APPENDIX 13.0

ENERGY ANALYSIS

FINAL - 02-02-2022

Clinton Keith Marketplace

ENERGY ANALYSIS

CITY OF WILDOMAR

PREPARED BY:

Haseeb Qureshi
hqureshi@urbanxroads.com

OCTOBER 18, 2021

TABLE OF CONTENTS

TABLE OF CONTENTS **1**
APPENDICES **1**
LIST OF EXHIBITS **1**
LIST OF TABLES **2**
LIST OF ABBREVIATED TERMS **3**
EXECUTIVE SUMMARY **5**
ES.1 Summary of Findings 5
ES.2 Project Requirements 5
1 INTRODUCTION **6**
1.1 Site Location 6
1.2 Project Description 6
2 EXISTING CONDITIONS **11**
2.1 Overview 11
2.2 Electricity 13
2.3 Natural Gas 14
2.4 Transportation Energy Resources 17
3 REGULATORY BACKGROUND **19**
3.1 Federal Regulations 19
3.2 State 19
4 PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES **23**
4.1 Evaluation Criteria 23
4.2 Methodology 23
4.3 Construction Energy Demands 24
4.4 Operational Energy Demands 34
4.5 Summary 36
4.6 Energy Findings and Recommendations 37
5 REFERENCES **41**
6 CERTIFICATIONS **43**

APPENDICES

APPENDIX 4.1: CALEEMOD EMISSIONS MODEL OUTPUT
APPENDIX 4.2: EMFAC2017 EMISSION INVENTORY

LIST OF EXHIBITS

EXHIBIT 1-A: LOCATION MAP **7**
EXHIBIT 1-B: SITE PLAN **9**

LIST OF TABLES

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS 5
TABLE 2-1: TOTAL ELECTRICITY SYSTEM POWER (CALIFORNIA 2021) 12
TABLE 2-2: SCE 2019 POWER CONTENT MIX 14
TABLE 4-1: CONSTRUCTION DURATION 25
TABLE 4-2: CONSTRUCTION POWER COST 25
TABLE 4-3: CONSTRUCTION ELECTRICITY USAGE 26
TABLE 4-4: CONSTRUCTION EQUIPMENT ASSUMPTIONS 26
TABLE 4-5: CONSTRUCTION EQUIPMENT FUEL CONSUMPTION ESTIMATES 28
TABLE 4-6: CONSTRUCTION TRIPS AND VMT 29
TABLE 4-7: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES (LDA) 30
TABLE 4-8: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES (LDT1) 30
TABLE 4-9: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES (LDT2) 31
TABLE 4-10: CONSTRUCTION VENDOR FUEL CONSUMPTION ESTIMATES (MHDT) 32
TABLE 4-11: CONSTRUCTION VENDOR/HAULING FUEL CONSUMPTION ESTIMATES (HHDT) 32
TABLE 4-12: TOTAL PROJECT-GENERATED TRAFFIC ANNUAL FUEL CONSUMPTION (ALL VEHICLES) 34
TABLE 4-13: PROJECT ANNUAL OPERATIONAL ENERGY DEMAND SUMMARY 35

LIST OF ABBREVIATED TERMS

%	Percent
(1)	Reference
AQIA	Air Quality Impact Analysis
BACM	Best Available Control Measures
BTU	British Thermal Units
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Co7de of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CEQA Guidelines	2019 California Environmental Quality Act Guidelines
City	City of Menifee
CPEP	Clean Power and Electrification Pathway
CPUC	California Public Utilities Commission
DMV	Department of Motor Vehicles
EDC-NR	Economic Development Corridor, Newport Road
EIA	Energy Information Administration
EPA	Environmental Protection Agency
EMFAC	EMissions FACtor
FERC	Federal Energy Regulatory Commission
GHG	Greenhouse Gas
GWh	Gigawatt Hour
HHDT	Heavy-Heavy Duty Trucks
IEPR	Integrated Energy Policy Report
ISO	Independent Service Operator
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
kBTU	Thousand-British Thermal Units
kWh	Kilowatt Hour
LDA	Light Duty Auto
LDT1/LDT2	Light-Duty Trucks
MDV	Medium Duty Trucks
MHDT	Medium-Heavy Duty Trucks
MMcfd	Million Cubic Feet Per Day
mpg	Miles Per Gallon

MPO	Metropolitan Planning Organization
PG&E	Pacific Gas and Electric
PF	Public/Quasi-Public Facilities
Project	Clinton Keith Marketplace
PV	Photovoltaic
SCAB	South Coast Air Basin
SCE	Southern California Edison
SDAB	San Diego Air Basin
SoCalGas	Southern California Gas
sf	Square Feet
TA	Traffic Analysis
TEA-21	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 *Clinton Keith Marketplace Energy Analysis* is summarized below based on the significance criteria in Section 4.6 of this report consistent with Appendix G of the *California Environmental Quality Act (CEQA) 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?	4.6	*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?	4.6	*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 4.6 of this EA.

1 INTRODUCTION

This report presents the results of the energy analysis prepared by Urban Crossroads, Inc., for the proposed Clinton Keith Marketplace Project (Project). The purpose of this report is to ensure that energy implication is considered by the City of Wildomar (City), 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 proposed Clinton Keith Marketplace Project is generally located on the northwest corner of Hidden Springs Road and Clinton Keith Road in the City of Wildomar as shown on Exhibit 1-A. The Project site is currently vacant. Nearby existing single-family residential homes are located west of the Project site. The Bear Creek Village commercial retail center is located east of the Project site. The City of Wildomar General Plan designates the Project site for commercial retail (CR) land uses. The CR land use designation allows for the development of CR uses at a neighborhood, community and regional level, as well as for professional office and tourist-oriented commercial uses (2).

1.2 PROJECT DESCRIPTION

The Project is to consist of 4,800 square feet of fast food with drive-thru window, 22,000 square foot grocery store, 7,700 square feet of retail shops, 7,600 square foot automotive retail store, 13,000 square foot pharmacy with drive-through window (first floor), 8,000 square feet of professional business/medical office (second floor), 3,590 square foot car wash, and 4,800 square foot restaurant as shown on Exhibit 1-B.

EXHIBIT 1-A: LOCATION MAP

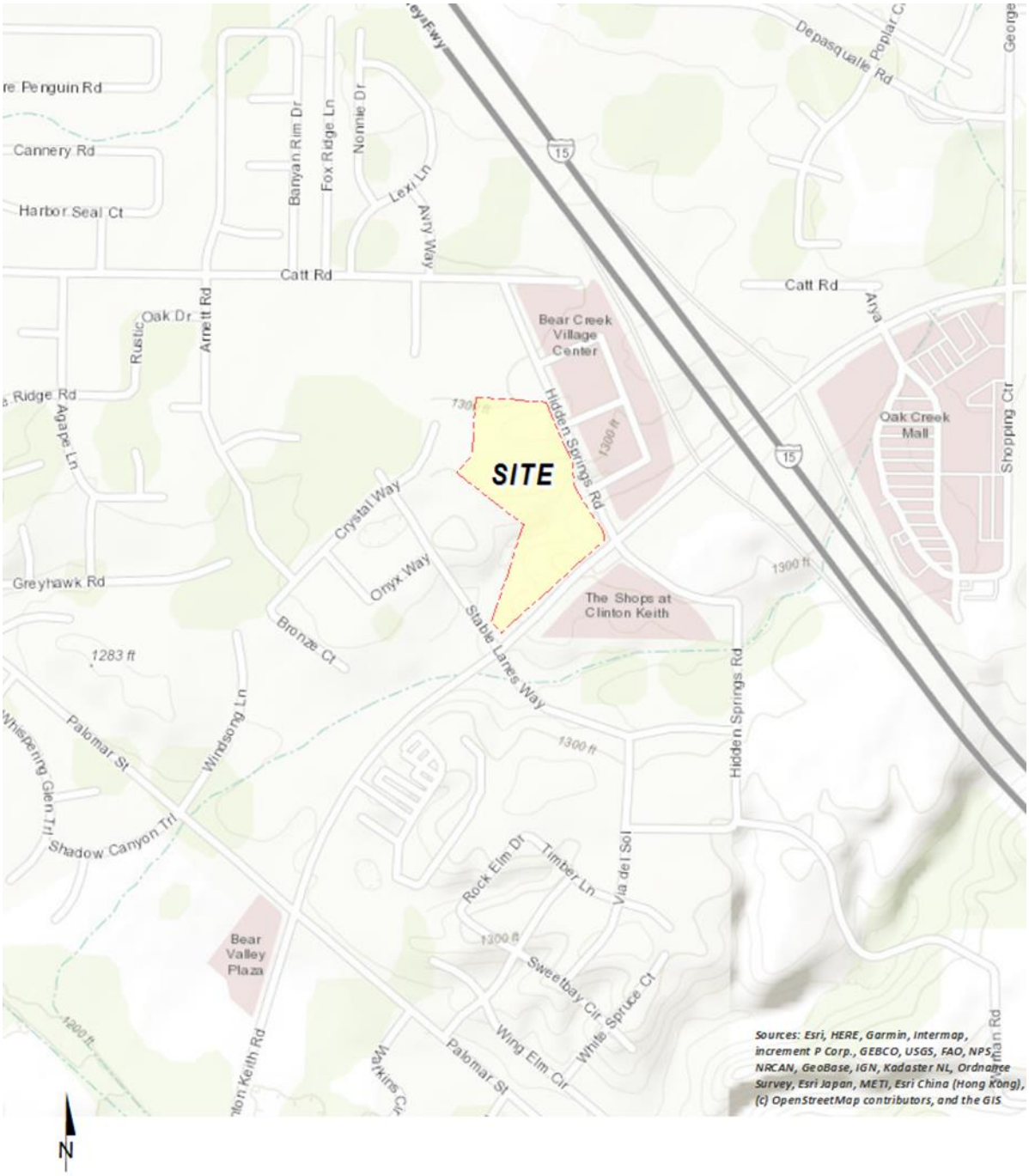
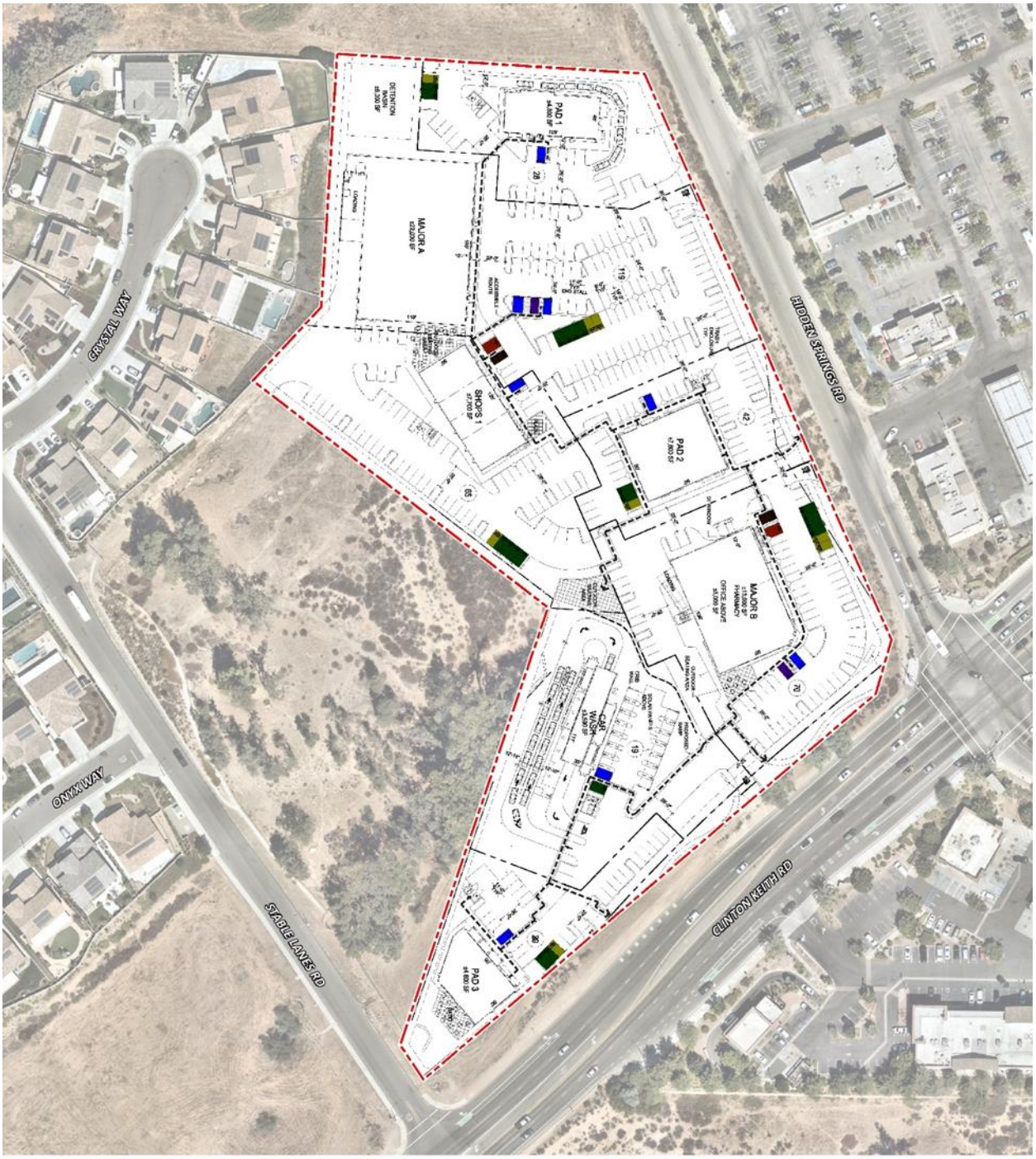


EXHIBIT 1-B: SITE PLAN



This page intentionally left blank.

