (LDT1) FUEL CONSUMPTION						***79,729***

It should be noted that construction worker trips would represent a "single-event" gasoline fuel demand and would not require on-going or permanent commitment of fuel resources for this purpose.

4.3.5 CONSTRUCTION VENDOR FUEL ESTIMATES

With respect to estimated VMT, the construction vendor trips (vehicles that deliver materials to the site during construction) would generate an estimated 3,110,530 VMT along area roadways for the Project over the duration of construction activity (28). Based on the EMFAC2017 inventory data for Riverside County (South Coast) sub-area, 46.1% of all vendor trips are estimated to come from medium-heavy duty trucks (MHDT) and 53.9% are from heavy-heavy duty trucks (HHDT). Vehicle fuel efficiencies for MHDTs and HHDTs were estimated using information generated within EMFAC2017. EMFAC2017 was run for the MHDT and HHDT vehicle classes within the Riverside County (South Coast) sub-area for the 2021 calendar year. Data from EMFAC2017 is shown in Appendix 4.3.

As generated by EMFAC2017, an aggregated fuel economy of MHDTs ranging from model year 1974 to model year 2021 are estimated to have a fuel efficiency of 10.05 mpg. Based on Table 4-10, it is estimated that 140,617 gallons of fuel will be consumed related to construction vendor trips (MHDTs) during full construction of the Project.

TABLE 4-10: CONSTRUCTION VENDOR FUEL CONSUMPTION ESTIMATES – MHDT

Construction Activity	Duration (Days)	Vendor Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Building Construction	810	239	7.3	1,413,207	10.05	140,602
Installation of Waterline - Offsite	10	2	7.3	146	10.05	15
TOTAL CONSTRUCTION VENDOR (MHDT) FUEL CONSUMPTION						***140,617***

Tables 4-11 shows the estimated fuel economy of HHDTs accessing the Project site. As generated by EMFAC2017, an aggregated fuel economy of HHDTs ranging from model year 1974 to model year 2021 are estimated to have a fuel efficiency of 6.89 mpg, respectively Based on Table 4-11, fuel consumption from construction vendor trips (HHDTs) will total approximately 246,463 gallons.

TABLE 4-11: CONSTRUCTION VENDOR FUEL CONSUMPTION ESTIMATES – HHDT

Construction Activity	Duration (Days)	Vendor Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Building Construction	810	287	7.3	1,697,031	6.89	246,442
Installation of Waterline - Offsite	10	2	7.3	146	6.89	21
TOTAL CONSTRUCTION VENDOR (HHDT) FUEL CONSUMPTION						***246,463***

It should be noted that like all construction activities, Project construction vendor trips would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

4.3.6 CONSTRUCTION ENERGY EFFICIENCY/CONSERVATION MEASURES

Starting in 2014, CARB adopted the nation's first regulation aimed at cleaning up off-road construction equipment such as bulldozers, graders, and backhoes. These requirements ensure fleets gradually turnover the oldest and dirtiest equipment to newer, cleaner models and prevent fleets from adding older, dirtier equipment. As such, the equipment used for Project construction would conform to CARB regulations and California emissions standards. It should also be noted that there are no unusual Project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the Project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

Construction contractors would be required to comply with applicable CARB regulations regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with anti-idling and emissions regulations would result in a more efficient use of construction-related energy and the minimization or elimination of wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additional construction-source energy efficiencies would occur due to required California regulations and best available control measures (BACM). For example, CCR Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Section 2449(d)(3) requires that "grading plans shall reference the requirement that a sign shall be posted on-site stating that construction workers need to shut off engines at or before five minutes of idling." In this manner, construction equipment operators are required to be informed that engines are to be turned off at or prior to

five minutes of idling. Enforcement of idling limitations is realized through periodic site inspections conducted by County building officials, and/or in response to citizen complaints.

In general, the construction processes promote conservation and efficient use of energy by reducing raw materials demands, with related reduction in energy demands associated with raw materials extraction, transportation, processing, and refinement. Use of materials in bulk reduces energy demands associated with preparation and transport of construction materials as well as the transport and disposal of construction waste and solid waste in general, with corollary reduced demands on area landfill capacities and energy consumed by waste transport and landfill operations.

4.4 OPERATIONAL ENERGY DEMANDS

Energy consumption in support of or related to Project operations would include transportation energy demands (energy consumed by passenger car and truck vehicles accessing the Project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

4.4.1 TRANSPORTATION ENERGY DEMANDS

Energy that would be consumed by Project-generated traffic is a function of total VMT and estimated vehicle fuel economies of vehicles accessing the Project site. To assess operational energy demand, EMFAC2017 was run for all vehicle classes within the Riverside County (South Coast) sub-area for the 2025 calendar year to develop fuel efficiencies for vehicles associated with the operation of the Project. VMT data is provided in Appendix 4.2 and data from EMFAC2017 is shown in Appendix 4.3.

As shown in Table 4-12, the Project will result in 41,264,710 annual VMT and an estimated annual fuel consumption of 3,552,331 gallons of fuel. These calculations are conservative and do not include any measures to reduce VMT from vehicles.

4.4.2 FACILITY ENERGY DEMANDS

Project building operations and Project site maintenance activities would result in the consumption of natural gas and electricity. Natural gas would be supplied to the Project by SoCalGas; electricity would be supplied to the Project by SCE. Annual energy demand is based on the CalEEMod outputs prepared by ECORP. Annual natural gas and electricity demands of the Project are summarized in Table 4-13 and provided in Appendix 4.1.

TABLE 4-12: TOTAL PROJECT-GENERATED TRAFFIC ANNUAL FUEL CONSUMPTION (ALL VEHICLES)

Vehicle Type	Annual Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
LDA	9,294,340	36.06	257,780
LDT1	951,523	30.19	31,516
LDT2	2,973,509	29.13	102,074
MDV	118,940	23.06	5,158
LHD1	1,121,438	15.03	74,638
LHD2	305,847	15.68	19,509
MHD	4,296,362	11.10	386,903
HHD	19,976,868	7.66	2,608,070
OBUS	67,966	7.04	9,649
MCY	2,157,918	37.84	57,035
Total (All Vehicles)	41,264,710	NA	**3,552,331**

TABLE 4-13: PROJECT ANNUAL OPERATIONAL ENERGY DEMAND SUMMARY

Natural Gas Demand	kBTU/year
General Light Industry	20,659,300
Industrial Park	571,359
Manufacturing	5,902,680
Other Asphalt Surfaces	0
Other Non- Asphalt Surfaces	0
Refrigerated Warehouse-No Rail	21,502,500
Unrefrigerated Warehouse-No Rail	1,059,570
Unrefrigerated Warehouse-No Rail	224,247
TOTAL PROJECT NATURAL GAS DEMAND	***49,919,656***

kBTU – kilo-British Thermal Units

Electricity Demand	kWh/year
General Light Industry	7,031,670
Industrial Park	2,022,690
Manufacturing	2,009,050
Other Asphalt Surfaces	0
Other Non- Asphalt Surfaces	0
Refrigerated Warehouse-No Rail	16,780,300
Unrefrigerated Warehouse-No Rail	1,666,410
Unrefrigerated Warehouse-No Rail	352,679
TOTAL PROJECT ELECTRICITY DEMAND	***29,862,799***

kWh - kilo-Watt hours
Source: Ecorp Consulting, Inc. 2021.

4.4.3 OPERATIONAL ENERGY EFFICIENCY/CONSERVATION MEASURES

Energy efficiency/energy conservation attributes of the Project would be complemented by increasingly stringent state and federal regulatory actions addressing vehicle fuel economies and vehicle emissions standards; and enhanced building/utilities energy efficiencies mandated under California building codes (e.g., Title24, California Green Building Standards Code).

ENHANCED VEHICLE FUEL EFFICIENCIES

Project annual fuel consumption estimates presented previously in Table 4-12 represent likely potential maximums that would occur for the Project. Under subsequent future conditions, average fuel economies of vehicles accessing the Project site can be expected to improve as older, less fuel-efficient vehicles are removed from circulation, and in response to fuel economy and emissions standards imposed on newer vehicles entering the circulation system.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands.

The future development under the Project would comply with the County's Transportation Demand Management Ordinance, which includes the provision of preferential parking for carpool and rideshare vehicles, on-site bicycle storage facilities, lockers and shower facilities, and sidewalks or paved pathways from the external pedestrian circulation system to each building.

4.5 SUMMARY

4.5.1 CONSTRUCTION ENERGY DEMANDS

The estimated power cost of on-site electricity usage during the construction of the Project is assumed to be approximately $306,393.73. Additionally, based on the assumed power cost, it is estimated that the total electricity usage during construction, after full Project build-out, is calculated to be approximately 2,784,965 kWh.

Construction equipment used by the Project would result in single event consumption of approximately 559,372 gallons of diesel fuel. Construction equipment use of fuel would not be atypical for the type of construction proposed because there are no aspects of the Project's proposed construction process that are unusual or energy-intensive, and Project construction equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies.

CCR Title 13, Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. BACMs inform construction equipment operators of this requirement. Enforcement of idling limitations is realized through periodic site inspections conducted by County building officials, and/or in response to citizen complaints.

Construction worker trips for full construction of the Project would result in the estimated fuel consumption of 430,528 gallons of fuel. Additionally, fuel consumption from construction vendor trips (MHDTs and HHDTs) will total approximately 387,080 gallons. Diesel fuel would be supplied by County and regional commercial vendors. Indirectly, construction energy efficiencies and energy conservation would be achieved using bulk purchases, transport and use of construction materials. The 2019 IEPR released by the CEC has shown that fuel efficiencies are getting better within on and off-road vehicle engines due to more stringent government requirements (18). As supported by the preceding discussions, Project construction energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

4.5.2 OPERATIONAL ENERGY DEMANDS

TRANSPORTATION ENERGY DEMANDS

As shown in Table 4-12 annual vehicular trips and related VMT generated by the operation of the Project would result in an estimated fuel demand 3,552,331 gallons of fuel annually.

Fuel would be provided by current and future commercial vendors. Trip generation and VMT generated by the Project are consistent with other industrial uses of similar scale and configuration, as reflected respectively in the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Ed., 2017); and CalEEMod. As such, Project operations would not inherently result in excessive and wasteful vehicle trips and VMT, nor excess and wasteful vehicle energy consumption compared to other industrial land uses.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. In compliance with the California Green Building Standards Code and County requirements, the Project would promote the use of bicycles as an alternative mean of transportation by providing short-term and/or long-term bicycle parking accommodations. As supported by the preceding discussions, Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

FACILITY ENERGY DEMANDS

Project facility operational energy demands are estimated at: 49,919,656 kBTU/year of natural gas; and 29,862,799 kWh/year of electricity. Natural gas would be supplied to the Project by SoCalGas; electricity would be supplied by SCE. The Project proposes conventional industrial uses reflecting contemporary energy efficient/energy conserving designs and operational programs. The Project does not propose uses that are inherently energy intensive and the energy demands in total would be comparable to other industrial land use projects of similar scale and configuration.

Lastly, the Project will comply with the applicable Title 24 standards. Compliance itself with applicable Title 24 standards will ensure that the Project energy demands would not be inefficient, wasteful, or otherwise unnecessary.

5 CONCLUSIONS

5.1 ENERGY IMPACT 1

Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

As supported by the preceding analyses, Project construction and operations would not result in the inefficient, wasteful or unnecessary consumption of energy. The Project would therefore not cause or result in the need for additional energy producing or transmission facilities. The Project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State.

5.2 ENERGY IMPACT 2

Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The Project's consistency with the applicable state and local plans is discussed below.

CONSISTENCY WITH ISTEA

Transportation and access to the Project site is provided by the local and regional roadway systems. The Project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be realized pursuant to the ISTEA because SCAG is not planning for intermodal facilities on or through the Project site.

CONSISTENCY WITH TEA-21

The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access, acts to reduce vehicle miles traveled, takes advantage of existing infrastructure systems, and promotes land use compatibilities through collocation of similar uses. The Project supports the strong planning processes emphasized under TEA-21. The Project is therefore consistent with, and would not otherwise interfere with, nor obstruct implementation of TEA-21.

CONSISTENCY WITH IEPR

Electricity would be provided to the Project by SCE and natural gas is provided by SoCalGas. SCE's Clean Power and Electrification Pathway (CPEP) white paper and SoCalGas 2018 Corporate Sustainability Report builds on existing state programs and policies. As such, the Project is consistent with, and would not otherwise interfere with, nor obstruct implementation the goals presented in the 2019 IEPR.

CONSISTENCY WITH STATE OF CALIFORNIA ENERGY PLAN

The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access, takes advantage of existing infrastructure systems, and promotes efficiency through the colocation of similar land uses within the site. The Project therefore supports urban design and planning processes

identified under the State of California Energy Plan, is consistent with, and would not otherwise interfere with, nor obstruct implementation of the State of California Energy Plan.

CONSISTENCY WITH CALIFORNIA CODE TITLE 24, PART 6, ENERGY EFFICIENCY STANDARDS

The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020. It should be noted that the analysis herein assumes compliance with the 2019 Title 24 Standards. It should be noted that the CEC anticipates that nonresidential buildings will use approximately 30% less energy compared to the prior code (19). As such, the new buildings would be more efficient and the existing building would be retrofitted to increase energy efficiency to Title 24 standards.

CONSISTENCY WITH AB 1493

AB 1493 is not applicable to the Project as it is a statewide measure establishing vehicle emissions standards. No feature of the Project would interfere with implementation of the requirements under AB 1493.

CONSISTENCY WITH RPS

California's Renewable Portfolio Standard is not applicable to the Project as it is a statewide measure that establishes a renewable energy mix. No feature of the Project would interfere with implementation of the requirements under RPS.

CONSISTENCY WITH SB 350

The proposed Project would use energy from SCE, which has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources. No feature of the Project would interfere with implementation of SB 350. Additionally, the Project would be designed and constructed to implement the energy efficiency measures and would include several measures designed to reduce energy consumption.

As shown above, the Project would not conflict with any of the state or local plans. As such, a less than significant impact is expected.

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7 CERTIFICATIONS

The contents of this energy analysis report represent an accurate depiction of the environmental impacts associated with the proposed Renaissance Ranch Specific Plan. The information contained in this energy analysis report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (619) 778-1971.

William Maddux
Senior Associate
URBAN CROSSROADS, INC.
(619) 788-1971
bmaddux@urbanxroads.com

EDUCATION

Bachelor of Science in Urban and Regional Planning
California Polytechnic State University, Pomona • June 2000

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
APA – American Planning Association
AWMA – Air and Waste Management Association

PROFESSIONAL CERTIFICATIONS``

HARP Model Training – Bluescape Environmental • 2004
Air Dispersion Modeling – Lakes Environmental • 2008

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APPENDIX 4.1:

CALEEMOD PROJECT ANNUAL EMISSIONS MODEL OUTPUTS

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Renaissance Ranch-offsite

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	20.00	1000sqft	0.46	20,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Area estimated from google earth.

Construction Phase - Paving and painting assumed to occur at the same time.

Off-road Equipment -

Off-road Equipment - Equipment updated to accurately reflect project- a crane is not needed.

Off-road Equipment - Equipment updated to match project- no more than one mixer will be needed for the project area.

Off-road Equipment -

Construction Off-road Equipment Mitigation - Mitigation accounts for county requirments to adhear to SCAQMD rule 403.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	40
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00

2.0 Emissions Summary

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					
2021	9.7600e-003	0.0621	0.0735	1.2000e-004	1.2700e-003	3.3500e-003	4.6200e-003	3.0000e-004	3.1600e-003	3.4600e-003	0.0000	10.7450	10.7450	2.3600e-003	0.0000	10.8040
Maximum	**9.7600e-003**	**0.0621**	**0.0735**	**1.2000e-004**	**1.2700e-003**	**3.3500e-003**	**4.6200e-003**	**3.0000e-004**	**3.1600e-003**	**3.4600e-003**	**0.0000**	**10.7450**	**10.7450**	**2.3600e-003**	**0.0000**	**10.8040**

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					
2021	9.7600e-003	0.0621	0.0735	1.2000e-004	7.6000e-004	3.3500e-003	4.1100e-003	2.0000e-004	3.1600e-003	3.3600e-003	0.0000	10.7450	10.7450	2.3600e-003	0.0000	10.8040
Maximum	**9.7600e-003**	**0.0621**	**0.0735**	**1.2000e-004**	**7.6000e-004**	**3.3500e-003**	**4.1100e-003**	**2.0000e-004**	**3.1600e-003**	**3.3600e-003**	**0.0000**	**10.7450**	**10.7450**	**2.3600e-003**	**0.0000**	**10.8040**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**40.16**	**0.00**	**11.04**	**33.33**	**0.00**	**2.89**	**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)
2	5-23-2021	8-22-2021	0.0706	0.0706
		Highest	0.0706	0.0706

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5900e-003	0.0000	2.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-004	5.0000e-004	0.0000	0.0000	5.3000e-004
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	**1.5900e-003**	**0.0000**	**2.6000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.0000e-004**	**5.0000e-004**	**0.0000**	**0.0000**	**5.3000e-004**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5900e-003	0.0000	2.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-004	5.0000e-004	0.0000	0.0000	5.3000e-004
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	**1.5900e-003**	**0.0000**	**2.6000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.0000e-004**	**5.0000e-004**	**0.0000**	**0.0000**	**5.3000e-004**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/7/2021	7/7/2021	5	1	
2	Installation of water line	Trenching	7/8/2021	7/21/2021	5	10	
3	Paving	Paving	7/22/2021	7/28/2021	5	5	
4	Architectural Coating	Architectural Coating	7/22/2021	7/28/2021	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.46

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 1,200 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Installation of water line	Concrete/Industrial Saws	1	7.00	81	0.73
Installation of water line	Cranes	0	4.00	231	0.29
Installation of water line	Excavators	1	8.00	158	0.38
Installation of water line	Forklifts	1	6.00	89	0.20
Installation of water line	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Installation of water line	4	10.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2021

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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	**3.2000e-004**	**3.9100e-003**	**2.0100e-003**	**0.0000**	**2.7000e-004**	**1.5000e-004**	**4.2000e-004**	**3.0000e-005**	**1.4000e-004**	**1.7000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

3.2 Site Preparation - 2021

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0222	0.0222	0.0000	0.0000	0.0222
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0222**	**0.0222**	**0.0000**	**0.0000**	**0.0222**

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					1.0000e-004	0.0000	1.0000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	**3.2000e-004**	**3.9100e-003**	**2.0100e-003**	**0.0000**	**1.0000e-004**	**1.5000e-004**	**2.5000e-004**	**1.0000e-005**	**1.4000e-004**	**1.5000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

3.2 Site Preparation - 2021

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0222	0.0222	0.0000	0.0000	0.0222
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0222**	**0.0222**	**0.0000**	**0.0000**	**0.0222**

3.3 Installation of water line - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.2500e-003	0.0380	0.0481	7.0000e-005		2.1500e-003	2.1500e-003		2.0400e-003	2.0400e-003	0.0000	6.4895	6.4895	1.4700e-003	0.0000	6.5264
Total	**4.2500e-003**	**0.0380**	**0.0481**	**7.0000e-005**		**2.1500e-003**	**2.1500e-003**		**2.0400e-003**	**2.0400e-003**	**0.0000**	**6.4895**	**6.4895**	**1.4700e-003**	**0.0000**	**6.5264**

3.3 Installation of water line - 2021

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	4.0000e-005	1.4000e-003	2.7000e-004	0.0000	9.0000e-005	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3660	0.3660	3.0000e-005	0.0000	0.3667
Worker	2.1000e-004	1.4000e-004	1.5700e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4444	0.4444	1.0000e-005	0.0000	0.4447
Total	**2.5000e-004**	**1.5400e-003**	**1.8400e-003**	**0.0000**	**6.4000e-004**	**0.0000**	**6.5000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.8104**	**0.8104**	**4.0000e-005**	**0.0000**	**0.8113**

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	4.2500e-003	0.0380	0.0481	7.0000e-005		2.1500e-003	2.1500e-003		2.0400e-003	2.0400e-003	0.0000	6.4895	6.4895	1.4700e-003	0.0000	6.5264
Total	**4.2500e-003**	**0.0380**	**0.0481**	**7.0000e-005**		**2.1500e-003**	**2.1500e-003**		**2.0400e-003**	**2.0400e-003**	**0.0000**	**6.4895**	**6.4895**	**1.4700e-003**	**0.0000**	**6.5264**

3.3 Installation of water line - 2021

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	4.0000e-005	1.4000e-003	2.7000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3660	0.3660	3.0000e-005	0.0000	0.3667
Worker	2.1000e-004	1.4000e-004	1.5700e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.4444	0.4444	1.0000e-005	0.0000	0.4447
Total	**2.5000e-004**	**1.5400e-003**	**1.8400e-003**	**0.0000**	**4.3000e-004**	**0.0000**	**4.3000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.8104**	**0.8104**	**4.0000e-005**	**0.0000**	**0.8113**

3.4 Paving - 2021

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	1.4700e-003	0.0147	0.0160	2.0000e-005		8.0000e-004	8.0000e-004		7.4000e-004	7.4000e-004	0.0000	2.0903	2.0903	6.6000e-004	0.0000	2.1068
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.4700e-003**	**0.0147**	**0.0160**	**2.0000e-005**		**8.0000e-004**	**8.0000e-004**		**7.4000e-004**	**7.4000e-004**	**0.0000**	**2.0903**	**2.0903**	**6.6000e-004**	**0.0000**	**2.1068**

3.4 Paving - 2021

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	1.1000e-004	7.0000e-005	7.9000e-004	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2222	0.2222	1.0000e-005	0.0000	0.2223
Total	**1.1000e-004**	**7.0000e-005**	**7.9000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2222**	**0.2222**	**1.0000e-005**	**0.0000**	**0.2223**

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	1.4700e-003	0.0147	0.0160	2.0000e-005		8.0000e-004	8.0000e-004		7.4000e-004	7.4000e-004	0.0000	2.0903	2.0903	6.6000e-004	0.0000	2.1068
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.4700e-003**	**0.0147**	**0.0160**	**2.0000e-005**		**8.0000e-004**	**8.0000e-004**		**7.4000e-004**	**7.4000e-004**	**0.0000**	**2.0903**	**2.0903**	**6.6000e-004**	**0.0000**	**2.1068**

3.4 Paving - 2021

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	1.1000e-004	7.0000e-005	7.9000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.2222	0.2222	1.0000e-005	0.0000	0.2223
Total	**1.1000e-004**	**7.0000e-005**	**7.9000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.2222**	**0.2222**	**1.0000e-005**	**0.0000**	**0.2223**

3.5 Architectural Coating - 2021

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	2.7800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**3.3300e-003**	**3.8200e-003**	**4.5400e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

3.5 Architectural Coating - 2021

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	2.0000e-005	1.0000e-005	1.6000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0444	0.0444	0.0000	0.0000	0.0445
Total	**2.0000e-005**	**1.0000e-005**	**1.6000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**6.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0444**	**0.0444**	**0.0000**	**0.0000**	**0.0445**

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	2.7800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**3.3300e-003**	**3.8200e-003**	**4.5400e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

3.5 Architectural Coating - 2021

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	2.0000e-005	1.0000e-005	1.6000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0444	0.0444	0.0000	0.0000	0.0445
Total	**2.0000e-005**	**1.0000e-005**	**1.6000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0444**	**0.0444**	**0.0000**	**0.0000**	**0.0445**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898