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 and natural gas consumption is from 2019 and 2020, released by the United States (U.S.) Energy Information Administration's (EIA) California State Profile and Energy Estimates in 2021 and included (3):

- As of 2019, approximately 7,802 trillion British Thermal Unit (BTU) of energy was consumed
- As of 2019, approximately 622 million barrels of petroleum
- As of 2019, approximately 2,144 billion cubic feet of natural gas
- As of 2020, approximately 1.2 million short tons of coal

The California Energy Commission's (CEC) 2019 Transportation Energy Demand Forecast revises the Transportation Energy Demand Forecast 2018-2030 and was prepared in order to support the 2020 Integrated Energy Policy Report (4). The 2019 Transportation Energy Demand Forecast 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 (5)

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 (5)

  - Data from the Department of Energy states that approximately 3.9 billion gallons of diesel fuel were consumed in 2017 (6)

The most recent data provided by the EIA for energy use in California by demand sector is from 2019 and is reported as follows:

- Approximately 39.4% transportation
- Approximately 23.1% industrial
- Approximately 18.7% residential
- Approximately 18.8% commercial (7)

In 2020, total system electric generation for California was 272,576 gigawatt hours (GWh). California's massive electricity in-state generation system generated approximately 190,913 GWh which accounted for approximately 70% of the electricity it uses; the rest was imported from the Pacific Northwest (15.1%) and the U.S. Southwest (14.8%) (8). Natural gas is the main source for electricity generation at 37% of the total in-state electric generation system power as shown in Table 2-1. Renewables account for 33.09% of the total electrical system po wer.

TABLE 2-1: TOTAL ELECTRICITY SYSTEM POWER (CALIFORNIA 2021)

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	Total Imports (GWh)	Percent of Imports	Total California Energy Mix (GWh)	Total California Power Mix
Coal	317	0.2%	194	6,963	7,157	8.8%	7,474	2.7%
Natural Gas	92,298	48.4%	70	8,654	8,724	10.7%	101,022	37.1%
Oil	30	0.0%	-	-	0	0.0%	30	0.0%
Other (Waste Heat / Petroleum Coke)	384	0.2%	125	9	134	0.2%	518	0.2%
Nuclear	16,280	8.5%	672	8,481	9,154	11.2%	25,434	9.3%
Large Hydro	17,938	9.4%	14,078	1,259	15,337	18.8%	33,275	12.2%
Unspecified	-	0.0%	12,870	1,745	14,615	17.9%	14,615	5.4%
Total Non-Renewables and Unspecified Energy	127,248	66.7%	28,009	27,111	55,120	67.5%	182,368	66.9%
Biomass	5,680	3.0%	975	25	1,000	1.2%	6,679	2.5%
Geothermal	11,345	5.9%	166	1,825	1,991	2.4%	13,336	4.9%
Small Hydro	3,476	1.8%	320	2	322	0.4%	3,798	1.4%
Solar	29,456	15.4%	284	6,312	6,596	8.1%	36,052	13.2%
Wind	13,708	7.2%	11,438	5,197	16,635	20.4%	30,343	11.1%
Total Renewables	63,665	33.4%	13,184	13,359	26,543	32.5%	90,208	33.1%
Total System Energy	190,913	100.0%	41,193	40,471	81,663	100.0%	272,576	100.0%

Source: : California Energy Commission, 2020 Total System Electric Generation

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. (9)
- 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. (10)
- 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 (11).

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 least, i.e., 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 2020.0.4. 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 (San Onofre). 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 San Onofre complicated the situation. California ISO studies revealed the extent to which the South Coast 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 (12). Similarly, the subsequent 2018 and 2019 IEPR's identify broad strategies that are aimed at maintaining electricity system reliability.

Electricity is currently 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 (13).

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 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 (14).

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 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.

Tables 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 (15).

TABLE 2-2: SCE 2019 POWER CONTENT MIX

Energy Resources	2019 SCE Power Mix
Eligible Renewable	**35.10%**
Biomass & Waste	0.60%
Geothermal	5.90%
Eligible Hydroelectric	1.00%
Solar	16.00%
Wind	11.50%
Coal	**0.00%**
Large Hydroelectric	**7.90%**
Natural Gas	**16.10%**
Nuclear	**8.20%**
Other	**0.10%**
Unspecified Sources of power*	32.60%
Total	**100%**

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

2.3 NATURAL GAS

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 r epresent 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 (FAR) system in 2008, and it is now referred to as the backbone transmission system (BTS) 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 ." (16)

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 February 2021, the Department of Motor Vehicles (DMV) identified 35.8 million registered vehicles in California (17), and those vehicles

consume an estimated 17.5 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 25.5 million passenger vehicles and light trucks, and almost 8.7 million medium- and heavy-duty vehicles (17). While gasoline consumption has been declining since 2008 it is still by far the dominant fuel. Petroleum comprises about 88% of all transportation energy use, excluding fuel consumed for aviation and most marine vessels (18). In 2020, about 123.49 billion gallons (or about 2.94 billion barrels1) of finished motor gasoline were consumed in the U.S., an average of about 337 million gallons per day (or about 8.03 million barrels per day). This was the lowest level of annual consumption since 1997 and about 16% less than the record level of consumption of nearly 392 million gallons per day in 2018 (19). In 2020, Californians also used 2,154,030 million cubic feet of natural gas as a transportation fuel (20).

[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 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 STATE

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 2020 IEPR was adopted March 23, 2020, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2020 IEPR identifies actions the state and others can take to ensure a clean, affordable, and reliable energy system. California's innovative energy policies strengthen energy resiliency, reduce greenhouse gas (GHG) emissions that cause climate change, improve air quality, and contribute to a more equitable future (21).

3.2.2 State 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 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 (22).

3.2.4 AB 1493 Pavley Regulations and Fuel Efficiency Standards

California AB 1493 requires 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)

Under the existing RPS, 25% of retail sales are required to be from renewable sources by December 31, 2016, 33% by December 31, 2020, 40% by December 31, 2024, 45% by December 31, 2027, and 50% by December 31, 2030. SB 100 raises California's RPS requirement to 50% renewable resources target by December 31, 2026, and to achieve a 60% target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours (kWh) of those products sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. In addition to targets under AB 32 and SB 32, Executive Order B-55-18 establishes a carbon neutrality goal for the state of California by 2045; and sets a goal to maintain net negative emissions thereafter. The Executive Order directs the California Natural Resources Agency (CNRA), California Environmental Protection Agency (CalEPA), the Department of Food and Agriculture (CDFA), and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

This page intentionally left blank

4 PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES

4.1 EVALUATION CRITERIA

In compliance with Appendix G of the *State CEQA Guidelines* (23), this report analyzes the project's anticipated energy use during construction and operations to determine if the Project would:

1. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
2. 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* (24), 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."

Information from *Clinton Keith Marketplace Greenhouse Gas Analysis* (GHGA) and *Clinton Keith Marketplace Air Quality Impact Analysis* (Urban Crossroads, Inc.) (AQIA) (25) (26) was utilized in this analysis, detailing Project related construction equipment, transportation energy demands, and facility energy demands.

4.2.1 CALEEMOD

The California Air Pollution Control Officers Association (CAPCOA) in association with the California air districts, released the latest version of the CalEEMod Version 2020.4.0. 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. (27). Accordingly, the latest version of CalEEMod has been used to determine the proposed Project's anticipated transportation and facility energy demands. Output from the annual CalEEMod runs is provided in Appendix 4.1.

4.2.2 EMISSION FACTORS MODELS

MOBILE SOURCES

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 (28). 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 and operational activities. For purposes of analysis, the 2022 and 2023 analysis years were utilized to determine the average vehicle fuel economy used for construction and operation of the Project, respectively.

OFF ROAD SOURCES

CARB's off-road emissions model (Off-Road/Orion) quantifies the amount of pollutants from thousands of engines in equipment used in industrial applications, agriculture, construction, mining, oil drilling, power generation, and many other industries. These off-road engines are significant sources of air pollutants such as nitrogen oxides (NO_X) and particulate matter (PM). Since 1995, these engines have been subject to a series of emissions standards that progressively reduce the emissions of pollutants, with requirements for manufacturers to certify and report information annually. Similar to EMFAC2017, Off-Road2017 is a mathematical model that was developed to calculate emission rates, fuel consumption, horse-power hours from off-road equipment that operate throughout the state and is commonly used by the CARB to project changes in future emissions from off-road sources (29). This energy study utilizes the horsepower hour by horse-power rating in order to derive the average vehicle fuel economy which is then used to determine the estimated annual fuel consumption associated with off-road equipment usage during Project construction. For purposes of analysis, the statewide inventory for analysis year 2023 were utilized to determine the average equipment fuel economy used for construction of the Project.

4.3 CONSTRUCTION ENERGY DEMANDS

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.

4.3.1 CONSTRUCTION POWER COST

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.

CONSTRUCTION DURATION

Construction is expected to commence in 2022 and will last through 2023. The construction schedule utilized in the analysis, shown in Table 4-1, represents a "worst-case" analysis scenario. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (30). The duration of construction activity was based on CalEEMod defaults. As shown on Table 4-1, construction activities are anticipated to occur over the course of approximately 14 months (26).

TABLE 4-1: CONSTRUCTION DURATION

Phase Name	Start Date	End Date	Days
Site Preparation	01/29/2022	02/11/2022	10
Grading	02/12/2022	03/11/2022	20
Building Construction	03/12/2022	01/27/2023	230
Paving	01/28/2023	02/24/2023	20
Architectural Coating	02/25/2023	03/24/2023	20

Source: CalEEMod 2016, Appendix 4.1.

PROJECT CONSTRUCTION POWER COST

The *2020 National Construction Estimator* identifies a typical power cost per 1,000 sf of construction per month of $2.38, which was used to calculate the Project's total construction power cost. (31)

As shown on Table 4-2, the total power cost of the on-site electricity usage during the construction of the Project is estimated to be approximately $13,048.05.

TABLE 4-2: 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
Fast Food Restaurant with Drive Thru	$2.38	4.800	14	$159.94
Grocery Store	$2.38	22.000	14	$733.04
Retail Shops	$2.38	7.700	14	$256.56
Automotive Retail Store	$2.38	7.600	14	$253.23
Pharmacy with Drive Thru	$2.38	13.000	14	$433.16
Medical Office	$2.38	8.000	14	$266.56
Car Wash	$2.38	3.950	14	$131.61
Restaurant	$2.38	4.800	14	$159.94
Parking	$2.38	319.748	14	$10,654.00
TOTAL PROJECT CONSTRUCTION COST				***$13,048.05***

4.3.2 CONSTRUCTION ELECTRICITY USAGE

The total Project construction electricity usage is the summation of the products of the power cost (estimated in Table 4-2) by the utility provider cost per kilowatt hour (kWh) of electricity.

PROJECT CONSTRUCTION ELECTRICITY USAGE

The SCE's general service rate schedule were used to determine the Project's electrical usage. As of October 1, 2020, SCE's general service rate is $0.10 per kilowatt hours (kWh) of electricity for general service (32). As shown on Table 4-3, the total electricity usage from on-site Project construction related activities is estimated to be approximately 136,222 kWh.

TABLE 4-3: CONSTRUCTION ELECTRICITY USAGE

Land Use	Cost per kWh	Total Project Construction Electricty Usage (kWh)
Fast Food Restaurant with Drive Thru	$0.10	1,670
Grocery Store	$0.10	7,653
Retail Shops	$0.10	2,679
Automotive Retail Store	$0.10	2,644
Pharmacy with Drive Thru	$0.10	4,522
Medical Office	$0.10	2,783
Car Wash	$0.10	1,374
Restaurant	$0.10	1,670
Parking	$0.10	111,228
TOTAL PROJECT CONSTRUCTION ELECTRICTY USAGE (kWh)		***136,222***

4.3.3 CONSTRUCTION EQUIPMENT FUEL ESTIMATES

Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction.

CONSTRUCTION EQUIPMENT

Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 4-4 will operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the code. It should be noted that most pieces of equipment would likely operate for fewer hours per day. A summary of construction equipment assumptions by phase is provided at Table 4-4.

TABLE 4-4: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Phase Name	Equipment	Amount	Hours Per Day
Site Preparation	Crawler Tractors	4	8
	Rubber Tired Dozers	3	8
Grading	Crawler Tractors	1	8
	Excavators	1	8
	Graders	1	8
	Rubber Tired Dozers	1	8
Building Construction	Cranes	1	7
	Forklifts	3	8
	Generator Sets	1	8
	Tractors/Loaders/Backhoes	1	7
	Welders	2	8

Paving	Pavers	2	8
	Paving Equipment	4	8
	Rollers	3	8
Architectural Coating	Air Compressors	1	6

PROJECT CONSTRUCTION EQUIPMENT FUEL CONSUMPTION

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[2]. As presented in Table 4-5, Project construction activities would consume an estimated 14,388 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.

[2] 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.

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	10	Crawler Tractors	212	4	8	0.43	2,917	589
		Rubber Tired Dozers	247	3	8	0.40	2,371	479
Grading	30	Crawler Tractors	212	3	8	0.43	2,188	884
		Excavators	158	1	8	0.38	480	194
		Graders	187	1	8	0.41	613	248
		Rubber Tired Dozers	247	1	8	0.40	790	319
Building Construction	300	Cranes	231	1	8	0.29	469	2,179
		Forklifts	89	3	8	0.20	427	1,985
		Generator Sets	84	1	8	0.74	497	2,311
		Tractors/Loaders/Backhoes	97	3	8	0.37	754	3,502
		Welders	46	1	8	0.45	166	769
Paving	20	Pavers	78	1	8	0.48	300	121
		Paving Equipment	130	2	8	0.42	874	353
		Rollers	132	2	8	0.36	760	307
Architectural Coating	30	Air Compressors	80	2	8	0.38	365	147
CONSTRUCTION FUEL DEMAND (GALLONS DIESEL FUEL)								***14,388***

4.3.3 CONSTRUCTION TRIPS AND VMT

The Project construction related VMT for workers and vendors for each construction phase is based on the CalEEMod run for the AQIA. The VMT is calculated by multiplying to number of trips by the trip length. The trips identified in Table 4-6 are based on the CalEEMod standard settings.

TABLE 4-6: CONSTRUCTION TRIPS AND VMT

Phase Name	Worker Trips / Day	Vendor Trips / Day	Hauling Trips / Day	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Site Preparation	18	0	0	14.7	6.9	20
Grading	15	0	208	14.7	6.9	20
Building Construction	157	64	0	14.7	6.9	20
Paving	15	0	0	14.7	6.9	20
Architectural Coating	31	0	0	14.7	6.9	20

Source: CalEEMod, Appendix 4.1.

4.3.4 CONSTRUCTION WORKER FUEL ESTIMATES

Vehicle fuel efficiencies for worker vehicles (LDA, LDT1, and LDT2) were estimated using information generated within the 2017 version of the EMFAC (EMFAC2017) developed by CARB. EMFAC2017 is a mathematical model that was developed to calculate emission rates, fuel consumption, and 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 (28). EMFAC2017 was run for the LDA, LDT1, and LDT2 vehicle class within the California sub-area for the 2021 and 2022 calendar years. Data from EMFAC2017 is shown in Appendix 4.2.

The construction worker trips are estimated to generate 435,708 VMT during the 15 months of construction (33). Based the on EMFAC2017 emission inventory for the County of Riverside, 69.9% of all worker trips are from light-duty-auto vehicles (LDA), 7.4% are from light-duty-trucks (LDT1), and 22.7% are from light-duty-trucks (LDT2). The number of construction worker trips were based on CalEEMod output included as an appendix to the AQIA. 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. and LDT2 are vehicles that have a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs.

An aggregated fuel economy for vehicles in years 2021 and 2022 are estimated based on EMFAC 2017. LDA are calculated to have fuel efficiencies of 32.53 miles per gallon (mpg) and 33.79 mpg in 2022 and 2023, respectively. 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 10,116 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 Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2022						
Site Preparation	10	13	14.7	1,911	32.53	59
Grading	20	11	14.7	3,234	32.53	99
Building Construction	210	101	14.7	311,787	32.53	9,584
2023						
Building Construction	20	10	14.7	2,940	33.79	87
Paving	20	11	14.7	3,234	33.79	96
Architectural Coating	20	22	14.7	6,468	33.79	191
TOTAL CONSTRUCTION WORKER (LDA) FUEL CONSUMPTION						***10,116***

LDT1 are estimated to have fuel efficiencies of 27.20 mpg and 28.38 mpg in 2022 and 2023, respectively. 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 1,467 gallons of fuel will be consumed related to construction worker trips during full construction of the Project.

TABLE 4-8: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES (LDT1)

Construction Activity	Duration (Days)	Worker Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2022						
Site Preparation	10	2	14.7	294	27.20	11
Grading	20	2	14.7	588	27.20	22
Building Construction	210	12	14.7	37,044	27.20	1,362
2023						
Building Construction	20	2	14.7	588	28.38	21
Paving	20	2	14.7	588	28.38	21
Architectural Coating	20	3	14.7	882	28.38	31
TOTAL CONSTRUCTION WORKER (LDT2) FUEL CONSUMPTION						***1,467***

LDT2 are estimated to have fuel efficiencies of 25.68 mpg and 27.02 mpg in 2022 and 2023, respectively. 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 4,565 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 Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2022						
Site Preparation	10	5	14.7	735	25.68	29
Grading	20	4	14.7	1,176	25.68	46
Building Construction	210	36	14.7	111,132	25.68	4,328
2023						
Building Construction	20	4	14.7	1,176	27.02	44
Paving	20	4	14.7	1,176	27.02	44
Architectural Coating	20	7	14.7	2,058	27.02	76
TOTAL CONSTRUCTION WORKER (LDT1) FUEL CONSUMPTION						***4,565***

All construction trips, including worker trips, would represent a "single-event" fuel demand and would not require on-going or permanent commitment of fuel resources for this purpose.

4.3.5 CONSTRUCTION VENDOR FUEL ESTIMATES

Construction vendor trips (vehicles that deliver materials to the site during construction) are estimated to generate 28,083 VMT along area roadways for the Project over the duration of construction activity (33). Based on CalEEMod standard inputs, vehicles associated with vendor trips are limited to medium-heavy duty trucks (MHDT) and heavy-heavy duty trucks (HHDT) (33). Similar to LDA, LDT1, and LDT fuel estimates, 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 California sub-area for the 2021 and 2022 calendar years. Data from EMFAC2017 is shown in Appendix 4.2.

As generated by EMFAC2017, MHDTs are estimated to have fuel efficiencies of 10.01 mpg and 10.77 mpg in 2022 and 2023, respectively. Based on Table 4-10, it is estimated that 5,264 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)
2022						
Site Preparation	10	0	6.9	0	10.01	0
Grading	20	0	6.9	0	10.01	0
Building Construction	210	36	6.9	52,164	10.01	5,212
2023						
Building Construction	20	4	6.9	552	10.77	51
Paving	20	0	6.9	0	10.77	0
Architectural Coating	20	0	6.9	0	10.77	0
TOTAL CONSTRUCTION VENDOR (MHDT) FUEL CONSUMPTION						***5,264***

HHDTs are estimated to have fuel efficiencies of 7.10 mpg and 7.44 mpg in 2022 and 2023, respectively Based on Tables 4-11, fuel consumption from construction vendor trips (HHDTs) will total approximately 4,750 gallons and fuel consumption from hauling trips will total approximately 11,719 gallons.

TABLE 4-11: CONSTRUCTION VENDOR/HAULING 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)
2022						
Site Preparation	10	0	6.9	0	7.10	0
Grading	20	0	6.9	0	7.10	0
Building Construction	210	23	6.9	33,327	7.10	4,694
2023						
Building Construction	20	3	6.9	414	7.44	56
Paving	20	0	6.9	0	7.44	0
Architectural Coating	20	0	6.9	0	7.44	0
TOTAL CONSTRUCTION VENDOR (HHDT) FUEL CONSUMPTION						***4,750***
Construction Activity	**Duration (Days)**	**Hauling Trips / Day**	**Trip Length (miles)**	**Vehicle Miles Traveled**	**Average Vehicle Fuel Economy (mpg)**	**Estimated Fuel Consumption (gallons)**
2022						
Grading	20	208	20	83,200	7.10	11,719
TOTAL CONSTRUCTION HAULING (HHDT) FUEL CONSUMPTION						***11,719***

As previously identified all Project construction trips, including vendor trips, would represent a "single-event" 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 regulation 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 City building officials, and/or in response to citizen complaints.

A full analysis related to the energy needed to form construction materials is not included in this analysis due to a lack of detailed Project-specific information on construction materials. At this time, an analysis of the energy needed to create Project-related construction materials would be extremely speculative and thus has not been prepared.

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. The VMT per vehicle class can be determined by evaluated in the vehicle fleet mix and the total VMT. The Project is estimated to generate a total of 4,949,809 VMT.

As with worker and vendors trips, operational vehicle fuel efficiencies were estimated using information generated within EMFAC2017 developed by CARB (28). EMFAC2017 was run for the Riverside County area for the 2023 calendar year. Data from EMFAC2017 is shown in Appendix 4.2.

TRANSPORTATION ENERGY DEMANDS

As shown in Table 4-12, the annual VMT generated by the operation of the Project would result in a total fuel demand of 190,306 gallons of fuel.

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	2,647,400	34	78,358
LDT1	277,298	28	9,770
LDT2	854,530	27	31,625
MDV	697,958	21	32,532
LHD1	131,650	15	9,030
LHD2	36,183	15	2,372
MHD	56,066	11	5,203
HHD	92,527	7	12,444
MCY	119,078	38	3,142
SBUS	5,445	8	676
MH	27,066	6	4,388
Total (All Vehicles)	**4,949,809**	**--**	**190,306**

4.4.2 FACILITY ENERGY DEMANDS

Project building operations 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. As previously stated, the analysis herein assumes compliance with the 2019 Title 24 Standards. Annual natural gas and electricity demands of the Project are summarized in Table 4-13 and provided in Appendix 4.1.

TABLE 4-13: PROJECT ANNUAL OPERATIONAL ENERGY DEMAND SUMMARY

Natural Gas Demand	kBTU/year
Fast Food Restaurant with Drive Thru	1,308,770
Grocery Store	420,860
Retail Shops	16,940
Automotive Retail Store	245,708
Pharmacy with Drive Thru	28,600
Medical Office	27,440
Car Wash	16,386
Restaurant	1,308,770
TOTAL PROJECT NATURAL GAS DEMAND	***3,373,474***
Electricity Demand	**kWh/year**
Fast Food Restaurant with Drive Thru	221,568
Grocery Store	800,360
Retail Shops	93,478
Automotive Retail Store	75,392
Pharmacy with Drive Thru	157,820
Medical Office	73,520
Car Wash	5,028
Restaurant	221,568
TOTAL PROJECT ELECTRICITY DEMAND	***1,648,734***

kBTU – kilo-British Thermal Units

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.

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 $13.048.05. 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 136,222 kWh.

Construction equipment used by the Project would result in single event consumption of approximately 14,388 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 City 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 16,148 gallons of fuel. Additionally, fuel consumption from construction vendor and hauling trips (MHDTs and HHDTs) will total approximately 21,733 gallons. Diesel fuel would be supplied by City 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 (34). 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

The Project is estimated to generate an annual net VMT of 4,949,809, which would result in a total fuel demand of 190,306 gallons of fuel. The Project fuel would be provided by current and

future commercial vendors. Project trip generation and resultant VMT are consistent with other commercial 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 result in excessive and wasteful vehicle trips, nor excess and wasteful vehicle energy consumption compared to other commercial retail 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 local residential land uses would tend to reduce VMT within the region, acting to reduce regional vehicle energy demands. Furthermore, the Project would implement sidewalks and a destination, facilitating and encouraging pedestrian access. Facilitating pedestrian and bicycle access would reduce VMT and associated energy consumption. In compliance with the California Green Building Standards Code and City 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. The project would also include EV charging stations as required by the building code, while these would consume power from the power grid, it would reduce non-renewable energy use in the transportation sector. 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: 3,373,474 kBTU/year of natural gas; and 1,648,734 kWh/year of electricity. Natural gas would be supplied to the Project by SoCalGas; electricity would be supplied by SCE. The Project proposes conventional commercial retail 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 commercial retail 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.

4.6 ENERGY FINDINGS AND RECOMMENDATIONS

4.6.1 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, a 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 of California.

4.6.2 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 Southern California Association of Governments (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 will be provided to the Project by SCE while natural gas is provided by SoCalGas. SCE's *Clean Power and Electrification Pathway* (CPEP) white paper and SoCalGas's *2020 California Gas 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 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 and takes advantage of existing infrastructure systems. 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 California Energy Commission (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 (22).

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 have committed to diversify their 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 for new commercial retail developments 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.

This page intentionally left blank.

5 REFERENCES

1. **California Natural Resources Agency.** *CEQA Guidelines.* 2018.
2. **City of Wildomar.** *General Plan.* 2003.
3. **Administration, U.S. Energy Information.** California State Profile and Energy Estimates. [Online] https://www.eia.gov/state/data.php?sid=CA#ConsumptionExpenditures.
4. **California Energy Commission.** *Revised Transportation Energy Demand Forecast.* 2017. 19-IEPR-03.
5. —. *Transportation Energy Demand Forecast 2018-2030.* 2018.
6. **Alternate Fuels Data Center.** ***U.S. Department of Energy.*** **[Online] https://afdc.energy.gov/states/ca.**
7. **U.S. Energy Information Administration. California Energy Consumption by End-Use Sector.** ***California State Profile and Energy Estimates.*** **[Online] https://www.eia.gov/state/?sid=CA#tabs-2.**
8. **California Energy Commission. Total System Electric Generation.** ***CA.gov.*** **[Online] https://www.energy.ca.gov/almanac/electricity_data/total_system_power.html.**
9. **Jet fuel consumption, price, and expenditure estimates, 2017.** ***U.S. Energy Information Administration.*** **[Online] https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_jf.html.**
10. **State Profile Data: California.** ***U.S. Energy and Information Administration.*** **[Online] https://www.eia.gov/state/data.php?sid=CA.**
11. **U.S. Energy Information Administration. State Profile and Energy Estimates.** ***Independent Statistics and Analysis.*** **[Online] http://www.eia.gov/state/?sid=CA#tabs2..**
12. **California Energy Commission. 2013 Integrated Energy Policy Report. [Online] 2013. http://www.energy.ca.gov/2013publications/CEC-100-2013-001/CEC-100-2013-001-CMF.pdf.**
13. **—. California Energy Almanac.** ***Utility Energy Supply Plans from 2013.*** **[Online] https://www.energy.ca.gov/almanac/electricity_data/s-2_supply_forms_2013/.**
14. **California ISO. Understanding the ISO. [Online] http://www.caiso.com/about/Pages/OurBusiness/UnderstandingtheISO/default.aspx.**
15. **Southern Californai Edison. 2019 Power Content Label.** ***Southern California Edison.*** **[Online] https://www.sce.com/sites/default/files/inline-files/SCE_2019PowerContentLabel.pdf.**
16. **California Public Utilities Commission. Natural Gas and California. [Online] http://www.cpuc.ca.gov/general.aspx?id=4802.**
17. **Department of Motor Vehicles. State of California Department of Motor Vehicles Statistics For Publication January Through December 2020.** ***California Energy Commission.*** **[Online] 2020. https://www.dmv.ca.gov/portal/file/department-of-motor-vehicles-statistics-pdf/.**
18. **U.S. Energy Information Administration. Use of Energy in the United States Explained Energy Use for Transportation. [Online] https://www.eia.gov/energyexplained/use-of-energy/transportation.php.**
19. **—. Frequently Asked Questions.** ***U.S. Energy Information Administration.*** **[Online] https://www.eia.gov/tools/faqs/faq.php?id=23&t=10.**
20. **—. Natural Gas Consumption by End Use. [Online] https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm.**

21. California Energy Commission Staff. 2020 Integrated Energy Policy Report Update. [Online] 2020. file:///C:/Users/atamase/Downloads/TN237269_20210323T095732_Final%202020%20Integrated%20%20Energy%20Policy%20Report%20%20Update%20Volume%20III%20California%20E%20(1).pdf.