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

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 Non-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
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**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-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
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**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	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

	ROG	NOx	CO	SO2	Fugitive 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	1.5900e-003	0.0000	2.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-004	5.0000e-004	0.0000	0.0000	5.3000e-004
Unmitigated	1.5900e-003	0.0000	2.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-004	5.0000e-004	0.0000	0.0000	5.3000e-004

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	2.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	2.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-004	5.0000e-004	0.0000	0.0000	5.3000e-004
Total	**1.5900e-003**	**0.0000**	**2.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.0000e-004**	**5.0000e-004**	**0.0000**	**0.0000**	**5.3000e-004**

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	2.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	2.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-004	5.0000e-004	0.0000	0.0000	5.3000e-004
Total	**1.5900e-003**	**0.0000**	**2.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.0000e-004**	**5.0000e-004**	**0.0000**	**0.0000**	**5.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	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 Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	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 Non-Asphalt Surfaces	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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Renaissance Ranch-onsite

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	740.96	1000sqft	24.30	740,956.00	0
Industrial Park	235.22	1000sqft	9.00	235,224.00	0
Manufacturing	211.70	1000sqft	24.30	211,702.00	0
Refrigerated Warehouse-No Rail	423.40	1000sqft	24.30	423,403.00	0
Unrefrigerated Warehouse-No Rail	156.82	1000sqft	9.00	156,816.00	0
Unrefrigerated Warehouse-No Rail	740.96	1000sqft	24.30	740,956.00	0
Other Asphalt Surfaces	3.30	Acre	3.30	143,748.00	0
Other Non-Asphalt Surfaces	11.50	Acre	11.50	500,940.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	502.65	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2017 SEC CO2 intensity factor per Edison International Sustainability templet.

Land Use - Lot acreage updated to match that of the Project. Open space cpnseervation= non-asphalt surface. Open space conservation habitat was not accounted for in the modeling as no grading or other ground disturbances will take place.

Construction Phase - Construction timing updated to reflect an opening year of 2025. Construction, paving and coating assumed to occur simultaneously.

Off-road Equipment -

Off-road Equipment - Equipment doubled to account for accelerated timeline compared with CalEEMod defaults

Off-road Equipment - Equipment doubled to account for accelerated timeline compared with CalEEMod defaults

Off-road Equipment - Equipment doubled to account for accelerated timeline compared with CalEEMod defaults

Off-road Equipment - Equipment doubled to account for accelerated timeline compared with CalEEMod defaults

Trips and VMT - No hauling trips- all dirt will be balanced on the project site.

Grading - Project is estimated to cut approximately 1.8 million cubic yards of soil- split between phases.

Vehicle Trips - Mobile emissions are modeled separately to account for fleet mix.

Energy Use -

Water And Wastewater - Water use updated to match the information provided in the project description that accounts for 172,800 gpd generated by the project.

Construction Off-road Equipment Mitigation - "Mitigation" accounts SCAQMD rule 403

Energy Mitigation - Energy use reflects 2019 title 24 standards. Increase in efficiency per CEC 2019 building energy efficiency standards frequently asked questions (2018)

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	40
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	310.00	200.00
tblConstructionPhase	NumDays	3,100.00	810.00
tblConstructionPhase	NumDays	220.00	810.00
tblConstructionPhase	NumDays	220.00	810.00

tblGrading	AcresOfGrading	1,000.00	775.00
tblGrading	MaterialExported	0.00	900,000.00
tblGrading	MaterialExported	0.00	900,000.00
tblLandUse	LandUseSquareFeet	740,960.00	740,956.00
tblLandUse	LandUseSquareFeet	235,220.00	235,224.00
tblLandUse	LandUseSquareFeet	211,700.00	211,702.00
tblLandUse	LandUseSquareFeet	423,400.00	423,403.00
tblLandUse	LandUseSquareFeet	156,820.00	156,816.00
tblLandUse	LandUseSquareFeet	740,960.00	740,956.00
tblLandUse	LotAcreage	17.01	24.30
tblLandUse	LotAcreage	5.40	9.00
tblLandUse	LotAcreage	4.86	24.30
tblLandUse	LotAcreage	9.72	24.30
tblLandUse	LotAcreage	3.60	9.00
tblLandUse	LotAcreage	17.01	24.30
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	502.65
tblSolidWaste	SolidWasteGenerationRate	843.91	843.90
tblTripsAndVMT	HaulingTripNumber	112,500.00	0.00
tblTripsAndVMT	HaulingTripNumber	112,500.00	0.00
tblTripsAndVMT	WorkerTripNumber	35.00	18.00
tblTripsAndVMT	WorkerTripNumber	40.00	20.00
tblTripsAndVMT	WorkerTripNumber	30.00	15.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	2.49	0.00
tblVehicleTrips	ST_TR	1.49	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	0.73	0.00
tblVehicleTrips	SU_TR	0.62	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	6.83	0.00
tblVehicleTrips	WD_TR	3.82	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	IndoorWaterUseRate	171,347,000.00	12,614,400.00

tblWater	IndoorWaterUseRate	54,394,625.00	12,614,400.00
tblWater	IndoorWaterUseRate	48,955,625.00	12,614,400.00
tblWater	IndoorWaterUseRate	97,911,250.00	12,614,400.00
tblWater	IndoorWaterUseRate	207,611,625.00	12,614,400.00

2.0 Emissions Summary

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					
2021	0.4319	4.4575	2.3581	4.2800e-003	2.0552	0.2250	2.2801	1.1039	0.2070	1.3109	0.0000	376.5925	376.5925	0.1192	0.0000	379.5714
2022	1.8294	10.7521	9.0834	0.0227	2.4556	0.4207	2.8763	0.9697	0.3883	1.3580	0.0000	2,027.0549	2,027.0549	0.4552	0.0000	2,038.4346
2023	5.3920	11.6329	15.0417	0.0492	2.7178	0.3506	3.0684	0.7314	0.3280	1.0594	0.0000	4,491.6673	4,491.6673	0.4413	0.0000	4,502.7007
2024	5.3458	11.2086	14.7555	0.0489	2.7387	0.3169	3.0556	0.7371	0.2963	1.0334	0.0000	4,458.4516	4,458.4516	0.4386	0.0000	4,469.4160
2025	4.7724	9.6271	12.9961	0.0436	2.4878	0.2531	2.7409	0.6695	0.2366	0.9061	0.0000	3,980.0675	3,980.0675	0.3927	0.0000	3,989.8851
Maximum	**5.3920**	**11.6329**	**15.0417**	**0.0492**	**2.7387**	**0.4207**	**3.0684**	**1.1039**	**0.3883**	**1.3580**	**0.0000**	**4,491.6673**	**4,491.6673**	**0.4552**	**0.0000**	**4,502.7007**

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					
2021	0.4319	4.4575	2.3581	4.2800e-003	0.8044	0.2250	1.0293	0.4314	0.2070	0.6383	0.0000	376.5920	376.5920	0.1192	0.0000	379.5709
2022	1.8162	10.5825	9.1143	0.0227	1.1065	0.4135	1.5199	0.4225	0.3817	0.8042	0.0000	2,027.0533	2,027.0533	0.4552	0.0000	2,038.4329
2023	5.3282	10.8348	15.2157	0.0492	1.8020	0.3165	2.1185	0.5067	0.2968	0.8034	0.0000	4,491.6659	4,491.6659	0.4413	0.0000	4,502.6993
2024	5.2860	10.4756	14.9446	0.0489	1.8159	0.2857	2.1016	0.5105	0.2678	0.7783	0.0000	4,458.4502	4,458.4502	0.4386	0.0000	4,469.4145
2025	4.7220	9.0313	13.1758	0.0436	1.6495	0.2270	1.8766	0.4638	0.2127	0.6765	0.0000	3,980.0662	3,980.0662	0.3927	0.0000	3,989.8838
Maximum	**5.3282**	**10.8348**	**15.2157**	**0.0492**	**1.8159**	**0.4135**	**2.1185**	**0.5105**	**0.3817**	**0.8042**	**0.0000**	**4,491.6659**	**4,491.6659**	**0.4552**	**0.0000**	**4,502.6993**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**1.05**	**4.82**	**-1.06**	**0.00**	**42.37**	**6.30**	**38.34**	**44.56**	**6.19**	**34.70**	**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)
2	**5-22-2021**	**8-21-2021**	0.6668	0.6668
3	**8-22-2021**	**11-21-2021**	2.9211	2.9211
4	**11-22-2021**	**2-21-2022**	2.7878	2.7878
5	**2-22-2022**	**5-21-2022**	2.7041	2.7041
6	**5-22-2022**	**8-21-2022**	2.7953	2.7953
7	**8-22-2022**	**11-21-2022**	3.4941	3.4131

8	**11-22-2022**	**2-21-2023**	4.5484	4.3208
9	**2-22-2023**	**5-21-2023**	4.1682	3.9575
10	**5-22-2023**	**8-21-2023**	4.3140	4.0962
11	**8-22-2023**	**11-21-2023**	4.3070	4.0892
12	**11-22-2023**	**2-21-2024**	4.2163	4.0092
13	**2-22-2024**	**5-21-2024**	4.0670	3.8725
14	**5-22-2024**	**8-21-2024**	4.1625	3.9637
15	**8-22-2024**	**11-21-2024**	4.1558	3.9570
16	**11-22-2024**	**2-21-2025**	4.0510	3.8637
17	**2-22-2025**	**5-21-2025**	3.8512	3.6786
18	**5-22-2025**	**8-21-2025**	3.9860	3.8076
19	**8-22-2025**	**9-30-2025**	1.7330	1.6555
		Highest	4.5484	4.3208

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	10.2830	2.9000e-004	0.0321	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.0626	0.0626	1.6000e-004	0.0000	0.0667
Energy	0.2993	2.7209	2.2855	0.0163		0.2068	0.2068		0.2068	0.2068	0.0000	10,016.8414	10,016.8414	0.4638	0.1385	10,069.7138
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	551.0941	0.0000	551.0941	32.5687	0.0000	1,365.3123
Water						0.0000	0.0000		0.0000	0.0000	20.0098	187.2459	207.2558	2.0660	0.0508	274.0332
Total	**10.5823**	**2.7212**	**2.3177**	**0.0163**	**0.0000**	**0.2069**	**0.2069**	**0.0000**	**0.2069**	**0.2069**	**571.1039**	**10,204.1500**	**10,775.2539**	**35.0987**	**0.1893**	**11,709.1260**

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	10.2830	2.9000e-004	0.0321	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.0626	0.0626	1.6000e-004	0.0000	0.0667
Energy	0.2692	2.4470	2.0555	0.0147		0.1860	0.1860		0.1860	0.1860	0.0000	9,472.5732	9,472.5732	0.4439	0.1301	9,522.4434
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	551.0941	0.0000	551.0941	32.5687	0.0000	1,365.3123
Water						0.0000	0.0000		0.0000	0.0000	16.0079	149.7967	165.8046	1.6528	0.0406	219.2266
Total	**10.5522**	**2.4473**	**2.0877**	**0.0147**	**0.0000**	**0.1861**	**0.1861**	**0.0000**	**0.1861**	**0.1861**	**567.1020**	**9,622.4326**	**10,189.5345**	**34.6656**	**0.1707**	**11,107.0490**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.28**	**10.06**	**9.92**	**10.10**	**0.00**	**10.06**	**10.06**	**0.00**	**10.06**	**10.06**	**0.70**	**5.70**	**5.44**	**1.23**	**9.81**	**5.14**

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	8/1/2021	1/14/2022	5	120	
2	Grading	Grading	1/15/2022	10/21/2022	5	200	
3	Building Construction	Building Construction	10/22/2022	11/30/2025	5	810	
4	Paving	Paving	10/22/2022	11/28/2025	5	810	
5	Architectural Coating	Architectural Coating	10/22/2022	11/30/2025	5	810	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 775

Acres of Paving: 14.8

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 3,763,586; Non-Residential Outdoor: 1,254,529; Striped Parking Area: 38,681 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	6	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	8	8.00	97	0.37
Grading	Excavators	4	8.00	158	0.38
Grading	Graders	2	8.00	187	0.41
Grading	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Scrapers	4	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Cranes	2	7.00	231	0.29
Building Construction	Forklifts	6	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	6	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	4	8.00	132	0.36
Paving	Rollers	4	8.00	80	0.38
Architectural Coating	Air Compressors	2	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	14	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	16	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	18	1,325.00	517.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	265.00	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

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2021

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					2.0443	0.0000	2.0443	1.1010	0.0000	1.1010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4277	4.4547	2.3270	4.1800e-003		0.2249	0.2249		0.2069	0.2069	0.0000	367.7929	367.7929	0.1190	0.0000	370.7667
Total	**0.4277**	**4.4547**	**2.3270**	**4.1800e-003**	**2.0443**	**0.2249**	**2.2692**	**1.1010**	**0.2069**	**1.3079**	**0.0000**	**367.7929**	**367.7929**	**0.1190**	**0.0000**	**370.7667**

3.2 Site Preparation - 2021

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	4.2400e-003	2.8600e-003	0.0312	1.0000e-004	0.0109	7.0000e-005	0.0110	2.8900e-003	6.0000e-005	2.9500e-003	0.0000	8.7996	8.7996	2.0000e-004	0.0000	8.8047
Total	**4.2400e-003**	**2.8600e-003**	**0.0312**	**1.0000e-004**	**0.0109**	**7.0000e-005**	**0.0110**	**2.8900e-003**	**6.0000e-005**	**2.9500e-003**	**0.0000**	**8.7996**	**8.7996**	**2.0000e-004**	**0.0000**	**8.8047**

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					0.7973	0.0000	0.7973	0.4294	0.0000	0.4294	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4277	4.4547	2.3270	4.1800e-003		0.2249	0.2249		0.2069	0.2069	0.0000	367.7925	367.7925	0.1190	0.0000	370.7662
Total	**0.4277**	**4.4547**	**2.3270**	**4.1800e-003**	**0.7973**	**0.2249**	**1.0222**	**0.4294**	**0.2069**	**0.6363**	**0.0000**	**367.7925**	**367.7925**	**0.1190**	**0.0000**	**370.7662**

3.2 Site Preparation - 2021

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	4.2400e-003	2.8600e-003	0.0312	1.0000e-004	7.1100e-003	7.0000e-005	7.1700e-003	1.9600e-003	6.0000e-005	2.0200e-003	0.0000	8.7996	8.7996	2.0000e-004	0.0000	8.8047
Total	**4.2400e-003**	**2.8600e-003**	**0.0312**	**1.0000e-004**	**7.1100e-003**	**7.0000e-005**	**7.1700e-003**	**1.9600e-003**	**6.0000e-005**	**2.0200e-003**	**0.0000**	**8.7996**	**8.7996**	**2.0000e-004**	**0.0000**	**8.8047**

3.2 Site Preparation - 2022

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					0.2377	0.0000	0.2377	0.1079	0.0000	0.1079	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3308	0.1970	3.8000e-004		0.0161	0.0161		0.0148	0.0148	0.0000	33.4394	33.4394	0.0108	0.0000	33.7098
Total	**0.0317**	**0.3308**	**0.1970**	**3.8000e-004**	**0.2377**	**0.0161**	**0.2538**	**0.1079**	**0.0148**	**0.1228**	**0.0000**	**33.4394**	**33.4394**	**0.0108**	**0.0000**	**33.7098**

3.2 Site Preparation - 2022

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	3.6000e-004	2.3000e-004	2.6100e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.7708	0.7708	2.0000e-005	0.0000	0.7712
Total	**3.6000e-004**	**2.3000e-004**	**2.6100e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.7708**	**0.7708**	**2.0000e-005**	**0.0000**	**0.7712**

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					0.0927	0.0000	0.0927	0.0421	0.0000	0.0421	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3308	0.1970	3.8000e-004		0.0161	0.0161		0.0148	0.0148	0.0000	33.4394	33.4394	0.0108	0.0000	33.7097
Total	**0.0317**	**0.3308**	**0.1970**	**3.8000e-004**	**0.0927**	**0.0161**	**0.1088**	**0.0421**	**0.0148**	**0.0569**	**0.0000**	**33.4394**	**33.4394**	**0.0108**	**0.0000**	**33.7097**

3.2 Site Preparation - 2022

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	3.6000e-004	2.3000e-004	2.6100e-003	1.0000e-005	6.5000e-004	1.0000e-005	6.5000e-004	1.8000e-004	1.0000e-005	1.8000e-004	0.0000	0.7708	0.7708	2.0000e-005	0.0000	0.7712
Total	**3.6000e-004**	**2.3000e-004**	**2.6100e-003**	**1.0000e-005**	**6.5000e-004**	**1.0000e-005**	**6.5000e-004**	**1.8000e-004**	**1.0000e-005**	**1.8000e-004**	**0.0000**	**0.7708**	**0.7708**	**2.0000e-005**	**0.0000**	**0.7712**

3.3 Grading - 2022

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					1.6724	0.0000	1.6724	0.7151	0.0000	0.7151	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.7250	7.7687	5.8083	0.0124		0.3270	0.3270		0.3008	0.3008	0.0000	1,090.6920	1,090.6920	0.3528	0.0000	1,099.5108
Total	**0.7250**	**7.7687**	**5.8083**	**0.0124**	**1.6724**	**0.3270**	**1.9993**	**0.7151**	**0.3008**	**1.0159**	**0.0000**	**1,090.6920**	**1,090.6920**	**0.3528**	**0.0000**	**1,099.5108**

3.3 Grading - 2022

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	8.0300e-003	5.2000e-003	0.0580	1.9000e-004	0.0220	1.3000e-004	0.0221	5.8400e-003	1.2000e-004	5.9600e-003	0.0000	17.1282	17.1282	3.7000e-004	0.0000	17.1375
Total	**8.0300e-003**	**5.2000e-003**	**0.0580**	**1.9000e-004**	**0.0220**	**1.3000e-004**	**0.0221**	**5.8400e-003**	**1.2000e-004**	**5.9600e-003**	**0.0000**	**17.1282**	**17.1282**	**3.7000e-004**	**0.0000**	**17.1375**

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					0.6522	0.0000	0.6522	0.2789	0.0000	0.2789	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.7250	7.7687	5.8083	0.0124		0.3270	0.3270		0.3008	0.3008	0.0000	1,090.6907	1,090.6907	0.3528	0.0000	1,099.5095
Total	**0.7250**	**7.7687**	**5.8083**	**0.0124**	**0.6522**	**0.3270**	**0.9792**	**0.2789**	**0.3008**	**0.5797**	**0.0000**	**1,090.6907**	**1,090.6907**	**0.3528**	**0.0000**	**1,099.5095**

3.3 Grading - 2022

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	8.0300e-003	5.2000e-003	0.0580	1.9000e-004	0.0144	1.3000e-004	0.0145	3.9700e-003	1.2000e-004	4.0800e-003	0.0000	17.1282	17.1282	3.7000e-004	0.0000	17.1375
Total	**8.0300e-003**	**5.2000e-003**	**0.0580**	**1.9000e-004**	**0.0144**	**1.3000e-004**	**0.0145**	**3.9700e-003**	**1.2000e-004**	**4.0800e-003**	**0.0000**	**17.1282**	**17.1282**	**3.7000e-004**	**0.0000**	**17.1375**

3.4 Building Construction - 2022

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	0.0853	0.7808	0.8182	1.3500e-003		0.0405	0.0405		0.0381	0.0381	0.0000	115.8626	115.8626	0.0278	0.0000	116.5566
Total	**0.0853**	**0.7808**	**0.8182**	**1.3500e-003**		**0.0405**	**0.0405**		**0.0381**	**0.0381**	**0.0000**	**115.8626**	**115.8626**	**0.0278**	**0.0000**	**116.5566**

3.4 Building Construction - 2022

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	0.0288	1.1354	0.2160	3.2700e-003	0.0816	1.9400e-003	0.0836	0.0236	1.8500e-003	0.0254	0.0000	312.6229	312.6229	0.0228	0.0000	313.1926
Worker	0.1331	0.0861	0.9606	3.1400e-003	0.3641	2.1200e-003	0.3662	0.0967	1.9600e-003	0.0986	0.0000	283.6862	283.6862	6.1600e-003	0.0000	283.8403
Total	**0.1618**	**1.2215**	**1.1766**	**6.4100e-003**	**0.4457**	**4.0600e-003**	**0.4498**	**0.1202**	**3.8100e-003**	**0.1240**	**0.0000**	**596.3091**	**596.3091**	**0.0290**	**0.0000**	**597.0329**

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	0.0721	0.6112	0.8491	1.3500e-003		0.0333	0.0333		0.0315	0.0315	0.0000	115.8625	115.8625	0.0278	0.0000	116.5564
Total	**0.0721**	**0.6112**	**0.8491**	**1.3500e-003**		**0.0333**	**0.0333**		**0.0315**	**0.0315**	**0.0000**	**115.8625**	**115.8625**	**0.0278**	**0.0000**	**116.5564**

3.4 Building Construction - 2022

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	0.0288	1.1354	0.2160	3.2700e-003	0.0585	1.9400e-003	0.0604	0.0179	1.8500e-003	0.0197	0.0000	312.6229	312.6229	0.0228	0.0000	313.1926
Worker	0.1331	0.0861	0.9606	3.1400e-003	0.2378	2.1200e-003	0.2399	0.0657	1.9600e-003	0.0676	0.0000	283.6862	283.6862	6.1600e-003	0.0000	283.8403
Total	**0.1618**	**1.2215**	**1.1766**	**6.4100e-003**	**0.2963**	**4.0600e-003**	**0.3004**	**0.0836**	**3.8100e-003**	**0.0874**	**0.0000**	**596.3091**	**596.3091**	**0.0290**	**0.0000**	**597.0329**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4089	3.7401	4.2234	7.0100e-003		0.1819	0.1819		0.1712	0.1712	0.0000	602.6923	602.6923	0.1434	0.0000	606.2766
Total	**0.4089**	**3.7401**	**4.2234**	**7.0100e-003**		**0.1819**	**0.1819**		**0.1712**	**0.1712**	**0.0000**	**602.6923**	**602.6923**	**0.1434**	**0.0000**	**606.2766**

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1145	4.4153	0.9781	0.0165	0.4245	4.5000e-003	0.4290	0.1225	4.3000e-003	0.1268	0.0000	1,582.8089	1,582.8089	0.0907	0.0000	1,585.0765
Worker	0.6499	0.4036	4.6044	0.0157	1.8933	0.0108	1.9040	0.5027	9.9300e-003	0.5127	0.0000	1,419.1806	1,419.1806	0.0288	0.0000	1,419.9006
Total	**0.7643**	**4.8189**	**5.5824**	**0.0322**	**2.3177**	**0.0153**	**2.3330**	**0.6252**	**0.0142**	**0.6394**	**0.0000**	**3,001.9895**	**3,001.9895**	**0.1195**	**0.0000**	**3,004.9771**

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	0.3451	2.9419	4.3975	7.0100e-003		0.1478	0.1478		0.1400	0.1400	0.0000	602.6916	602.6916	0.1434	0.0000	606.2759
Total	**0.3451**	**2.9419**	**4.3975**	**7.0100e-003**		**0.1478**	**0.1478**		**0.1400**	**0.1400**	**0.0000**	**602.6916**	**602.6916**	**0.1434**	**0.0000**	**606.2759**