22. The California Energy Commission. 2019 Building Energy Efficiency Standards . *California Energy Commission.* [Online] 2018. https://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf.

23. Association of Environmental Professionals. *2018 CEQA California Environmental Quality Act.* 2018.

24. State of California. *California Environmental Quality Act Guideline, California Public Resources Code, Title 14, Division 6, Chapter 3,.*

25. Urban Crossroads, Inc. *Clinton Keith Marketplace Greenhouse Gas Analysis.* s.l. : Urban Crossroads, Inc., 2021.

26. —. *Clinton Keith Marketplace Air Quality Impact Analysis.* s.l. : Urban Crossroads, Inc., 2021.

27. California Air Pollution Control Officers Association (CAPCOA). California Emissions Estimator Model (CalEEMod). [Online] September 2016. www.caleemod.com.

28. California Department of Transportation. EMFAC Software. [Online] http://www.dot.ca.gov/hq/env/air/pages/emfac.htm.

29. California Air Resources Board. *Off-Road 2017/Orinon.* 2021.

30. State of California. *2019 CEQA California Environmental Quality Act.* 2019.

31. Pray, Richard. *2020 National Construction Estimator.* Carlsbad : Craftsman Book Company, 2020.

32. Southern California Edison. Schedule GS-1 General Service. *Regulatory Information - Rates Pricing.* [Online] https://library.sce.com/content/dam/sce-doclib/public/regulatory/tariff/electric/schedules/general-service-&-industrial-rates/ELECTRIC_SCHEDULES_GS-1.pdf.

33. Urban Crossroads, Inc. *Menifee Crossroads Air Quality Impact Analysis.* 2021.

34. California Energy Commission Staff. 2019 Integrated Energy Policy Report Update. [Online] 2019. [Cited: March 26, 2020.] https://ww2.energy.ca.gov/2019_energypolicy/.

6 CERTIFICATIONS

The contents of this greenhouse gas study report represent an accurate depiction of the impacts on enrergy resources associated with the proposed Clinton Keith Marketplace Project. 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 (949) 660-1994.

Haseeb Qureshi
Associate Principal
URBAN CROSSROADS, INC.
(949) 660-1994
hqureshi@urbanxroads.com

EDUCATION

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

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

PROFESSIONAL AFFILIATIONS

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

PROFESSIONAL CERTIFICATIONS

Environmental Site Assessment – American Society for Testing and Materials • June 2013
Planned Communities and Urban Infill – Urban Land Institute • June 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August 2007
AB2588 Regulatory Standards – Trinity Consultants • November 2006

Air Dispersion Modeling – Lakes Environmental • June 2006

This page intentionally left blank.

APPENDIX 4.1:

CALEEMOD EMISSIONS MODEL OUTPUT

This page intentionally left blank.

The Commons at Hidden Springs - Riverside-South Coast County, Annual

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

The Commons at Hidden Springs

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Fast Food Restaurant with Drive Thru	4.80	1000sqft	0.11	4,800.00	0
Strip Mall	7.70	1000sqft	0.18	7,700.00	0
Supermarket	22.00	1000sqft	0.51	22,000.00	0
Automobile Care Center	7.60	1000sqft	0.17	7,600.00	0
Pharmacy/Drugstore with Drive Thru	13.00	1000sqft	0.30	13,000.00	0
Medical Office Building	8.00	1000sqft	0.18	8,000.00	0
High Turnover (Sit Down Restaurant)	4.80	1000sqft	0.11	4,800.00	0
Gasoline/Service Station	3.59	Pump	0.01	506.82	0
Other Asphalt Surfaces	319.75	1000sqft	7.34	319,748.00	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)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Grading -

Construction Phase -

The Commons at Hidden Springs - Riverside-South Coast County, Annual

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

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes

Vehicle Trips - Per traffic report Weekend adjusted the same percentage as weekday trip gen to account for passby and internal capture; all pass by trips added to primary; C-C trips set to 3 mi for proximity, retial commercial 96% customer, 3% employee, and 1% other

Construction Off-road Equipment Mitigation - Tier 3 Mitigation

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblGrading	MaterialImported	0.00	33,000.00
tblLandUse	LandUseSquareFeet	319,750.00	319,748.00
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblVehicleTrips	CC_TL	8.40	3.00
tblVehicleTrips	CC_TL	8.40	3.00
tblVehicleTrips	CC_TL	8.40	3.00
tblVehicleTrips	CC_TL	8.40	3.00
tblVehicleTrips	CC_TL	8.40	3.00

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

tblVehicleTrips	CC_TL	8.40	3.00
tblVehicleTrips	CC_TL	8.40	3.00
tblVehicleTrips	CC_TTP	48.00	96.00
tblVehicleTrips	CC_TTP	78.80	96.00
tblVehicleTrips	CC_TTP	79.00	96.00
tblVehicleTrips	CC_TTP	72.50	96.00
tblVehicleTrips	CC_TTP	73.50	96.00
tblVehicleTrips	CC_TTP	64.40	96.00
tblVehicleTrips	CC_TTP	74.50	96.00
tblVehicleTrips	CNW_TTP	19.00	1.00
tblVehicleTrips	CNW_TTP	19.00	1.00
tblVehicleTrips	CNW_TTP	19.00	1.00
tblVehicleTrips	CNW_TTP	19.00	1.00
tblVehicleTrips	CNW_TTP	19.00	1.00
tblVehicleTrips	CNW_TTP	19.00	1.00
tblVehicleTrips	CNW_TTP	19.00	1.00
tblVehicleTrips	CW_TTP	33.00	3.00
tblVehicleTrips	CW_TTP	2.20	3.00
tblVehicleTrips	CW_TTP	2.00	3.00
tblVehicleTrips	CW_TTP	8.50	3.00
tblVehicleTrips	CW_TTP	7.50	3.00
tblVehicleTrips	CW_TTP	16.60	3.00
tblVehicleTrips	CW_TTP	6.50	3.00
tblVehicleTrips	PB_TP	28.00	0.00
tblVehicleTrips	PB_TP	50.00	0.00
tblVehicleTrips	PB_TP	59.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	10.00	0.00
tblVehicleTrips	PB_TP	49.00	0.00

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

tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PB_TP	36.00	0.00
tblVehicleTrips	PR_TP	21.00	49.00
tblVehicleTrips	PR_TP	29.00	79.00
tblVehicleTrips	PR_TP	14.00	73.00
tblVehicleTrips	PR_TP	37.00	80.00
tblVehicleTrips	PR_TP	60.00	70.00
tblVehicleTrips	PR_TP	38.00	87.00
tblVehicleTrips	PR_TP	45.00	60.00
tblVehicleTrips	PR_TP	34.00	70.00
tblVehicleTrips	ST_TR	23.72	12.17
tblVehicleTrips	ST_TR	616.12	277.25
tblVehicleTrips	ST_TR	182.17	127.58
tblVehicleTrips	ST_TR	122.40	62.79
tblVehicleTrips	ST_TR	8.57	7.71
tblVehicleTrips	ST_TR	114.89	52.73
tblVehicleTrips	ST_TR	42.04	21.57
tblVehicleTrips	ST_TR	177.62	101.95
tblVehicleTrips	SU_TR	11.88	6.09
tblVehicleTrips	SU_TR	472.58	212.66
tblVehicleTrips	SU_TR	166.88	127.58
tblVehicleTrips	SU_TR	142.64	73.17
tblVehicleTrips	SU_TR	1.42	1.28
tblVehicleTrips	SU_TR	45.57	20.92
tblVehicleTrips	SU_TR	20.43	10.48
tblVehicleTrips	SU_TR	166.47	95.89
tblVehicleTrips	WD_TR	23.72	28.42
tblVehicleTrips	WD_TR	470.95	212.08
tblVehicleTrips	WD_TR	172.01	127.58

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

tblVehicleTrips	WD_TR	112.18	57.08
tblVehicleTrips	WD_TR	34.80	31.25
tblVehicleTrips	WD_TR	109.16	50.00
tblVehicleTrips	WD_TR	44.32	22.33
tblVehicleTrips	WD_TR	106.78	61.45

2.0 Emissions Summary

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3063	2.8509	2.7016	7.5400e-003	0.4596	0.1173	0.5769	0.1588	0.1100	0.2687	0.0000	683.6589	683.6589	0.0855	0.0396	697.5876
2023	0.4064	0.2856	0.3987	8.2000e-004	0.0264	0.0131	0.0395	7.0900e-003	0.0123	0.0194	0.0000	73.4964	73.4964	0.0127	2.0400e-003	74.4221
Maximum	**0.4064**	**2.8509**	**2.7016**	**7.5400e-003**	**0.4596**	**0.1173**	**0.5769**	**0.1588**	**0.1100**	**0.2687**	**0.0000**	**683.6589**	**683.6589**	**0.0855**	**0.0396**	**697.5876**

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					
2022	0.2512	2.4716	2.9513	7.5400e-003	0.3390	0.0999	0.4389	0.1051	0.0958	0.2009	0.0000	683.6585	683.6585	0.0855	0.0396	697.5873
2023	0.4046	0.2762	0.4095	8.2000e-004	0.0264	0.0126	0.0390	7.0900e-003	0.0119	0.0190	0.0000	73.4964	73.4964	0.0127	2.0400e-003	74.4220
Maximum	**0.4046**	**2.4716**	**2.9513**	**7.5400e-003**	**0.3390**	**0.0999**	**0.4389**	**0.1051**	**0.0958**	**0.2009**	**0.0000**	**683.6585**	**683.6585**	**0.0855**	**0.0396**	**697.5873**

The Commons at Hidden Springs - Riverside-South Coast County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**7.99**	**12.39**	**-8.40**	**0.00**	**24.82**	**13.73**	**22.47**	**32.34**	**11.92**	**23.68**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-3-2022**	**4-2-2022**	1.0940	0.8018
2	**4-3-2022**	**7-2-2022**	0.6874	0.6398
3	**7-3-2022**	**10-2-2022**	0.6951	0.6469
4	**10-3-2022**	**1-2-2023**	0.6972	0.6493
5	**1-3-2023**	**4-2-2023**	0.6719	0.6619
		Highest	1.0940	0.8018

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3045	5.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.7100e-003	9.7100e-003	3.0000e-005	0.0000	0.0104
Energy	0.0182	0.1654	0.1389	9.9000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	472.4168	472.4168	0.0281	6.2900e-003	474.9949
Mobile	1.5677	1.7282	10.7561	0.0192	1.8723	0.0170	1.8893	0.5002	0.0159	0.5161	0.0000	1,773.7923	1,773.7923	0.1507	0.1177	1,812.6432
Waste						0.0000	0.0000		0.0000	0.0000	81.4055	0.0000	81.4055	4.8109	0.0000	201.6786
Water						0.0000	0.0000		0.0000	0.0000	2.8168	24.1267	26.9435	0.2913	7.0800e-003	36.3363
Total	**1.8903**	**1.8936**	**10.9000**	**0.0202**	**1.8723**	**0.0296**	**1.9019**	**0.5002**	**0.0285**	**0.5287**	**84.2222**	**2,270.3455**	**2,354.5677**	**5.2811**	**0.1311**	**2,525.6634**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3045	5.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.7100e-003	9.7100e-003	3.0000e-005	0.0000	0.0104
Energy	0.0182	0.1654	0.1389	9.9000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	472.4168	472.4168	0.0281	6.2900e-003	474.9949
Mobile	1.5677	1.7282	10.7561	0.0192	1.8723	0.0170	1.8893	0.5002	0.0159	0.5161	0.0000	1,773.7923	1,773.7923	0.1507	0.1177	1,812.6432
Waste						0.0000	0.0000		0.0000	0.0000	81.4055	0.0000	81.4055	4.8109	0.0000	201.6786
Water						0.0000	0.0000		0.0000	0.0000	2.8168	24.1267	26.9435	0.2913	7.0800e-003	36.3363
Total	**1.8903**	**1.8936**	**10.9000**	**0.0202**	**1.8723**	**0.0296**	**1.9019**	**0.5002**	**0.0285**	**0.5287**	**84.2222**	**2,270.3455**	**2,354.5677**	**5.2811**	**0.1311**	**2,525.6634**

	ROG	NOx	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	1/29/2022	2/11/2022	5	10	
2	Grading	Grading	2/12/2022	3/11/2022	5	20	
3	Building Construction	Building Construction	3/12/2022	1/27/2023	5	230	

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

4	Paving	Paving	1/28/2023	2/24/2023	5	20	
5	Architectural Coating	Architectural Coating	2/25/2023	3/24/2023	5	20	

Acres of Grading (Site Preparation Phase): 35

Acres of Grading (Grading Phase): 50

Acres of Paving: 7.34

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 102,610; Non-Residential Outdoor: 34,203; Striped Parking Area: 19,185 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Site Preparation	Crawler Tractors	4	8.00	212	0.43
Building Construction	Cranes	1	7.00	231	0.29
Grading	Crawler Tractors	3	8.00	212	0.43
Grading	Excavators	1	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	4,125.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	157.00	64.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	31.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

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					0.1089	0.0000	0.1089	0.0517	0.0000	0.0517	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0224	0.2517	0.0999	2.8000e-004		0.0108	0.0108		9.9200e-003	9.9200e-003	0.0000	24.9873	24.9873	8.0800e-003	0.0000	25.1894
Total	**0.0224**	**0.2517**	**0.0999**	**2.8000e-004**	**0.1089**	**0.0108**	**0.1197**	**0.0517**	**9.9200e-003**	**0.0616**	**0.0000**	**24.9873**	**24.9873**	**8.0800e-003**	**0.0000**	**25.1894**

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

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	3.1000e-004	2.4000e-004	3.0600e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	0.0000	2.7000e-004	0.0000	0.7772	0.7772	2.0000e-005	2.0000e-005	0.7842
Total	**3.1000e-004**	**2.4000e-004**	**3.0600e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**0.7772**	**0.7772**	**2.0000e-005**	**2.0000e-005**	**0.7842**

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					0.0425	0.0000	0.0425	0.0202	0.0000	0.0202	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.9800e-003	0.1350	0.1513	2.8000e-004		5.1200e-003	5.1200e-003		5.1200e-003	5.1200e-003	0.0000	24.9873	24.9873	8.0800e-003	0.0000	25.1893
Total	**6.9800e-003**	**0.1350**	**0.1513**	**2.8000e-004**	**0.0425**	**5.1200e-003**	**0.0476**	**0.0202**	**5.1200e-003**	**0.0253**	**0.0000**	**24.9873**	**24.9873**	**8.0800e-003**	**0.0000**	**25.1893**

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

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	3.1000e-004	2.4000e-004	3.0600e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	0.0000	2.7000e-004	0.0000	0.7772	0.7772	2.0000e-005	2.0000e-005	0.7842
Total	**3.1000e-004**	**2.4000e-004**	**3.0600e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**0.7772**	**0.7772**	**2.0000e-005**	**2.0000e-005**	**0.7842**

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					0.0888	0.0000	0.0888	0.0363	0.0000	0.0363	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0293	0.3380	0.1548	4.4000e-004		0.0135	0.0135		0.0124	0.0124	0.0000	38.4562	38.4562	0.0124	0.0000	38.7672
Total	**0.0293**	**0.3380**	**0.1548**	**4.4000e-004**	**0.0888**	**0.0135**	**0.1023**	**0.0363**	**0.0124**	**0.0487**	**0.0000**	**38.4562**	**38.4562**	**0.0124**	**0.0000**	**38.7672**

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

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	6.3900e-003	0.2778	0.0593	1.1900e-003	0.0356	3.0600e-003	0.0386	9.7700e-003	2.9300e-003	0.0127	0.0000	114.7991	114.7991	1.5500e-003	0.0181	120.2269
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	5.2000e-004	4.1000e-004	5.1000e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2953	1.2953	3.0000e-005	4.0000e-005	1.3069
Total	**6.9100e-003**	**0.2782**	**0.0644**	**1.2000e-003**	**0.0372**	**3.0700e-003**	**0.0403**	**0.0102**	**2.9400e-003**	**0.0132**	**0.0000**	**116.0944**	**116.0944**	**1.5800e-003**	**0.0181**	**121.5338**

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					0.0346	0.0000	0.0346	0.0142	0.0000	0.0142	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0108	0.2080	0.2447	4.4000e-004		8.1400e-003	8.1400e-003		8.1400e-003	8.1400e-003	0.0000	38.4562	38.4562	0.0124	0.0000	38.7671
Total	**0.0108**	**0.2080**	**0.2447**	**4.4000e-004**	**0.0346**	**8.1400e-003**	**0.0428**	**0.0142**	**8.1400e-003**	**0.0223**	**0.0000**	**38.4562**	**38.4562**	**0.0124**	**0.0000**	**38.7671**

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

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	6.3900e-003	0.2778	0.0593	1.1900e-003	0.0356	3.0600e-003	0.0386	9.7700e-003	2.9300e-003	0.0127	0.0000	114.7991	114.7991	1.5500e-003	0.0181	120.2269
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	5.2000e-004	4.1000e-004	5.1000e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2953	1.2953	3.0000e-005	4.0000e-005	1.3069
Total	**6.9100e-003**	**0.2782**	**0.0644**	**1.2000e-003**	**0.0372**	**3.0700e-003**	**0.0403**	**0.0102**	**2.9400e-003**	**0.0132**	**0.0000**	**116.0944**	**116.0944**	**1.5800e-003**	**0.0181**	**121.5338**

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	0.1792	1.6396	1.7182	2.8300e-003		0.0850	0.0850		0.0799	0.0799	0.0000	243.3115	243.3115	0.0583	0.0000	244.7688
Total	**0.1792**	**1.6396**	**1.7182**	**2.8300e-003**		**0.0850**	**0.0850**		**0.0799**	**0.0799**	**0.0000**	**243.3115**	**243.3115**	**0.0583**	**0.0000**	**244.7688**

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

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	0.0107	0.2983	0.1005	1.2200e-003	0.0425	4.1000e-003	0.0466	0.0123	3.9200e-003	0.0162	0.0000	117.6790	117.6790	1.2400e-003	0.0175	122.9137
Worker	0.0576	0.0449	0.5608	1.5500e-003	0.1812	9.2000e-004	0.1821	0.0481	8.4000e-004	0.0490	0.0000	142.3532	142.3532	3.8200e-003	3.9700e-003	143.6307
Total	**0.0683**	**0.3431**	**0.6613**	**2.7700e-003**	**0.2236**	**5.0200e-003**	**0.2287**	**0.0604**	**4.7600e-003**	**0.0651**	**0.0000**	**260.0322**	**260.0322**	**5.0600e-003**	**0.0214**	**266.5444**

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	0.1579	1.5071	1.8265	2.8300e-003		0.0785	0.0785		0.0748	0.0748	0.0000	243.3112	243.3112	0.0583	0.0000	244.7685
Total	**0.1579**	**1.5071**	**1.8265**	**2.8300e-003**		**0.0785**	**0.0785**		**0.0748**	**0.0748**	**0.0000**	**243.3112**	**243.3112**	**0.0583**	**0.0000**	**244.7685**

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

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	0.0107	0.2983	0.1005	1.2200e-003	0.0425	4.1000e-003	0.0466	0.0123	3.9200e-003	0.0162	0.0000	117.6790	117.6790	1.2400e-003	0.0175	122.9137
Worker	0.0576	0.0449	0.5608	1.5500e-003	0.1812	9.2000e-004	0.1821	0.0481	8.4000e-004	0.0490	0.0000	142.3532	142.3532	3.8200e-003	3.9700e-003	143.6307
Total	**0.0683**	**0.3431**	**0.6613**	**2.7700e-003**	**0.2236**	**5.0200e-003**	**0.2287**	**0.0604**	**4.7600e-003**	**0.0651**	**0.0000**	**260.0322**	**260.0322**	**5.0600e-003**	**0.0214**	**266.5444**

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	0.0157	0.1439	0.1624	2.7000e-004		7.0000e-003	7.0000e-003		6.5800e-003	6.5800e-003	0.0000	23.1805	23.1805	5.5100e-003	0.0000	23.3183
Total	**0.0157**	**0.1439**	**0.1624**	**2.7000e-004**		**7.0000e-003**	**7.0000e-003**		**6.5800e-003**	**6.5800e-003**	**0.0000**	**23.1805**	**23.1805**	**5.5100e-003**	**0.0000**	**23.3183**

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

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.9000e-004	0.0219	8.7400e-003	1.1000e-004	4.0400e-003	1.8000e-004	4.2300e-003	1.1700e-003	1.7000e-004	1.3400e-003	0.0000	10.7680	10.7680	1.1000e-004	1.5900e-003	11.2452
Worker	5.0900e-003	3.7700e-003	0.0492	1.4000e-004	0.0173	8.0000e-005	0.0173	4.5800e-003	8.0000e-005	4.6600e-003	0.0000	13.1229	13.1229	3.3000e-004	3.5000e-004	13.2349
Total	**5.7800e-003**	**0.0257**	**0.0579**	**2.5000e-004**	**0.0213**	**2.6000e-004**	**0.0216**	**5.7500e-003**	**2.5000e-004**	**6.0000e-003**	**0.0000**	**23.8909**	**23.8909**	**4.4000e-004**	**1.9400e-003**	**24.4802**

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	0.0139	0.1345	0.1733	2.7000e-004		6.5100e-003	6.5100e-003		6.2100e-003	6.2100e-003	0.0000	23.1805	23.1805	5.5100e-003	0.0000	23.3183
Total	**0.0139**	**0.1345**	**0.1733**	**2.7000e-004**		**6.5100e-003**	**6.5100e-003**		**6.2100e-003**	**6.2100e-003**	**0.0000**	**23.1805**	**23.1805**	**5.5100e-003**	**0.0000**	**23.3183**

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

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.9000e-004	0.0219	8.7400e-003	1.1000e-004	4.0400e-003	1.8000e-004	4.2300e-003	1.1700e-003	1.7000e-004	1.3400e-003	0.0000	10.7680	10.7680	1.1000e-004	1.5900e-003	11.2452
Worker	5.0900e-003	3.7700e-003	0.0492	1.4000e-004	0.0173	8.0000e-005	0.0173	4.5800e-003	8.0000e-005	4.6600e-003	0.0000	13.1229	13.1229	3.3000e-004	3.5000e-004	13.2349
Total	**5.7800e-003**	**0.0257**	**0.0579**	**2.5000e-004**	**0.0213**	**2.6000e-004**	**0.0216**	**5.7500e-003**	**2.5000e-004**	**6.0000e-003**	**0.0000**	**23.8909**	**23.8909**	**4.4000e-004**	**1.9400e-003**	**24.4802**

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	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888
Paving	9.6200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0200**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0269**	**20.0269**	**6.4800e-003**	**0.0000**	**20.1888**

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

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	4.9000e-004	3.6000e-004	4.7000e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2538	1.2538	3.0000e-005	3.0000e-005	1.2645
Total	**4.9000e-004**	**3.6000e-004**	**4.7000e-003**	**1.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.2538**	**1.2538**	**3.0000e-005**	**3.0000e-005**	**1.2645**

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	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888
Paving	9.6200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0200**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0268**	**20.0268**	**6.4800e-003**	**0.0000**	**20.1888**

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

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	4.9000e-004	3.6000e-004	4.7000e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2538	1.2538	3.0000e-005	3.0000e-005	1.2645
Total	**4.9000e-004**	**3.6000e-004**	**4.7000e-003**	**1.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.2538**	**1.2538**	**3.0000e-005**	**3.0000e-005**	**1.2645**

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	0.3615					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**0.3635**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

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

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	1.0100e-003	7.4000e-004	9.7100e-003	3.0000e-005	3.4100e-003	2.0000e-005	3.4200e-003	9.0000e-004	1.0000e-005	9.2000e-004	0.0000	2.5911	2.5911	6.0000e-005	7.0000e-005	2.6133
Total	**1.0100e-003**	**7.4000e-004**	**9.7100e-003**	**3.0000e-005**	**3.4100e-003**	**2.0000e-005**	**3.4200e-003**	**9.0000e-004**	**1.0000e-005**	**9.2000e-004**	**0.0000**	**2.5911**	**2.5911**	**6.0000e-005**	**7.0000e-005**	**2.6133**

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	0.3615					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**0.3635**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

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

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	1.0100e-003	7.4000e-004	9.7100e-003	3.0000e-005	3.4100e-003	2.0000e-005	3.4200e-003	9.0000e-004	1.0000e-005	9.2000e-004	0.0000	2.5911	2.5911	6.0000e-005	7.0000e-005	2.6133
Total	**1.0100e-003**	**7.4000e-004**	**9.7100e-003**	**3.0000e-005**	**3.4100e-003**	**2.0000e-005**	**3.4200e-003**	**9.0000e-004**	**1.0000e-005**	**9.2000e-004**	**0.0000**	**2.5911**	**2.5911**	**6.0000e-005**	**7.0000e-005**	**2.6133**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

The Commons at Hidden Springs - Riverside-South Coast County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5677	1.7282	10.7561	0.0192	1.8723	0.0170	1.8893	0.5002	0.0159	0.5161	0.0000	1,773.7923	1,773.7923	0.1507	0.1177	1,812.6432
Unmitigated	1.5677	1.7282	10.7561	0.0192	1.8723	0.0170	1.8893	0.5002	0.0159	0.5161	0.0000	1,773.7923	1,773.7923	0.1507	0.1177	1,812.6432

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	215.99	92.49	46.28	134,894	134,894
Fast Food Restaurant with Drive Thru	1,018.00	1,330.82	1020.77	1,123,776	1,123,776
Gasoline/Service Station	458.01	458.01	458.01	458,301	458,301
High Turnover (Sit Down Restaurant)	273.98	301.39	351.22	308,147	308,147
Medical Office Building	250.00	61.68	10.24	561,619	561,619
Other Asphalt Surfaces	0.00	0.00	0.00		
Pharmacy/Drugstore with Drive Thru	650.00	685.49	271.96	680,630	680,630
Strip Mall	171.94	166.09	80.70	138,832	138,832
Supermarket	1,351.90	2,242.90	2109.58	1,543,611	1,543,611
Total	4,389.83	5,338.87	4,348.76	4,949,809	4,949,809

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
Automobile Care Center	16.60	3.00	6.90	3.00	96.00	1.00	49	51	0
Fast Food Restaurant with Drive	16.60	3.00	6.90	3.00	96.00	1.00	79	21	0
Gasoline/Service Station	16.60	3.00	6.90	3.00	96.00	1.00	73	27	0