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1145	4.4153	0.9781	0.0165	0.3042	4.5000e-003	0.3087	0.0929	4.3000e-003	0.0972	0.0000	1,582.8089	1,582.8089	0.0907	0.0000	1,585.0765
Worker	0.6499	0.4036	4.6044	0.0157	1.2366	0.0108	1.2473	0.3415	9.9300e-003	0.3515	0.0000	1,419.1806	1,419.1806	0.0288	0.0000	1,419.9006
Total	**0.7643**	**4.8189**	**5.5824**	**0.0322**	**1.5407**	**0.0153**	**1.5560**	**0.4345**	**0.0142**	**0.4487**	**0.0000**	**3,001.9895**	**3,001.9895**	**0.1195**	**0.0000**	**3,004.9771**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3856	3.5223	4.2357	7.0600e-003		0.1607	0.1607		0.1512	0.1512	0.0000	607.4447	607.4447	0.1436	0.0000	611.0357
Total	**0.3856**	**3.5223**	**4.2357**	**7.0600e-003**		**0.1607**	**0.1607**		**0.1512**	**0.1512**	**0.0000**	**607.4447**	**607.4447**	**0.1436**	**0.0000**	**611.0357**

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1132	4.4250	0.9525	0.0166	0.4277	4.5100e-003	0.4322	0.1234	4.3100e-003	0.1277	0.0000	1,588.9819	1,588.9819	0.0894	0.0000	1,591.2169
Worker	0.6182	0.3686	4.3433	0.0152	1.9078	0.0108	1.9186	0.5066	9.9000e-003	0.5165	0.0000	1,379.0193	1,379.0193	0.0265	0.0000	1,379.6811
Total	**0.7313**	**4.7936**	**5.2958**	**0.0318**	**2.3355**	**0.0153**	**2.3508**	**0.6300**	**0.0142**	**0.6442**	**0.0000**	**2,968.0012**	**2,968.0012**	**0.1159**	**0.0000**	**2,970.8980**

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	0.3258	2.7893	4.4247	7.0600e-003		0.1294	0.1294		0.1226	0.1226	0.0000	607.4439	607.4439	0.1436	0.0000	611.0350
Total	**0.3258**	**2.7893**	**4.4247**	**7.0600e-003**		**0.1294**	**0.1294**		**0.1226**	**0.1226**	**0.0000**	**607.4439**	**607.4439**	**0.1436**	**0.0000**	**611.0350**

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1132	4.4250	0.9525	0.0166	0.3065	4.5100e-003	0.3110	0.0936	4.3100e-003	0.0980	0.0000	1,588.9819	1,588.9819	0.0894	0.0000	1,591.2169
Worker	0.6182	0.3686	4.3433	0.0152	1.2461	0.0108	1.2568	0.3442	9.9000e-003	0.3541	0.0000	1,379.0193	1,379.0193	0.0265	0.0000	1,379.6811
Total	**0.7313**	**4.7936**	**5.2958**	**0.0318**	**1.5526**	**0.0153**	**1.5678**	**0.4378**	**0.0142**	**0.4520**	**0.0000**	**2,968.0012**	**2,968.0012**	**0.1159**	**0.0000**	**2,970.8980**

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3254	2.9678	3.8282	6.4200e-003		0.1256	0.1256		0.1181	0.1181	0.0000	551.9683	551.9683	0.1298	0.0000	555.2121
Total	**0.3254**	**2.9678**	**3.8282**	**6.4200e-003**		**0.1256**	**0.1256**		**0.1181**	**0.1181**	**0.0000**	**551.9683**	**551.9683**	**0.1298**	**0.0000**	**555.2121**

3.4 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1002	3.9750	0.8364	0.0150	0.3885	4.0500e-003	0.3926	0.1121	3.8700e-003	0.1160	0.0000	1,434.1873	1,434.1873	0.0791	0.0000	1,436.1655
Worker	0.5313	0.3049	3.6584	0.0133	1.7331	9.5900e-003	1.7426	0.4602	8.8300e-003	0.4690	0.0000	1,202.5602	1,202.5602	0.0218	0.0000	1,203.1054
Total	**0.6315**	**4.2798**	**4.4948**	**0.0283**	**2.1216**	**0.0136**	**2.1352**	**0.5723**	**0.0127**	**0.5850**	**0.0000**	**2,636.7475**	**2,636.7475**	**0.1009**	**0.0000**	**2,639.2709**

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	0.2751	2.3720	4.0078	6.4200e-003		0.0995	0.0995		0.0943	0.0943	0.0000	551.9676	551.9676	0.1298	0.0000	555.2114
Total	**0.2751**	**2.3720**	**4.0078**	**6.4200e-003**		**0.0995**	**0.0995**		**0.0943**	**0.0943**	**0.0000**	**551.9676**	**551.9676**	**0.1298**	**0.0000**	**555.2114**

3.4 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1002	3.9750	0.8364	0.0150	0.2784	4.0500e-003	0.2825	0.0851	3.8700e-003	0.0889	0.0000	1,434.1873	1,434.1873	0.0791	0.0000	1,436.1655
Worker	0.5313	0.3049	3.6584	0.0133	1.1319	9.5900e-003	1.1415	0.3126	8.8300e-003	0.3215	0.0000	1,202.5602	1,202.5602	0.0218	0.0000	1,203.1054
Total	**0.6315**	**4.2798**	**4.4948**	**0.0283**	**1.4103**	**0.0136**	**1.4240**	**0.3977**	**0.0127**	**0.4104**	**0.0000**	**2,636.7475**	**2,636.7475**	**0.1009**	**0.0000**	**2,639.2709**

3.5 Paving - 2022

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	0.0551	0.5562	0.7290	1.1400e-003		0.0284	0.0284		0.0261	0.0261	0.0000	100.1378	100.1378	0.0324	0.0000	100.9475
Paving	2.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0554**	**0.5562**	**0.7290**	**1.1400e-003**		**0.0284**	**0.0284**		**0.0261**	**0.0261**	**0.0000**	**100.1378**	**100.1378**	**0.0324**	**0.0000**	**100.9475**

3.5 Paving - 2022

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	1.5100e-003	9.7000e-004	0.0109	4.0000e-005	4.1200e-003	2.0000e-005	4.1500e-003	1.0900e-003	2.0000e-005	1.1200e-003	0.0000	3.2115	3.2115	7.0000e-005	0.0000	3.2133
Total	**1.5100e-003**	**9.7000e-004**	**0.0109**	**4.0000e-005**	**4.1200e-003**	**2.0000e-005**	**4.1500e-003**	**1.0900e-003**	**2.0000e-005**	**1.1200e-003**	**0.0000**	**3.2115**	**3.2115**	**7.0000e-005**	**0.0000**	**3.2133**

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	0.0551	0.5562	0.7290	1.1400e-003		0.0284	0.0284		0.0261	0.0261	0.0000	100.1377	100.1377	0.0324	0.0000	100.9473
Paving	2.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0554**	**0.5562**	**0.7290**	**1.1400e-003**		**0.0284**	**0.0284**		**0.0261**	**0.0261**	**0.0000**	**100.1377**	**100.1377**	**0.0324**	**0.0000**	**100.9473**

3.5 Paving - 2022

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	1.5100e-003	9.7000e-004	0.0109	4.0000e-005	2.6900e-003	2.0000e-005	2.7200e-003	7.4000e-004	2.0000e-005	7.7000e-004	0.0000	3.2115	3.2115	7.0000e-005	0.0000	3.2133
Total	**1.5100e-003**	**9.7000e-004**	**0.0109**	**4.0000e-005**	**2.6900e-003**	**2.0000e-005**	**2.7200e-003**	**7.4000e-004**	**2.0000e-005**	**7.7000e-004**	**0.0000**	**3.2115**	**3.2115**	**7.0000e-005**	**0.0000**	**3.2133**

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	0.2685	2.6498	3.7919	5.9300e-003		0.1327	0.1327		0.1220	0.1220	0.0000	520.6985	520.6985	0.1684	0.0000	524.9086
Paving	1.3900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2699**	**2.6498**	**3.7919**	**5.9300e-003**		**0.1327**	**0.1327**		**0.1220**	**0.1220**	**0.0000**	**520.6985**	**520.6985**	**0.1684**	**0.0000**	**524.9086**

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.3600e-003	4.5700e-003	0.0521	1.8000e-004	0.0214	1.2000e-004	0.0216	5.6900e-003	1.1000e-004	5.8000e-003	0.0000	16.0662	16.0662	3.3000e-004	0.0000	16.0744
Total	**7.3600e-003**	**4.5700e-003**	**0.0521**	**1.8000e-004**	**0.0214**	**1.2000e-004**	**0.0216**	**5.6900e-003**	**1.1000e-004**	**5.8000e-003**	**0.0000**	**16.0662**	**16.0662**	**3.3000e-004**	**0.0000**	**16.0744**

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	0.2685	2.6498	3.7919	5.9300e-003		0.1327	0.1327		0.1220	0.1220	0.0000	520.6979	520.6979	0.1684	0.0000	524.9080
Paving	1.3900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2699**	**2.6498**	**3.7919**	**5.9300e-003**		**0.1327**	**0.1327**		**0.1220**	**0.1220**	**0.0000**	**520.6979**	**520.6979**	**0.1684**	**0.0000**	**524.9080**

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.3600e-003	4.5700e-003	0.0521	1.8000e-004	0.0140	1.2000e-004	0.0141	3.8700e-003	1.1000e-004	3.9800e-003	0.0000	16.0662	16.0662	3.3000e-004	0.0000	16.0744
Total	**7.3600e-003**	**4.5700e-003**	**0.0521**	**1.8000e-004**	**0.0140**	**1.2000e-004**	**0.0141**	**3.8700e-003**	**1.1000e-004**	**3.9800e-003**	**0.0000**	**16.0662**	**16.0662**	**3.3000e-004**	**0.0000**	**16.0744**

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2589	2.4954	3.8320	5.9700e-003		0.1228	0.1228		0.1129	0.1129	0.0000	524.6951	524.6951	0.1697	0.0000	528.9376
Paving	1.4000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2603**	**2.4954**	**3.8320**	**5.9700e-003**		**0.1228**	**0.1228**		**0.1129**	**0.1129**	**0.0000**	**524.6951**	**524.6951**	**0.1697**	**0.0000**	**528.9376**

3.5 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-003	4.1700e-003	0.0492	1.7000e-004	0.0216	1.2000e-004	0.0217	5.7400e-003	1.1000e-004	5.8500e-003	0.0000	15.6115	15.6115	3.0000e-004	0.0000	15.6190
Total	**7.0000e-003**	**4.1700e-003**	**0.0492**	**1.7000e-004**	**0.0216**	**1.2000e-004**	**0.0217**	**5.7400e-003**	**1.1000e-004**	**5.8500e-003**	**0.0000**	**15.6115**	**15.6115**	**3.0000e-004**	**0.0000**	**15.6190**

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	0.2589	2.4954	3.8319	5.9700e-003		0.1228	0.1228		0.1129	0.1129	0.0000	524.6945	524.6945	0.1697	0.0000	528.9369
Paving	1.4000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2603**	**2.4954**	**3.8319**	**5.9700e-003**		**0.1228**	**0.1228**		**0.1129**	**0.1129**	**0.0000**	**524.6945**	**524.6945**	**0.1697**	**0.0000**	**528.9369**

3.5 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-003	4.1700e-003	0.0492	1.7000e-004	0.0141	1.2000e-004	0.0142	3.9000e-003	1.1000e-004	4.0100e-003	0.0000	15.6115	15.6115	3.0000e-004	0.0000	15.6190
Total	**7.0000e-003**	**4.1700e-003**	**0.0492**	**1.7000e-004**	**0.0141**	**1.2000e-004**	**0.0142**	**3.9000e-003**	**1.1000e-004**	**4.0100e-003**	**0.0000**	**15.6115**	**15.6115**	**3.0000e-004**	**0.0000**	**15.6190**

3.5 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2178	2.0424	3.4696	5.4300e-003		0.0996	0.0996		0.0916	0.0916	0.0000	476.4583	476.4583	0.1541	0.0000	480.3107
Paving	1.2700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2191**	**2.0424**	**3.4696**	**5.4300e-003**		**0.0996**	**0.0996**		**0.0916**	**0.0916**	**0.0000**	**476.4583**	**476.4583**	**0.1541**	**0.0000**	**480.3107**

3.5 Paving - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0100e-003	3.4500e-003	0.0414	1.5000e-004	0.0196	1.1000e-004	0.0197	5.2100e-003	1.0000e-004	5.3100e-003	0.0000	13.6139	13.6139	2.5000e-004	0.0000	13.6201
Total	**6.0100e-003**	**3.4500e-003**	**0.0414**	**1.5000e-004**	**0.0196**	**1.1000e-004**	**0.0197**	**5.2100e-003**	**1.0000e-004**	**5.3100e-003**	**0.0000**	**13.6139**	**13.6139**	**2.5000e-004**	**0.0000**	**13.6201**

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	0.2178	2.0424	3.4696	5.4300e-003		0.0996	0.0996		0.0916	0.0916	0.0000	476.4577	476.4577	0.1541	0.0000	480.3101
Paving	1.2700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2191**	**2.0424**	**3.4696**	**5.4300e-003**		**0.0996**	**0.0996**		**0.0916**	**0.0916**	**0.0000**	**476.4577**	**476.4577**	**0.1541**	**0.0000**	**480.3101**

3.5 Paving - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0100e-003	3.4500e-003	0.0414	1.5000e-004	0.0128	1.1000e-004	0.0129	3.5400e-003	1.0000e-004	3.6400e-003	0.0000	13.6139	13.6139	2.5000e-004	0.0000	13.6201
Total	**6.0100e-003**	**3.4500e-003**	**0.0414**	**1.5000e-004**	**0.0128**	**1.1000e-004**	**0.0129**	**3.5400e-003**	**1.0000e-004**	**3.6400e-003**	**0.0000**	**13.6139**	**13.6139**	**2.5000e-004**	**0.0000**	**13.6201**

3.6 Architectural Coating - 2022

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	0.7234					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.0704	0.0907	1.5000e-004		4.0900e-003	4.0900e-003		4.0900e-003	4.0900e-003	0.0000	12.7663	12.7663	8.3000e-004	0.0000	12.7871
Total	**0.7336**	**0.0704**	**0.0907**	**1.5000e-004**		**4.0900e-003**	**4.0900e-003**		**4.0900e-003**	**4.0900e-003**	**0.0000**	**12.7663**	**12.7663**	**8.3000e-004**	**0.0000**	**12.7871**

3.6 Architectural Coating - 2022

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	0.0266	0.0172	0.1921	6.3000e-004	0.0728	4.2000e-004	0.0732	0.0193	3.9000e-004	0.0197	0.0000	56.7372	56.7372	1.2300e-003	0.0000	56.7681
Total	**0.0266**	**0.0172**	**0.1921**	**6.3000e-004**	**0.0728**	**4.2000e-004**	**0.0732**	**0.0193**	**3.9000e-004**	**0.0197**	**0.0000**	**56.7372**	**56.7372**	**1.2300e-003**	**0.0000**	**56.7681**

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	0.7234					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.0704	0.0907	1.5000e-004		4.0900e-003	4.0900e-003		4.0900e-003	4.0900e-003	0.0000	12.7663	12.7663	8.3000e-004	0.0000	12.7870
Total	**0.7336**	**0.0704**	**0.0907**	**1.5000e-004**		**4.0900e-003**	**4.0900e-003**		**4.0900e-003**	**4.0900e-003**	**0.0000**	**12.7663**	**12.7663**	**8.3000e-004**	**0.0000**	**12.7870**

3.6 Architectural Coating - 2022

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	0.0266	0.0172	0.1921	6.3000e-004	0.0476	4.2000e-004	0.0480	0.0131	3.9000e-004	0.0135	0.0000	56.7372	56.7372	1.2300e-003	0.0000	56.7681
Total	**0.0266**	**0.0172**	**0.1921**	**6.3000e-004**	**0.0476**	**4.2000e-004**	**0.0480**	**0.0131**	**3.9000e-004**	**0.0135**	**0.0000**	**56.7372**	**56.7372**	**1.2300e-003**	**0.0000**	**56.7681**

3.6 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	3.7617					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.3388	0.4709	7.7000e-004		0.0184	0.0184		0.0184	0.0184	0.0000	66.3846	66.3846	3.9700e-003	0.0000	66.4839
Total	**3.8115**	**0.3388**	**0.4709**	**7.7000e-004**		**0.0184**	**0.0184**		**0.0184**	**0.0184**	**0.0000**	**66.3846**	**66.3846**	**3.9700e-003**	**0.0000**	**66.4839**

3.6 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	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	0.1300	0.0807	0.9209	3.1400e-003	0.3787	2.1600e-003	0.3808	0.1006	1.9900e-003	0.1025	0.0000	283.8361	283.8361	5.7600e-003	0.0000	283.9801
Total	**0.1300**	**0.0807**	**0.9209**	**3.1400e-003**	**0.3787**	**2.1600e-003**	**0.3808**	**0.1006**	**1.9900e-003**	**0.1025**	**0.0000**	**283.8361**	**283.8361**	**5.7600e-003**	**0.0000**	**283.9801**

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	3.7617					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.3388	0.4709	7.7000e-004		0.0184	0.0184		0.0184	0.0184	0.0000	66.3845	66.3845	3.9700e-003	0.0000	66.4838
Total	**3.8115**	**0.3388**	**0.4709**	**7.7000e-004**		**0.0184**	**0.0184**		**0.0184**	**0.0184**	**0.0000**	**66.3845**	**66.3845**	**3.9700e-003**	**0.0000**	**66.4838**

3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	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	0.1300	0.0807	0.9209	3.1400e-003	0.2473	2.1600e-003	0.2495	0.0683	1.9900e-003	0.0703	0.0000	283.8361	283.8361	5.7600e-003	0.0000	283.9801
Total	**0.1300**	**0.0807**	**0.9209**	**3.1400e-003**	**0.2473**	**2.1600e-003**	**0.2495**	**0.0683**	**1.9900e-003**	**0.0703**	**0.0000**	**283.8361**	**283.8361**	**5.7600e-003**	**0.0000**	**283.9801**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.7906					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0474	0.3193	0.4743	7.8000e-004		0.0160	0.0160		0.0160	0.0160	0.0000	66.8953	66.8953	3.7700e-003	0.0000	66.9894
Total	**3.8380**	**0.3193**	**0.4743**	**7.8000e-004**		**0.0160**	**0.0160**		**0.0160**	**0.0160**	**0.0000**	**66.8953**	**66.8953**	**3.7700e-003**	**0.0000**	**66.9894**

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	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	0.1236	0.0737	0.8687	3.0500e-003	0.3816	2.1500e-003	0.3837	0.1013	1.9800e-003	0.1033	0.0000	275.8039	275.8039	5.2900e-003	0.0000	275.9362
Total	**0.1236**	**0.0737**	**0.8687**	**3.0500e-003**	**0.3816**	**2.1500e-003**	**0.3837**	**0.1013**	**1.9800e-003**	**0.1033**	**0.0000**	**275.8039**	**275.8039**	**5.2900e-003**	**0.0000**	**275.9362**

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	3.7906					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0474	0.3193	0.4743	7.8000e-004		0.0160	0.0160		0.0160	0.0160	0.0000	66.8952	66.8952	3.7700e-003	0.0000	66.9893
Total	**3.8380**	**0.3193**	**0.4743**	**7.8000e-004**		**0.0160**	**0.0160**		**0.0160**	**0.0160**	**0.0000**	**66.8952**	**66.8952**	**3.7700e-003**	**0.0000**	**66.9893**

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	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	0.1236	0.0737	0.8687	3.0500e-003	0.2492	2.1500e-003	0.2514	0.0688	1.9800e-003	0.0708	0.0000	275.8039	275.8039	5.2900e-003	0.0000	275.9362
Total	**0.1236**	**0.0737**	**0.8687**	**3.0500e-003**	**0.2492**	**2.1500e-003**	**0.2514**	**0.0688**	**1.9800e-003**	**0.0708**	**0.0000**	**275.8039**	**275.8039**	**5.2900e-003**	**0.0000**	**275.9362**

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.4434					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0407	0.2726	0.4306	7.1000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	60.7674	60.7674	3.3100e-003	0.0000	60.8503
Total	**3.4841**	**0.2726**	**0.4306**	**7.1000e-004**		**0.0123**	**0.0123**		**0.0123**	**0.0123**	**0.0000**	**60.7674**	**60.7674**	**3.3100e-003**	**0.0000**	**60.8503**

3.6 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1063	0.0610	0.7317	2.6600e-003	0.3466	1.9200e-003	0.3485	0.0920	1.7700e-003	0.0938	0.0000	240.5120	240.5120	4.3600e-003	0.0000	240.6211
Total	**0.1063**	**0.0610**	**0.7317**	**2.6600e-003**	**0.3466**	**1.9200e-003**	**0.3485**	**0.0920**	**1.7700e-003**	**0.0938**	**0.0000**	**240.5120**	**240.5120**	**4.3600e-003**	**0.0000**	**240.6211**

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	3.4434					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0407	0.2726	0.4306	7.1000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	60.7674	60.7674	3.3100e-003	0.0000	60.8502
Total	**3.4841**	**0.2726**	**0.4306**	**7.1000e-004**		**0.0123**	**0.0123**		**0.0123**	**0.0123**	**0.0000**	**60.7674**	**60.7674**	**3.3100e-003**	**0.0000**	**60.8502**

3.6 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1063	0.0610	0.7317	2.6600e-003	0.2264	1.9200e-003	0.2283	0.0625	1.7700e-003	0.0643	0.0000	240.5120	240.5120	4.3600e-003	0.0000	240.6211
Total	**0.1063**	**0.0610**	**0.7317**	**2.6600e-003**	**0.2264**	**1.9200e-003**	**0.2283**	**0.0625**	**1.7700e-003**	**0.0643**	**0.0000**	**240.5120**	**240.5120**	**4.3600e-003**	**0.0000**	**240.6211**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Industrial Park	0.00	0.00	0.00		
Manufacturing	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Industrial Park	16.60	8.40	6.90	59.00	28.00	13.00	79	19	2
Manufacturing	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.554334	0.035376	0.188722	0.108173	0.012711	0.004530	0.017449	0.070039	0.001415	0.001123	0.004446	0.000892	0.000789
Industrial Park	0.554334	0.035376	0.188722	0.108173	0.012711	0.004530	0.017449	0.070039	0.001415	0.001123	0.004446	0.000892	0.000789
Manufacturing	0.554334	0.035376	0.188722	0.108173	0.012711	0.004530	0.017449	0.070039	0.001415	0.001123	0.004446	0.000892	0.000789
Other Asphalt Surfaces	0.554334	0.035376	0.188722	0.108173	0.012711	0.004530	0.017449	0.070039	0.001415	0.001123	0.004446	0.000892	0.000789
Other Non-Asphalt Surfaces	0.554334	0.035376	0.188722	0.108173	0.012711	0.004530	0.017449	0.070039	0.001415	0.001123	0.004446	0.000892	0.000789
Refrigerated Warehouse-No Rail	0.554334	0.035376	0.188722	0.108173	0.012711	0.004530	0.017449	0.070039	0.001415	0.001123	0.004446	0.000892	0.000789
Unrefrigerated Warehouse-No Rail	0.554334	0.035376	0.188722	0.108173	0.012711	0.004530	0.017449	0.070039	0.001415	0.001123	0.004446	0.000892	0.000789