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

	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
High Turnover (Sit Down	16.60	3.00	6.90	3.00	96.00	1.00	80	20	0
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	70	30	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Pharmacy/Drugstore with Drive	16.60	3.00	6.90	3.00	96.00	1.00	87	13	0
Strip Mall	16.60	3.00	6.90	3.00	96.00	1.00	60	40	0
Supermarket	16.60	3.00	6.90	3.00	96.00	1.00	70	30	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Fast Food Restaurant with Drive Thru	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Gasoline/Service Station	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
High Turnover (Sit Down Restaurant)	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Medical Office Building	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Other Asphalt Surfaces	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Pharmacy/Drugstore with Drive Thru	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Strip Mall	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Supermarket	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

The Commons at Hidden Springs - Riverside-South Coast County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	292.3956	292.3956	0.0247	2.9900e-003	293.9040
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	292.3956	292.3956	0.0247	2.9900e-003	293.9040
NaturalGas Mitigated	0.0182	0.1654	0.1389	9.9000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	180.0212	180.0212	3.4500e-003	3.3000e-003	181.0910
NaturalGas Unmitigated	0.0182	0.1654	0.1389	9.9000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	180.0212	180.0212	3.4500e-003	3.3000e-003	181.0910

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	245708	1.3200e-003	0.0120	0.0101	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	13.1119	13.1119	2.5000e-004	2.4000e-004	13.1898
Fast Food Restaurant with Drive Thru	1.30877e+006	7.0600e-003	0.0642	0.0539	3.8000e-004		4.8800e-003	4.8800e-003		4.8800e-003	4.8800e-003	0.0000	69.8408	69.8408	1.3400e-003	1.2800e-003	70.2559
Gasoline/Service Station	16385.5	9.0000e-005	8.0000e-004	6.7000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8744	0.8744	2.0000e-005	2.0000e-005	0.8796
High Turnover (Sit Down Restaurant)	1.30877e+006	7.0600e-003	0.0642	0.0539	3.8000e-004		4.8800e-003	4.8800e-003		4.8800e-003	4.8800e-003	0.0000	69.8408	69.8408	1.3400e-003	1.2800e-003	70.2559
Medical Office Building	27440	1.5000e-004	1.3500e-003	1.1300e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.4643	1.4643	3.0000e-005	3.0000e-005	1.4730
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
Pharmacy/Drugstore with Drive Thru	28600	1.5000e-004	1.4000e-003	1.1800e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.5262	1.5262	3.0000e-005	3.0000e-005	1.5353
Strip Mall	16940	9.0000e-005	8.3000e-004	7.0000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.9040	0.9040	2.0000e-005	2.0000e-005	0.9094
Supermarket	420860	2.2700e-003	0.0206	0.0173	1.2000e-004		1.5700e-003	1.5700e-003		1.5700e-003	1.5700e-003	0.0000	22.4587	22.4587	4.3000e-004	4.1000e-004	22.5922
Total		**0.0182**	**0.1654**	**0.1389**	**9.7000e-004**		**0.0126**	**0.0126**		**0.0126**	**0.0126**	**0.0000**	**180.0212**	**180.0212**	**3.4600e-003**	**3.3100e-003**	**181.0909**

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

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	245708	1.3200e-003	0.0120	0.0101	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	13.1119	13.1119	2.5000e-004	2.4000e-004	13.1898
Fast Food Restaurant with Drive Thru	1.30877e+006	7.0600e-003	0.0642	0.0539	3.8000e-004		4.8800e-003	4.8800e-003		4.8800e-003	4.8800e-003	0.0000	69.8408	69.8408	1.3400e-003	1.2800e-003	70.2559
Gasoline/Service Station	16385.5	9.0000e-005	8.0000e-004	6.7000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8744	0.8744	2.0000e-005	2.0000e-005	0.8796
High Turnover (Sit Down Restaurant)	1.30877e+006	7.0600e-003	0.0642	0.0539	3.8000e-004		4.8800e-003	4.8800e-003		4.8800e-003	4.8800e-003	0.0000	69.8408	69.8408	1.3400e-003	1.2800e-003	70.2559
Medical Office Building	27440	1.5000e-004	1.3500e-003	1.1300e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.4643	1.4643	3.0000e-005	3.0000e-005	1.4730
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
Pharmacy/Drugstore with Drive Thru	28600	1.5000e-004	1.4000e-003	1.1800e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.5262	1.5262	3.0000e-005	3.0000e-005	1.5353
Strip Mall	16940	9.0000e-005	8.3000e-004	7.0000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.9040	0.9040	2.0000e-005	2.0000e-005	0.9094
Supermarket	420860	2.2700e-003	0.0206	0.0173	1.2000e-004		1.5700e-003	1.5700e-003		1.5700e-003	1.5700e-003	0.0000	22.4587	22.4587	4.3000e-004	4.1000e-004	22.5922
Total		**0.0182**	**0.1654**	**0.1389**	**9.7000e-004**		**0.0126**	**0.0126**		**0.0126**	**0.0126**	**0.0000**	**180.0212**	**180.0212**	**3.4600e-003**	**3.3100e-003**	**181.0909**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	75392	13.3704	1.1300e-003	1.4000e-004	13.4394
Fast Food Restaurant with Drive Thru	221568	39.2941	3.3200e-003	4.0000e-004	39.4968
Gasoline/Service Station	5027.65	0.8916	8.0000e-005	1.0000e-005	0.8962
High Turnover (Sit Down Restaurant)	221568	39.2941	3.3200e-003	4.0000e-004	39.4968
Medical Office Building	73520	13.0384	1.1000e-003	1.3000e-004	13.1057
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Pharmacy/Drugstore with Drive Thru	157820	27.9887	2.3600e-003	2.9000e-004	28.1331
Strip Mall	93478	16.5779	1.4000e-003	1.7000e-004	16.6634
Supermarket	800360	141.9403	0.0120	1.4500e-003	142.6725
Total		**292.3956**	**0.0247**	**2.9900e-003**	**293.9040**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	75392	13.3704	1.1300e-003	1.4000e-004	13.4394
Fast Food Restaurant with Drive Thru	221568	39.2941	3.3200e-003	4.0000e-004	39.4968
Gasoline/Service Station	5027.65	0.8916	8.0000e-005	1.0000e-005	0.8962
High Turnover (Sit Down Restaurant)	221568	39.2941	3.3200e-003	4.0000e-004	39.4968
Medical Office Building	73520	13.0384	1.1000e-003	1.3000e-004	13.1057
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Pharmacy/Drugstore with Drive Thru	157820	27.9887	2.3600e-003	2.9000e-004	28.1331
Strip Mall	93478	16.5779	1.4000e-003	1.7000e-004	16.6634
Supermarket	800360	141.9403	0.0120	1.4500e-003	142.6725
Total		**292.3956**	**0.0247**	**2.9900e-003**	**293.9040**

6.0 Area Detail

6.1 Mitigation Measures Area

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3045	5.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.7100e-003	9.7100e-003	3.0000e-005	0.0000	0.0104
Unmitigated	0.3045	5.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.7100e-003	9.7100e-003	3.0000e-005	0.0000	0.0104

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0362					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2679					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.6000e-004	5.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.7100e-003	9.7100e-003	3.0000e-005	0.0000	0.0104
Total	**0.3045**	**5.0000e-005**	**4.9900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.7100e-003**	**9.7100e-003**	**3.0000e-005**	**0.0000**	**0.0104**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0362					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2679					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.6000e-004	5.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.7100e-003	9.7100e-003	3.0000e-005	0.0000	0.0104
Total	**0.3045**	**5.0000e-005**	**4.9900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.7100e-003**	**9.7100e-003**	**3.0000e-005**	**0.0000**	**0.0104**

7.0 Water Detail

7.1 Mitigation Measures Water

The Commons at Hidden Springs - Riverside-South Coast County, Annual

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	26.9435	0.2913	7.0800e-003	36.3363
Unmitigated	26.9435	0.2913	7.0800e-003	36.3363

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.715016 / 0.438236	2.7414	0.0235	5.8000e-004	3.5008
Fast Food Restaurant with Drive Thru	1.45696 / 0.0929976	4.0099	0.0478	1.1600e-003	5.5491
Gasoline/Service Station	0.047682 / 0.0292244	0.1828	1.5700e-003	4.0000e-005	0.2335
High Turnover (Sit Down Restaurant)	1.45696 / 0.0929976	4.0099	0.0478	1.1600e-003	5.5491
Medical Office Building	1.00384 / 0.191208	3.0133	0.0329	8.0000e-004	4.0751
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Pharmacy/Drugstore with Drive Thru	0.915818 / 0.561308	3.5113	0.0301	7.4000e-004	4.4840
Strip Mall	0.570358 / 0.349575	2.1868	0.0188	4.6000e-004	2.7926
Supermarket	2.7119 / 0.0838732	7.2880	0.0889	2.1500e-003	10.1521
Total		**26.9435**	**0.2913**	**7.0900e-003**	**36.3363**

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.715016 / 0.438236	2.7414	0.0235	5.8000e-004	3.5008
Fast Food Restaurant with Drive Thru	1.45696 / 0.0929976	4.0099	0.0478	1.1600e-003	5.5491
Gasoline/Service Station	0.047682 / 0.0292244	0.1828	1.5700e-003	4.0000e-005	0.2335
High Turnover (Sit Down Restaurant)	1.45696 / 0.0929976	4.0099	0.0478	1.1600e-003	5.5491
Medical Office Building	1.00384 / 0.191208	3.0133	0.0329	8.0000e-004	4.0751
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Pharmacy/Drugstore with Drive Thru	0.915818 / 0.561308	3.5113	0.0301	7.4000e-004	4.4840
Strip Mall	0.570358 / 0.349575	2.1868	0.0188	4.6000e-004	2.7926
Supermarket	2.7119 / 0.0838732	7.2880	0.0889	2.1500e-003	10.1521
Total		**26.9435**	**0.2913**	**7.0900e-003**	**36.3363**

8.0 Waste Detail

8.1 Mitigation Measures Waste

The Commons at Hidden Springs - Riverside-South Coast County, Annual

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

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	81.4055	4.8109	0.0000	201.6786
Unmitigated	81.4055	4.8109	0.0000	201.6786

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	29.03	5.8928	0.3483	0.0000	14.5992
Fast Food Restaurant with Drive Thru	55.29	11.2234	0.6633	0.0000	27.8054
Gasoline/Service Station	1.93	0.3918	0.0232	0.0000	0.9706
High Turnover (Sit Down Restaurant)	57.12	11.5948	0.6852	0.0000	28.7257
Medical Office Building	86.4	17.5384	1.0365	0.0000	43.4507
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Pharmacy/Drugstore with Drive Thru	39.09	7.9349	0.4689	0.0000	19.6584
Strip Mall	8.09	1.6422	0.0971	0.0000	4.0685
Supermarket	124.08	25.1871	1.4885	0.0000	62.4000
Total		**81.4055**	**4.8109**	**0.0000**	**201.6786**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	29.03	5.8928	0.3483	0.0000	14.5992
Fast Food Restaurant with Drive Thru	55.29	11.2234	0.6633	0.0000	27.8054
Gasoline/Service Station	1.93	0.3918	0.0232	0.0000	0.9706
High Turnover (Sit Down Restaurant)	57.12	11.5948	0.6852	0.0000	28.7257
Medical Office Building	86.4	17.5384	1.0365	0.0000	43.4507
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Pharmacy/Drugstore with Drive Thru	39.09	7.9349	0.4689	0.0000	19.6584
Strip Mall	8.09	1.6422	0.0971	0.0000	4.0685
Supermarket	124.08	25.1871	1.4885	0.0000	62.4000
Total		**81.4055**	**4.8109**	**0.0000**	**201.6786**

9.0 Operational Offroad

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

10.0 Stationary Equipment

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

Fire Pumps and Emergency Generators

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

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:

EMFAC2017 EMISSION INVENTORY

This page intentionally left blank

Source: EMFAC2017 (v1.0.3) Emissions Inventory
Region Type: County
Region: Riverside
Calendar Year: 2022
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	Calen	Vehicle C	Model Year	Speed	Fuel	Population	VMT	Trips	NOx_RUN	NOx_IDLE	NOx_STRE	NOx_TOTI	PM2_5_RU	PM2_5_ID	PM2_5_ST	PM2_5_TC	PM2_5_PN	PM2_5_PN	PM2_5_TC	PM10_RU	PM10_IDL	PM10_STI	PM10_TO	PM10_PN	PM10_PN	PM10_TO	CO2_RUN	CO2_IDLE	CO2_STRE	CO2_TOTI	CH4_RUN	CH4_IDLE	CH4_STRE	CH4_TOTI	N2O_RUN	N2O_IDLE	N2O_STRI	N2O_TOTI	ROG_RUN	ROG_IDLE	ROG_STRI	ROG_TOT	ROG_DIUI	ROG_HOT	ROG_RUN	ROG_REST	ROG_TOT	TOG_RUN	TOG_IDLE	TOG_STRI	TOG_TOTI	TOG_DIUI	TOG_HOT	TOG_RUN	TOG_REST	TOG_TOT	CO_RUNEX	CO_IDLEX	CO_STREX	CO_TOTEX	SOx_RUNEX	SOx_IDLEX	SOx_STREX	SOx_TOTEX	Fuel Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
Riverside	2022	HHDT	Aggregate	Aggregate	Gas	7.255051716	664.5948944	145.1591	0.002803	0	4.44E-05	0.002848	6.68E-07	0	1E-07	7.68E-07	3.66E-06	1.94E-05	2.38E-05	7.26E-07	0	1.09E-07	8.35E-07	1.47E-05	4.52E-05	6.07E-05	1.4467	0	0.007799	1.454498	6.13E-05	0	5.37E-08	6.14E-05	0.000104	0	1.14E-06	0.000105	0.000298	0	2.75E-07	0.000298	6.06E-07	2.13E-05	9.72E-05	3.65E-07	0.000418	0.000435	0	3.02E-07	0.000435	6.06E-07	2.13E-05	9.72E-05	3.65E-07	0.000554	0.018773526	0	0.000965923	0.019739449	1.43163E-05	0	7.71741E-08	1.43934E-05	0.153526957	153.5269575	551883.0316	664.5948944	3918090.953	7.10	HHDT
Riverside	2022	HHDT	Aggregate	Aggregate	Dies	27819.82011	3904544.33	319510.3	11.05023	2.587032	0.767034	14.40429	0.137719	0.001154	0	0.138873	0.038292	0.112578	0.289743	0.143946	0.001206	0	0.145152	0.153167	0.262681	0.561001	5626.037	503.4985	0	6129.535	0.008171	0.009354	0	0.017525	0.884335	0.079143	0	0.963478	0.17592	0.20139	0	0.37731	0	0	0	0	0.37731	0.200271	0.229268	0	0.429539	0	0	0	0	0.429539	0.876572425	2.802110865	0	3.678683291	0.053152004	0.004756804	0	0.057908808	546.282737	546282.737		3904544.33			
Riverside	2022	HHDT	Aggregate	Aggregate	Natu	316.9853667	12882.0286	1236.243	0.030248	0.007615	0	0.037863	7.23E-05	1.18E-05	0	8.41E-05	0.000128	0.000376	0.000588	7.55E-05	1.23E-05	0	8.79E-05	0.000511	0.000877	0.001476	45.79365	1.329935	0	47.12358	0.066378	0.000439	0	0.066817	0.009335	0.000271	0	0.009606	0.003359	1.76E-05	0	0.003376	0	0	0	0	0.003376	0.07049	0.000461	0	0.070951	0	0	0	0	0.070951	0.197132389	0.007510876	0	0.204643264	0	0	0	0	5.446767633	5446.767633		12882.0286			
Riverside	2022	LDA	Aggregate	Aggregate	Gas	772785.866	30295680.28	3658982	1.177693	0	0.73046	1.908154	0.041209	0	0.00698	0.04819	0.066791	0.525976	0.640956	0.044818	0	0.007592	0.05241	0.267162	1.227276	1.546848	8782.861	0	220.1322	9002.993	0.074117	0	0.197492	0.271609	0.14193	0	0.10329	0.24522	0.276663	0	0.859741	1.136404	0.270627	0.399468	0.847754	0.208104	2.862357	0.40352	0	0.941304	1.344824	0.270627	0.399468	0.847754	0.208104	3.070777	20.91943824	0	8.544698144	29.46413639	0.086913525	0	0.002178386	0.089091911	950.2947165	950294.7165	956074.6572	30295680.28	31104496.06	32.53	LDA
Riverside	2022	LDA	Aggregate	Aggregate	Dies	7300.590587	301308.548	34943.72	0.02214	0	0	0.02214	0.002107	0	0	0.002107	0.000664	0.005231	0.008002	0.002202	0	0	0.002202	0.002657	0.012206	0.017065	64.8535	0	0	64.8535	0.000191	0	0	0.000191	0.010194	0	0	0.010194	0.004118	0	0	0.004118	0	0	0	0	0.004118	0.004688	0	0	0.004688	0	0	0	0	0.004688	0.059315113	0	0	0.059315113	0.000613099	0	0	0.000613099	5.779940701	5779.940701		301308.548			
Riverside	2022	LDA	Aggregate	Aggregate	Elec	12758.74743	507507.2353	64142.81	0	0	0	0	0	0	0	0	0.001119	0.008811	0.00993	0	0	0	0	0.004475	0.020559	0.025035	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000476	0.000346	0	0.000184	0.001006	0	0	0	0	0.000476	0.000346	0	0.000184	0.001006	0	0	0	0	0	0	0	0	0	0		507507.2353			
Riverside	2022	LDT1	Aggregate	Aggregate	Gas	82772.07046	3076687.964	377724.3	0.423313	0	0.117513	0.540826	0.006428	0	0.001051	0.007479	0.006783	0.053416	0.067678	0.006991	0	0.001143	0.008134	0.027132	0.124636	0.159902	1051.512	0	27.12534	1078.637	0.023679	0	0.032903	0.056581	0.031599	0	0.012597	0.044196	0.103547	0	0.165455	0.269002	0.08695	0.105607	0.335983	0.0591	0.856642	0.151011	0	0.181152	0.332162	0.08695	0.105607	0.335983	0.0591	0.919802	4.890490861	0	0.978145804	5.868636665	0.01040556	0	0.000268427	0.010673988	113.8535898	113853.5898	113886.9867	3076687.964	3097672.244	27.20	LDT1
Riverside	2022	LDT1	Aggregate	Aggregate	Dies	39.17987902	864.4773595	128.3035	0.001111	0	0	0.001111	0.000148	0	0	0.000148	1.91E-06	1.5E-05	0.000165	0.000155	0	0	0.000155	7.62E-06	3.5E-05	0.000198	0.374728	0	0	0.374728	9.4E-06	0	0	9.4E-06	5.89E-05	0	0	5.89E-05	0.000202	0	0	0.000202	0	0	0	0	0.000202	0.00023	0	0	0.00023	0	0	0	0	0.00023	0.001242491	0	0	0.001242491	3.54252E-06	0	0	3.54252E-06	0.033396863	33.39686287		864.4773595			
Riverside	2022	LDT1	Aggregate	Aggregate	Elec	485.0753078	20119.80263	2469.361	0	0	0	0	0	0	0	0	4.44E-05	0.000349	0.000394	0	0	0	0	0.000177	0.000815	0.000992	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.82E-05	1.33E-05	0	7.1E-06	3.87E-05	0	0	0	0	1.82E-05	1.33E-05	0	7.1E-06	3.87E-05	0	0	0	0	0	0	0	0	0	0		20119.80263			
Riverside	2022	LDT2	Aggregate	Aggregate	Gas	252998.013	9768781.977	1185123	0.844679	0	0.370972	1.215651	0.013934	0	0.002285	0.016219	0.021536	0.1696	0.207355	0.015154	0	0.002485	0.017639	0.086146	0.395733	0.499518	3547.516	0	91.46519	3638.981	0.041281	0	0.088782	0.130063	0.071281	0	0.042672	0.113953	0.165432	0	0.405921	0.571352	0.141347	0.177037	0.566422	0.114351	1.57051	0.24128	0	0.444431	0.685711	0.141347	0.177037	0.566422	0.114351	1.684869	9.81300067	0	3.500611276	13.31361195	0.035105544	0	0.000905122	0.036010666	384.1060904	384106.0904	385765.5036	9768781.977	9906416.269	25.68	LDT2
Riverside	2022	LDT2	Aggregate	Aggregate	Dies	1463.534782	64682.45233	7232.74	0.003174	0	0	0.003174	0.000382	0	0	0.000382	0.000143	0.001123	0.001647	0.000399	0	0	0.000399	0.00057	0.00262	0.00359	18.61935	0	0	18.61935	4.65E-05	0	0	4.65E-05	0.002927	0	0	0.002927	0.001001	0	0	0.001001	0	0	0	0	0.001001	0.00114	0	0	0.00114	0	0	0	0	0.00114	0.00800565	0	0	0.00800565	0.00017602	0	0	0.00017602	1.659413246	1659.413246		64682.45233			
Riverside	2022	LDT2	Aggregate	Aggregate	Elec	2319.019739	72951.84037	11758.83	0	0	0	0	0	0	0	0	0.000161	0.001267	0.001427	0	0	0	0	0.000643	0.002955	0.003599	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.78E-05	6.34E-05	0	3.43E-05	0.000186	0	0	0	0	8.78E-05	6.34E-05	0	3.43E-05	0.000186	0	0	0	0	0	0	0	0	0	0		72951.84037			
Riverside	2022	LHDT1	Aggregate	Aggregate	Gas	20620.88251	680334.7046	307220.4	0.155931	0.000885	0.184471	0.341288	0.000727	0	0.000127	0.000853	0.0015	0.024568	0.026921	0.000791	0	0.000138	0.000928	0.006	0.057325	0.064253	589.5774	2.764885	6.406166	598.7485	0.004283	0.002829	0.008984	0.016097	0.009525	7.21E-05	0.014371	0.023968	0.020179	0.01014	0.04448	0.074799	0.001865	0.047332	0.293233	0.000925	0.418155	0.029446	0.014796	0.0487	0.092942	0.001865	0.047332	0.293233	0.000925	0.436297	0.544954173	0.085332539	0.573755601	1.204042313	0.005834346	2.73608E-05	6.33942E-05	0.005925101	63.19981722	63199.81722	96090.00978	680334.7046	1371393.63	14.27	LHDT1
Riverside	2022	LHDT1	Aggregate	Aggregate	Dies	20161.77202	691058.9252	253609.7	2.043912	0.049747	0	2.093659	0.014382	0.000579	0	0.014961	0.002285	0.024955	0.042202	0.015033	0.000605	0	0.015638	0.009141	0.058229	0.083008	366.0101	3.032443	0	369.0426	0.003031	0.000113	0	0.003144	0.057532	0.000477	0	0.058008	0.065254	0.002439	0	0.067693	0	0	0	0	0.067693	0.074287	0.002777	0	0.077064	0	0	0	0	0.077064	0.447517994	0.020218669	0	0.467736663	0.003460112	2.86675E-05	0	0.003488779	32.89019256	32890.19256		691058.9252			
Riverside	2022	LHDT2	Aggregate	Aggregate	Gas	3286.375404	107419.4478	48962.1	0.022092	0.000141	0.029865	0.052099	9.86E-05	0	1.63E-05	0.000115	0.000237	0.004526	0.004877	0.000107	0	1.78E-05	0.000125	0.000947	0.01056	0.011632	106.7382	0.508294	1.160232	108.4067	0.000459	0.000456	0.001372	0.002288	0.001471	1.14E-05	0.002304	0.003786	0.001982	0.001622	0.006712	0.010316	0.000261	0.006646	0.037974	0.000133	0.055329	0.002893	0.002366	0.007349	0.012608	0.000261	0.006646	0.037974	0.000133	0.057621	0.05342334	0.013634417	0.08719693	0.154254687	0.001056261	5.02998E-06	1.14814E-05	0.001072772	11.44267416	11442.67416	25303.82051	107419.4478	374281.6414	14.79	LHDT2
Riverside	2022	LHDT2	Aggregate	Aggregate	Dies	7795.76126	266862.1937	98060.87	0.641407	0.01922	0	0.660627	0.005245	0.000225	0	0.00547	0.000882	0.011243	0.017595	0.005482	0.000235	0	0.005717	0.00353	0.026234	0.035481	153.6435	1.88477	0	155.5282	0.001008	4.38E-05	0	0.001051	0.024151	0.000296	0	0.024447	0.021692	0.000943	0	0.022635	0	0	0	0	0.022635	0.024694	0.001074	0	0.025768	0	0	0	0	0.025768	0.146483392	0.007817761	0	0.154301153	0.001452483	1.78179E-05	0	0.001470301	13.86114635	13861.14635		266862.1937			
Riverside	2022	MCY	Aggregate	Aggregate	Gas	36240.6615	267199.3063	72481.32	0.331134	0	0.02088	0.352015	0.000497	0	0.000214	0.000711	0.000295	0.001484	0.00249	0.000531	0	0.000227	0.000759	0.001178	0.003464	0.005401	61.31855	0	4.826637	66.14519	0.093378	0	0.019242	0.11262	0.019202	0	0.001193	0.020395	0.62931	0	0.145361	0.774671	0.133027	0.0671	0.145543	0.072215	1.192557	0.776412	0	0.158189	0.934601	0.133027	0.0671	0.145543	0.072215	1.352487	5.672859273	0	0.684687346	6.357546619	0.000606797	0	4.77635E-05	0.00065456	6.981836229	6981.836229	6981.836229	267199.3063	267199.3063	38.27	MCY
Riverside	2022	MDV	Aggregate	Aggregate	Gas	208995.205	7586687.895	958167.2	0.873315	0	0.388592	1.261907	0.010926	0	0.001947	0.012873	0.016726	0.131716	0.161315	0.011881	0	0.002118	0.013999	0.066903	0.307336	0.388239	3440.877	0	93.17232	3534.049	0.042123	0	0.090466	0.132589	0.070444	0	0.038849	0.109293	0.173681	0	0.441313	0.614994	0.139831	0.178369	0.5291	0.118972	1.581267	0.252912	0	0.483177	0.736089	0.139831	0.178369	0.5291	0.118972	1.702362	8.979255702	0	3.367280086	12.34653579	0.034050266	0	0.000922016	0.034972281	373.0302077	373030.2077	379343.7253	7586687.895	7808952.293	20.59	MDV
Riverside	2022	MDV	Aggregate	Aggregate	Dies	4324.736187	181512.7606	21074.47	0.010511	0	0	0.010511	0.00091	0	0	0.00091	0.0004	0.003151	0.004461	0.000951	0	0	0.000951	0.001601	0.007353	0.009905	70.84047	0	0	70.84047	9.42E-05	0	0	9.42E-05	0.011135	0	0	0.011135	0.002028	0	0	0.002028	0	0	0	0	0.002028	0.002309	0	0	0.002309	0	0	0	0	0.002309	0.03493891	0	0	0.03493891	0.000669697	0	0	0.000669697	6.313517611	6313.517611		181512.7606			
Riverside	2022	MDV	Aggregate	Aggregate	Elec	1262.694008	40751.63814	6455.526	0	0	0	0	0	0	0	0	8.98E-05	0.000708	0.000797	0	0	0	0	0.000359	0.001651	0.00201	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.77E-05	3.48E-05	0	1.87E-05	0.000101	0	0	0	0	4.77E-05	3.48E-05	0	1.87E-05	0.000101	0	0	0	0	0	0	0	0	0	0		40751.63814			
Riverside	2022	MH	Aggregate	Aggregate	Gas	6006.899407	48243.06745	600.9302	0.021458	0	0.000219	0.021677	5.67E-05	0	2.07E-07	5.69E-05	0.00016	0.002971	0.003187	6.16E-05	0	2.25E-07	6.18E-05	0.000638	0.006931	0.007631	88.62668	0	0.017246	88.64393	0.000628	0	2.18E-05	0.00065	0.00133	0	2.36E-05	0.001354	0.002675	0	8.8E-05	0.002763	0.001139	6.2E-05	0.001315	0.000402	0.005681	0.003903	0	9.63E-05	0.004	0.001139	6.2E-05	0.001315	0.000402	0.006918	0.082865151	0	0.001900004	0.084765155	0.000877033	0	1.70662E-07	0.000877204	9.356650581	9356.650581	11275.46068	48243.06745	69133.58244	6.13	MH
Riverside	2022	MH	Aggregate	Aggregate	Dies	2591.605795	20890.51499	259.1606	0.098854	0	0	0.098854	0.003066	0	0	0.003066	9.21E-05	0.001286	0.004444	0.003204	0	0	0.003204	0.000368	0.003001	0.006574	21.5299	0	0	21.5299	7.55E-05	0	0	7.55E-05	0.003384	0	0	0.003384	0.001624	0	0	0.001624	0	0	0	0	0.001624	0.001849	0	0	0.001849	0	0	0	0	0.001849	0.007627807	0	0	0.007627807	0.000203535	0	0	0.000203535	1.918810096	1918.810096		20890.51499			
Riverside	2022	MHDT	Aggregate	Aggregate	Gas	2027.159212	107896.4899	40559.4	0.055808	0.0002	0.016423	0.072431	0.000102	0	1.83E-05	0.000121	0.000357	0.006644	0.007121	0.000111	0	2E-05	0.000131	0.001427	0.015502	0.01706	192.9231	1.211	1.735314	195.8694	0.001423	0.000589	0.001769	0.003781	0.002796	1.71E-05	0.001291	0.004104	0.006786	0.002243	0.00942	0.018449	0.000142	0.004172	0.020754	7.16E-05	0.043589	0.009902	0.003274	0.010314	0.023489	0.000142	0.004172	0.020754	7.16E-05	0.048629	0.179050436	0.032112557	0.205723608	0.416886601	0.001909131	1.19838E-05	1.71723E-05	0.001938287	20.67464454	20674.64454	108170.6844	107896.4899	1082516.825	10.01	MHDT
Riverside	2022	MHDT	Aggregate	Aggregate	Dies	15610.0447	974620.3351	149691.2	1.794059	0.118742	0.27297	2.185771	0.051311	0.00029	0	0.051601	0.003223	0.060012	0.114836	0.053631	0.000303	0	0.053934	0.012892	0.140029	0.206855	967.7033	14.0411	0	981.7444	0.002651	7.71E-05	0	0.002729	0.152109	0.002207	0	0.154317	0.057085	0.001659	0	0.058745	0	0	0	0	0.058745	0.064987	0.001889	0	0.066876	0	0	0	0	0.066876	0.251548191	0.04018223	0	0.291730421	0.009142381	0.000132653	0	0.009275035	87.4960399	87496.0399		974620.3351			
Riverside	2022	OBUS	Aggregate	Aggregate	Gas	588.3426118	26677.78704	11771.56	0.012089	4.22E-05	0.004133	0.016263	1.96E-05	0	2.97E-06	2.25E-05	8.82E-05	0.001643	0.001753	2.13E-05	0	3.23E-06	2.45E-05	0.000353	0.003833	0.00421	48.5034	0.245839	0.342427	49.09167	0.000295	0.000129	0.000392	0.000816	0.00063	3.61E-06	0.000332	0.000965	0.001387	0.000484	0.002025	0.003895	4.36E-05	0.000398	0.004372	1.88E-05	0.008728	0.002024	0.000706	0.002217	0.004946	4.36E-05	0.000398	0.004372	1.88E-05	0.009779	0.035861304	0.00374254	0.041786754	0.081390597	0.00047998	2.43278E-06	3.3886E-06	0.000485802	5.181782563	5181.782563	8000.723523	26677.78704	52401.56366	6.55	OBUS
Riverside	2022	OBUS	Aggregate	Aggregate	Dies	351.6438765	25723.77662	3337.739	0.057508	0.005377	0.006914	0.069799	0.000932	9.48E-06	0	0.000941	8.51E-05	0.001584	0.00261	0.000974	9.91E-06	0	0.000984	0.00034	0.003696	0.00502	30.69177	0.938	0	31.62977	6.81E-05	1.51E-05	0	8.32E-05	0.004824	0.000147	0	0.004972	0.001466	0.000326	0	0.001791	0	0	0	0	0.001791	0.001669	0.000371	0	0.002039	0	0	0	0	0.002039	0.005697869	0.004429787	0	0.010127656	0.000289961	8.86176E-06	0	0.000298822	2.818940959	2818.940959		25723.77662			
Riverside	2022	SBUS	Aggregate	Aggregate	Gas	490.8817654	19662.47585	1963.527	0.006816	0.000501	0.001247	0.008565	1.54E-05	0	6.5E-07	1.61E-05	4.33E-05	0.006918	0.006978	1.68E-05	0	7.07E-07	1.75E-05	0.000173	0.016143	0.016334	19.19753	1.43216	0.102574	20.73226	0.000168	0.001302	0.000119	0.00159	0.000444	4.66E-05	0.000115	0.000606	0.00082	0.005757	0.000686	0.007263	2.37E-05	0.000157	0.000963	1.14E-05	0.008418	0.001196	0.008401	0.000751	0.010348	2.37E-05	0.000157	0.000963	1.14E-05	0.011503	0.018106757	0.04449587	0.015762883	0.078365515	0.000189975	1.41724E-05	1.01505E-06	0.000205163	2.188356834	2188.356834	6997.25334	19662.47585	56211.13603	8.03	SBUS
Riverside	2022	SBUS	Aggregate	Aggregate	Dies	1154.012525	36548.66018	13317.14	0.279638	0.057928	0.011426	0.348992	0.0016	6.03E-05	0	0.00166	0.000121	0.01286	0.014641	0.001672	6.31E-05	0	0.001735	0.000483	0.030007	0.032225	49.2399	4.71806	0	53.95796	0.000227	1.62E-05	0	0.000243	0.00774	0.000742	0	0.008481	0.00488	0.000349	0	0.005229	0	0	0	0	0.005229	0.005556	0.000397	0	0.005953	0	0	0	0	0.005953	0.013605987	0.007349237	0	0.020955224	0.000465194	4.45739E-05	0	0.000509768	4.808896505	4808.896505		36548.66018			
Riverside	2022	UBUS	Aggregate	Aggregate	Gas	164.4551683	23154.43353	657.8207	0.003633	0	0.000383	0.004016	2.68E-05	0	3.14E-07	2.71E-05	6.09E-05	0.00115	0.001238	2.92E-05	0	3.42E-07	2.95E-05	0.000244	0.002682	0.002955	35.54644	0	0.038073	35.58452	9.69E-05	0	4.12E-05	0.000138	0.000374	0	4.09E-05	0.000415	0.000288	0	0.00016	0.000449	2.92E-06	2.51E-05	0.000124	1.78E-06	0.000603	0.000421	0	0.000176	0.000596	2.92E-06	2.51E-05	0.000124	1.78E-06	0.00075	0.005056468	0	0.003104307	0.008160775	0.000351761	0	3.76759E-07	0.000352138	3.756059553	3756.059553	13187.75228	23154.43353	65715.39058	4.98	UBUS
Riverside	2022	UBUS	Aggregate	Aggregate	Dies	1.105797941	58.57190354	4.423192	3.08E-05	0	0	3.08E-05	2.65E-07	0	0	2.65E-07	1.94E-07	3.61E-06	4.07E-06	2.77E-07	0	0	2.77E-07	7.75E-07	8.42E-06	9.47E-06	0.073677	0	0	0.073677	2.42E-06	0	0	2.42E-06	1.16E-05	0	0	1.16E-05	3.45E-08	0	0	3.45E-08	0	0	0	0	3.45E-08	2.47E-06	0	0	2.47E-06	0	0	0	0	2.47E-06	3.68847E-06	0	0	3.68847E-06	6.96516E-07	0	0	6.96516E-07	0.006566346	6.56634569		58.57190354			
Riverside	2022	UBUS	Aggregate	Aggregate	Elec	5.058469431	271.5303965	20.23388	0	0	0	0	0	0	0	0	2.69E-06	7.96E-06	1.06E-05	0	0	0	0	1.07E-05	1.86E-05	2.93E-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		271.5303965			
Riverside	2022	UBUS	Aggregate	Aggregate	Natu	308.4780966	42230.85475	1233.912	0.019404	0	0	0.019404	0.000179	0	0	0.000179	0.000333	0.001567	0.002079	0.000187	0	0	0.000187	0.001332	0.003657	0.005176	81.54299	0	0	81.54299	0.242581	0	0	0.242581	0.016623	0	0	0.016623	0.003599	0	0	0.003599	0	0	0	0	0.003599	0.247717	0	0	0.247717	0	0	0	0	0.247717	1.882539961	0	0	1.882539961	0	0	0	0	9.425126379	9425.126379		42230.85475			