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Renaissance Ranch-onsite - 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					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	6,808.6676	6,808.6676	0.3928	0.0813	6,842.7076
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	7,054.8351	7,054.8351	0.4070	0.0842	7,090.1058
NaturalGas Mitigated	0.2692	2.4470	2.0555	0.0147		0.1860	0.1860		0.1860	0.1860	0.0000	2,663.9056	2,663.9056	0.0511	0.0488	2,679.7358
NaturalGas Unmitigated	0.2993	2.7209	2.2855	0.0163		0.2068	0.2068		0.2068	0.2068	0.0000	2,962.0063	2,962.0063	0.0568	0.0543	2,979.6080

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					
General Light Industry	2.40737e+007	0.1298	1.1801	0.9913	7.0800e-003		0.0897	0.0897		0.0897	0.0897	0.0000	1,284.6622	1,284.6622	0.0246	0.0236	1,292.2963
Industrial Park	816227	4.4000e-003	0.0400	0.0336	2.4000e-004		3.0400e-003	3.0400e-003		3.0400e-003	3.0400e-003	0.0000	43.5570	43.5570	8.3000e-004	8.0000e-004	43.8158
Manufacturing	6.8782e+006	0.0371	0.3372	0.2832	2.0200e-003		0.0256	0.0256		0.0256	0.0256	0.0000	367.0468	367.0468	7.0400e-003	6.7300e-003	369.2280
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
Other Non-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
Refrigerated Warehouse-No Rail	2.19153e+007	0.1182	1.0743	0.9024	6.4500e-003		0.0817	0.0817		0.0817	0.0817	0.0000	1,169.4860	1,169.4860	0.0224	0.0214	1,176.4356
Unrefrigerated Warehouse-No Rail	1.50414e+006	8.1100e-003	0.0737	0.0619	4.4000e-004		5.6000e-003	5.6000e-003		5.6000e-003	5.6000e-003	0.0000	80.2667	80.2667	1.5400e-003	1.4700e-003	80.7437
Unrefrigerated Warehouse-No Rail	318336	1.7200e-003	0.0156	0.0131	9.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003	0.0000	16.9877	16.9877	3.3000e-004	3.1000e-004	17.0886
Total		**0.2993**	**2.7209**	**2.2856**	**0.0163**		**0.2068**	**0.2068**		**0.2068**	**0.2068**	**0.0000**	**2,962.0063**	**2,962.0063**	**0.0568**	**0.0543**	**2,979.6080**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	2.06593e+007	0.1114	1.0127	0.8507	6.0800e-003		0.0770	0.0770		0.0770	0.0770	0.0000	1,102.4608	1,102.4608	0.0211	0.0202	1,109.0122
Industrial Park	571359	3.0800e-003	0.0280	0.0235	1.7000e-004		2.1300e-003	2.1300e-003		2.1300e-003	2.1300e-003	0.0000	30.4899	30.4899	5.8000e-004	5.6000e-004	30.6711
Manufacturing	5.90268e+006	0.0318	0.2894	0.2431	1.7400e-003		0.0220	0.0220		0.0220	0.0220	0.0000	314.9892	314.9892	6.0400e-003	5.7700e-003	316.8611
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
Other Non-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
Refrigerated Warehouse-No Rail	2.15025e+007	0.1159	1.0541	0.8854	6.3200e-003		0.0801	0.0801		0.0801	0.0801	0.0000	1,147.4564	1,147.4564	0.0220	0.0210	1,154.2752
Unrefrigerated Warehouse-No Rail	1.05957e+006	5.7100e-003	0.0519	0.0436	3.1000e-004		3.9500e-003	3.9500e-003		3.9500e-003	3.9500e-003	0.0000	56.5425	56.5425	1.0800e-003	1.0400e-003	56.8785
Unrefrigerated Warehouse-No Rail	224247	1.2100e-003	0.0110	9.2300e-003	7.0000e-005		8.4000e-004	8.4000e-004		8.4000e-004	8.4000e-004	0.0000	11.9667	11.9667	2.3000e-004	2.2000e-004	12.0378
Total		**0.2692**	**2.4471**	**2.0555**	**0.0147**		**0.1860**	**0.1860**		**0.1860**	**0.1860**	**0.0000**	**2,663.9056**	**2,663.9056**	**0.0511**	**0.0488**	**2,679.7358**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	7.5207e+006	1,714.7069	0.0989	0.0205	1,723.2796
Industrial Park	2.23933e+006	510.5638	0.0295	6.0900e-003	513.1164
Manufacturing	2.14878e+006	489.9169	0.0283	5.8500e-003	492.3663
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	1.69149e+007	3,856.5782	0.2225	0.0460	3,875.8592
Unrefrigerated Warehouse-No Rail	1.74866e+006	398.6905	0.0230	4.7600e-003	400.6837
Unrefrigerated Warehouse-No Rail	370086	84.3789	4.8700e-003	1.0100e-003	84.8007
Total		**7,054.8351**	**0.4070**	**0.0842**	**7,090.1058**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	7.03167e+006	1,603.2087	0.0925	0.0191	1,611.2239
Industrial Park	2.02269e+006	461.1700	0.0266	5.5000e-003	463.4756
Manufacturing	2.00905e+006	458.0602	0.0264	5.4700e-003	460.3503
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	1.67803e+007	3,825.8800	0.2207	0.0457	3,845.0075
Unrefrigerated Warehouse-No Rail	1.66641e+006	379.9385	0.0219	4.5400e-003	381.8380
Unrefrigerated Warehouse-No Rail	352679	80.4102	4.6400e-003	9.6000e-004	80.8122
Total		**6,808.6676**	**0.3928**	**0.0813**	**6,842.7076**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive 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	10.2830	2.9000e-004	0.0321	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.0626	0.0626	1.6000e-004	0.0000	0.0667
Unmitigated	10.2830	2.9000e-004	0.0321	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.0626	0.0626	1.6000e-004	0.0000	0.0667

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	1.1719					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	9.1082					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.9600e-003	2.9000e-004	0.0321	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.0626	0.0626	1.6000e-004	0.0000	0.0667
Total	**10.2830**	**2.9000e-004**	**0.0321**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.0626**	**0.0626**	**1.6000e-004**	**0.0000**	**0.0667**

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	1.1719					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	9.1082					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.9600e-003	2.9000e-004	0.0321	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.0626	0.0626	1.6000e-004	0.0000	0.0667
Total	**10.2830**	**2.9000e-004**	**0.0321**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.0626**	**0.0626**	**1.6000e-004**	**0.0000**	**0.0667**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	165.8046	1.6528	0.0406	219.2266
Unmitigated	207.2558	2.0660	0.0508	274.0332

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	12.6144 / 0	41.4512	0.4132	0.0102	54.8066
Industrial Park	12.6144 / 0	41.4512	0.4132	0.0102	54.8066
Manufacturing	12.6144 / 0	41.4512	0.4132	0.0102	54.8066
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	12.6144 / 0	41.4512	0.4132	0.0102	54.8066
Unrefrigerated Warehouse-No Rail	12.6144 / 0	41.4512	0.4132	0.0102	54.8066
Total		**207.2558**	**2.0660**	**0.0508**	**274.0332**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	10.0915 / 0	33.1609	0.3306	8.1200e-003	43.8453
Industrial Park	10.0915 / 0	33.1609	0.3306	8.1200e-003	43.8453
Manufacturing	10.0915 / 0	33.1609	0.3306	8.1200e-003	43.8453
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	10.0915 / 0	33.1609	0.3306	8.1200e-003	43.8453
Unrefrigerated Warehouse-No Rail	10.0915 / 0	33.1609	0.3306	8.1200e-003	43.8453
Total		**165.8046**	**1.6528**	**0.0406**	**219.2266**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	551.0941	32.5687	0.0000	1,365.3123
Unmitigated	551.0941	32.5687	0.0000	1,365.3123

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	918.79	186.5061	11.0222	0.0000	462.0609
Industrial Park	291.67	59.2064	3.4990	0.0000	146.6813
Manufacturing	262.51	53.2872	3.1492	0.0000	132.0167
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	398	80.7904	4.7746	0.0000	200.1548
Unrefrigerated Warehouse-No Rail	843.9	171.3041	10.1238	0.0000	424.3986
Total		**551.0941**	**32.5687**	**0.0000**	**1,365.3123**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	918.79	186.5061	11.0222	0.0000	462.0609
Industrial Park	291.67	59.2064	3.4990	0.0000	146.6813
Manufacturing	262.51	53.2872	3.1492	0.0000	132.0167
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	398	80.7904	4.7746	0.0000	200.1548
Unrefrigerated Warehouse-No Rail	843.9	171.3041	10.1238	0.0000	424.3986
Total		**551.0941**	**32.5687**	**0.0000**	**1,365.3123**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX 4.2:

OPERATIONAL MOBILE SOURCE EMISSION DATA

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Vehicle Class	Daily VMT[1]	Pollutant	Run Emission Rate[2] (Gram/Mile)	Idle Emission Rate (Gram/Vehicle/Day)	Start Emission Rate[2] (Grams/Start/Day)	Total Grams Daily	Metric Tons Daily	CO2e Annually
Passenger Automobiles	46552	**CO2**	2.642018	0.342760094	1.193015	129843.66	**0.1298**	**146**
		CH4	0.020058	0.000137439	0.015684558	936.53	**0.0009**	
		N2O	0.017049	3.54498E-05	0.008337167	794.40	**0.0008**	

[1] Daily VMT calculated per CaLLEMod v 2016.3.2, which provides average distance traveled per trip type.
[2]Start emissions account for 4 autombile starts daily.
All emission factors sourced from EMFAC2017.

Vehicle Class	Daily VMT[1]	Pollutant	Run Emission Rate[2] (Gram/Mile)	Idle Emission Rate (Gram/Vehicle/Day)	Start Emission Rate[2] (Grams/Start/Day)	Total Grams Daily	Metric Tons Daily	CO2e Annually
Heavy Duty Trucks	66502	**CO2**	1336.134360	103.5886778	0.363550337	89261261.93	**89.2613**	**34138**
		CH4	0.018084	0.00224874	0.000355023	1211.45	**0.0012**	
		N2O	0.204567	0.016262169	0.000287951	13667.79	**0.0137**	

[1] In order to more accurately account for the trip distribution patterns of freight trucks, the average trip length is calculated at 63.7 miles, which represents the average distance between the Project site and the Port of Los Angeles/Long Beach, the Project site and the Banning Pass, the Project Site and the San Diego County line, the Project site and the Cajon Pass, and the Project site and downtown Los Angeles.
[2]Start emissions account for 4 autombile starts daily.
All emission factors sourced from EMFAC2017.

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APPENDIX 4.3:

EMFAC 2017 FUEL EFFICIENCY DATA

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Source: EMFAC2017 (v1.0.3) Emissions Inventory
Region Type: Sub-Area
Region: Riverside (SC)
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumptior

Region	Calenc	Vehicle Ca	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
Riverside (SC)	2021	HHDT	Aggregate	Aggregate	Gasol	7.215312711	478.7902746	144.364	0.116984003	116.9840	277,046.85	478.7902746	1,907,778.79	6.89	HHDT
Riverside (SC)	2021	HHDT	Aggregate	Aggregate	Diese	15357.01372	1897939.939	161128.4	272.9190782	272,919.0782		1897939.939			
Riverside (SC)	2021	HHDT	Aggregate	Aggregate	Natur	230.6715024	9360.06032	899.6189	4.010788503	4,010.7885		9360.06032			
Riverside (SC)	2021	LDA	Aggregate	Aggregate	Gasol	563361.5495	23296504.67	2667609	743.7333054	743,733.3054	748,186.76	23296504.67	23,815,537.74	31.83	LDA
Riverside (SC)	2021	LDA	Aggregate	Aggregate	Diese	5219.69302	226458.8046	25000.69	4.453454804	4,453.4548		226458.8046			
Riverside (SC)	2021	LDA	Aggregate	Aggregate	Electr	7550.910561	292574.2633	38037.58	0	0.0000		292574.2633			
Riverside (SC)	2021	LDT1	Aggregate	Aggregate	Gasol	58475.42768	2219909.251	265629.9	83.25302578	83,253.0258	83,278.63	2219909.251	2,229,816.25	26.78	LDT1
Riverside (SC)	2021	LDT1	Aggregate	Aggregate	Diese	30.15411229	650.1856866	99.33221	0.025601613	25.6016		650.1856866			
Riverside (SC)	2021	LDT1	Aggregate	Aggregate	Electr	231.4028554	9256.810891	1176.077	0	0.0000		9256.810891			
Riverside (SC)	2021	LDT2	Aggregate	Aggregate	Gasol	177423.7963	7067860.432	830513	283.8610373	283,861.0373	285,001.22	7067860.432	7,150,158.92	25.09	LDT2
Riverside (SC)	2021	LDT2	Aggregate	Aggregate	Diese	927.6206127	43422.04823	4592.576	1.140187376	1,140.1874		43422.04823			
Riverside (SC)	2021	LDT2	Aggregate	Aggregate	Electr	1222.520063	38876.44228	6214.965	0	0.0000		38876.44228			
Riverside (SC)	2021	LHDT1	Aggregate	Aggregate	Gasol	15655.58333	510348.3794	233244.9	47.71514013	47,715.1401	73,701.04	510348.3794	1,048,308.96	14.22	LHDT1
Riverside (SC)	2021	LHDT1	Aggregate	Aggregate	Diese	15786.61692	537960.5827	198575.8	25.98590368	25,985.9037		537960.5827			
Riverside (SC)	2021	LHDT2	Aggregate	Aggregate	Gasol	2249.730422	74170.48849	33517.63	7.924831239	7,924.8312	18,893.22	74170.48849	281,950.76	14.92	LHDT2
Riverside (SC)	2021	LHDT2	Aggregate	Aggregate	Diese	6056.795838	207780.2758	76186.87	10.96838698	10,968.3870		207780.2758			
Riverside (SC)	2021	MCY	Aggregate	Aggregate	Gasol	27861.54696	183348.9736	55723.09	4.828544708	4,828.5447	4,828.54	183348.9736	183,348.97	37.97	MCY
Riverside (SC)	2021	MDV	Aggregate	Aggregate	Gasol	154248.8417	5679894.563	706953.5	285.6582866	285,658.2866	290,319.89	5679894.563	5,828,882.69	20.08	MDV
Riverside (SC)	2021	MDV	Aggregate	Aggregate	Diese	3020.678509	130330.5709	14741.57	4.661607229	4,661.6072		130330.5709			
Riverside (SC)	2021	MDV	Aggregate	Aggregate	Electr	571.2528957	18657.55493	2928.705	0	0.0000		18657.55493			
Riverside (SC)	2021	MH	Aggregate	Aggregate	Gasol	5071.35352	40199.38943	507.3382	7.865862736	7,865.8627	9,356.60	40199.38943	56,300.54	6.02	MH
Riverside (SC)	2021	MH	Aggregate	Aggregate	Diese	1991.436876	16101.15039	199.1437	1.490736104	1,490.7361		16101.15039			
Riverside (SC)	2021	MHDT	Aggregate	Aggregate	Gasol	1296.813166	52658.61531	25946.64	10.17367434	10,173.6743	78,070.76	52658.61531	784,698.04	10.05	MHDT
Riverside (SC)	2021	MHDT	Aggregate	Aggregate	Diese	12035.08457	732039.4237	119554.3	67.89708744	67,897.0874		732039.4237			
Riverside (SC)	2021	OBUS	Aggregate	Aggregate	Gasol	440.9352614	15660.94555	8822.233	3.076575652	3,076.5757	4,863.11	15660.94555	31,127.15	6.40	OBUS
Riverside (SC)	2021	OBUS	Aggregate	Aggregate	Diese	224.3920222	15466.20012	2147.46	1.786530954	1,786.5310		15466.20012			
Riverside (SC)	2021	SBUS	Aggregate	Aggregate	Gasol	406.9191801	14544.86274	1627.677	1.649581397	1,649.5814	5,165.65	14544.86274	40,891.79	7.92	SBUS
Riverside (SC)	2021	SBUS	Aggregate	Aggregate	Diese	832.5656654	26346.9299	9607.692	3.516063942	3,516.0639		26346.9299			
Riverside (SC)	2021	UBUS	Aggregate	Aggregate	Gasol	163.4848401	23017.81637	653.9394	3.736316018	3,736.3160	10,057.72	23017.81637	49,774.56	4.95	UBUS
Riverside (SC)	2021	UBUS	Aggregate	Aggregate	Diese	1.105797941	58.57190354	4.423192	0.006566346	6.5663		58.57190354			
Riverside (SC)	2021	UBUS	Aggregate	Aggregate	Electr	0.058469431	1.251702935	0.233878	0	0.0000		1.251702935			
Riverside (SC)	2021	UBUS	Aggregate	Aggregate	Natur	202.9076535	26696.92315	811.6306	6.314839053	6,314.8391		26696.92315			

Source: EMFAC2017 (v1.0.3) Emissions Inventory
Region Type: Sub-Area
Region: Riverside (SC)
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calenc	Vehicle Cat	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
Riverside (SC)	2025	HHDT	Aggregate	Aggregate	Gasol	5.917085626	489.3585501	118.389	0.106486337	106.4863	272,775.25	489.3586	2,089,359.49	7.66	HHDT
Riverside (SC)	2025	HHDT	Aggregate	Aggregate	Diesel	16787.91989	2073941.582	177897.7	266.6806635	266,680.6635		2,073,941.5816			
Riverside (SC)	2025	HHDT	Aggregate	Aggregate	Natur	366.9607711	14928.54824	1431.147	5.988102074	5,988.1021		14,928.5482			
Riverside (SC)	2025	LDA	Aggregate	Aggregate	Gasol	634445.4088	24819468.5	2999831	710.9474135	710,947.4135	715,813.62	24,819,468.5044	25,808,899.32	36.06	LDA
Riverside (SC)	2025	LDA	Aggregate	Aggregate	Diesel	6750.331621	273894.7973	32236.02	4.86620774	4,866.2077		273,894.7973			
Riverside (SC)	2025	LDA	Aggregate	Aggregate	Electr	17340.99834	715536.0137	86549.87	0	0.0000		715,536.0137			
Riverside (SC)	2025	LDT1	Aggregate	Aggregate	Gasol	64862.57189	2387662.891	297460.6	80.27056308	80,270.5631	80,288.91	2,387,662.8915	2,424,034.55	30.19	LDT1
Riverside (SC)	2025	LDT1	Aggregate	Aggregate	Diesel	22.09264048	500.8045087	74.57591	0.018345404	18.3454		500.8045			
Riverside (SC)	2025	LDT1	Aggregate	Aggregate	Electr	840.0670631	35870.85658	4237.92	0	0.0000		35,870.8566			
Riverside (SC)	2025	LDT2	Aggregate	Aggregate	Gasol	196401.0012	7476968.972	920583	260.7558659	260,755.8659	262,160.67	7,476,968.9717	7,637,012.21	29.13	LDT2
Riverside (SC)	2025	LDT2	Aggregate	Aggregate	Diesel	1411.82251	60038.76398	6916.52	1.404804378	1,404.8044		60,038.7640			
Riverside (SC)	2025	LDT2	Aggregate	Aggregate	Electr	3434.450512	100004.4721	17256.03	0	0.0000		100,004.4721			
Riverside (SC)	2025	LHDT1	Aggregate	Aggregate	Gasol	14855.10977	474380.1042	221319	42.19764538	42,197.6454	65,610.58	474,380.1042	985,799.97	15.03	LHDT1
Riverside (SC)	2025	LHDT1	Aggregate	Aggregate	Diesel	15929.66362	511419.863	200375.1	23.41293572	23,412.9357		511,419.8630			
Riverside (SC)	2025	LHDT2	Aggregate	Aggregate	Gasol	2257.609118	71801.06903	33635.01	7.305903018	7,305.9030	17,340.54	71,801.0690	271,856.32	15.68	LHDT2
Riverside (SC)	2025	LHDT2	Aggregate	Aggregate	Diesel	6279.413605	200055.2549	78987.12	10.03464055	10,034.6405		200,055.2549			
Riverside (SC)	2025	MCY	Aggregate	Aggregate	Gasol	29089.61205	176339.2601	58179.22	4.66070934	4,660.7093	4,660.71	176,339.2601	176,339.26	37.84	MCY
Riverside (SC)	2025	MDV	Aggregate	Aggregate	Gasol	154545.0839	5434458.472	708075.6	240.3196517	240,319.6517	245,278.34	5,434,458.4725	5,656,319.24	23.06	MDV
Riverside (SC)	2025	MDV	Aggregate	Aggregate	Diesel	3932.245175	155115.8465	18927.03	4.958689367	4,958.6894		155,115.8465			
Riverside (SC)	2025	MDV	Aggregate	Aggregate	Electr	2250.064657	66744.92315	11374.61	0	0.0000		66,744.9231			
Riverside (SC)	2025	MH	Aggregate	Aggregate	Gasol	4266.702301	32841.07891	426.8409	6.125460874	6,125.4609	7,425.16	32,841.0789	47,331.56	6.37	MH
Riverside (SC)	2025	MH	Aggregate	Aggregate	Diesel	1959.172346	14490.48271	195.9172	1.299695142	1,299.6951		14,490.4827			
Riverside (SC)	2025	MHDT	Aggregate	Aggregate	Gasol	1438.72636	58388.27343	28786.04	10.51666477	10,516.6648	73,995.50	58,388.2734	821,682.99	11.10	MHDT
Riverside (SC)	2025	MHDT	Aggregate	Aggregate	Diesel	12401.54695	763294.7123	124114.9	63.47883817	63,478.8382		763,294.7123			
Riverside (SC)	2025	OBUS	Aggregate	Aggregate	Gasol	435.7273524	14480.56576	8718.033	2.664732568	2,664.7326	4,427.73	14,480.5658	31,187.06	7.04	OBUS
Riverside (SC)	2025	OBUS	Aggregate	Aggregate	Diesel	238.3575855	16706.49314	2277.72	1.762994271	1,762.9943		16,706.4931			
Riverside (SC)	2025	SBUS	Aggregate	Aggregate	Gasol	450.3676781	15279.04245	1801.471	1.704316781	1,704.3168	5,390.07	15,279.0424	44,345.12	8.23	SBUS
Riverside (SC)	2025	SBUS	Aggregate	Aggregate	Diesel	916.0655598	29066.07334	10571.27	3.685751569	3,685.7516		29,066.0733			
Riverside (SC)	2025	UBUS	Aggregate	Aggregate	Gasol	167.3661527	23564.28502	669.4646	3.667488521	3,667.4885	10,144.70	23,564.2850	50,956.27	5.02	UBUS
Riverside (SC)	2025	UBUS	Aggregate	Aggregate	Diesel	0.141961099	11.67769301	0.567844	0.001254697	1.2547		11.6777			
Riverside (SC)	2025	UBUS	Aggregate	Aggregate	Electr	0.058469431	1.251702935	0.233878	0	0.0000		1.2517			
Riverside (SC)	2025	UBUS	Aggregate	Aggregate	Natur	208.7163855	27379.0524	834.8655	6.47596087	6,475.9609		27,379.0524			