Source: EMFAC2017 (v1.0.3) Emissions Inventory
Region Type: County
Region: Riverside
Calendar Year: 2023
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 Consumpt	VMT	Total VMT	Miles per Gallon	Vehicle Class		
Riverside	2023	HHDT	Aggregate	Aggregate	Gasoli	6.287048944	470.7572646	125.7913	0.108716829	108.7168293	269084.7531	470.7572646	2000831.243	7.44	HHDT
Riverside	2023	HHDT	Aggregate	Aggregate	Diesel	15994.29576	1988254.022	167972.9	263.9532757	263953.2757		1988254.022			
Riverside	2023	HHDT	Aggregate	Aggregate	Natur	297.8339277	12106.46352	1161.552	5.022760484	5022.760484		12106.46352			
Riverside	2023	LDA	Aggregate	Aggregate	Gasoli	600073.2625	24106871.96	2840578	730.2309972	730230.9972	734950.915	24106871.96	24831107.93	33.79	LDA
Riverside	2023	LDA	Aggregate	Aggregate	Diesel	6022.455725	252078.6078	28799.31	4.719917791	4719.917791		252078.6078			
Riverside	2023	LDA	Aggregate	Aggregate	Electr	11812.58063	472157.3583	59231.08	0	0		472157.3583			
Riverside	2023	LDT1	Aggregate	Aggregate	Gasoli	61620.9911	2305410.758	281506.9	81.95823074	81958.23074	81979.79872	2305410.758	2326765.882	28.38	LDT1
Riverside	2023	LDT1	Aggregate	Aggregate	Diesel	25.82294405	564.5507588	85.51712	0.02156798	21.5679801		564.5507588			
Riverside	2023	LDT1	Aggregate	Aggregate	Electr	500.2265064	20790.57268	2538.375	0	0		20790.57268			
Riverside	2023	LDT2	Aggregate	Aggregate	Gasoli	186844.1926	7271356.285	875598	272.2201339	272220.1339	273519.5233	7271356.285	7390732.737	27.02	LDT2
Riverside	2023	LDT2	Aggregate	Aggregate	Diesel	1179.189513	52389.15473	5802.531	1.299389383	1299.389383		52389.15473			
Riverside	2023	LDT2	Aggregate	Aggregate	Electr	2202.047417	66987.29664	11134.27	0	0		66987.29664			
Riverside	2023	LHDT1	Aggregate	Aggregate	Gasoli	15202.19219	489408.3926	226490	44.78794149	44787.94149	69458.64379	489408.3926	1012657.526	14.58	LHDT1
Riverside	2023	LHDT1	Aggregate	Aggregate	Diesel	15878.17916	523249.1337	199727.5	24.67070229	24670.70229		523249.1337			
Riverside	2023	LHDT2	Aggregate	Aggregate	Gasoli	2254.447347	72843.78455	33587.91	7.620327883	7620.327883	18120.43735	72843.78455	276453.3551	15.26	LHDT2
Riverside	2023	LHDT2	Aggregate	Aggregate	Diesel	6182.746468	203609.5705	77771.17	10.50010946	10500.10946		203609.5705			
Riverside	2023	MCY	Aggregate	Aggregate	Gasoli	28475.24545	179075.0601	56950.49	4.725448328	4725.448328	4725.448328	179075.0601	179075.0601	37.90	MCY
Riverside	2023	MDV	Aggregate	Aggregate	Gasoli	154204.1049	5532730.192	706420.9	261.6189822	261618.9822	266481.7348	5532730.192	5717270.278	21.45	MDV
Riverside	2023	MDV	Aggregate	Aggregate	Diesel	3492.231312	143624.7637	16925.23	4.862752584	4862.752584		143624.7637			
Riverside	2023	MDV	Aggregate	Aggregate	Electr	1314.447545	40915.32239	6695.937	0	0		40915.32239			
Riverside	2023	MH	Aggregate	Aggregate	Gasoli	4646.002839	36045.00319	464.7861	6.920030798	6920.030798	8307.842208	36045.00319	51245.8412	6.17	MH
Riverside	2023	MH	Aggregate	Aggregate	Diesel	1979.944695	15200.83801	197.9945	1.38781141	1387.81141		15200.83801			
Riverside	2023	MHDT	Aggregate	Aggregate	Gasoli	1361.919314	55522.81781	27249.28	10.39979838	10399.79838	74626.43474	55522.81781	804084.1257	10.77	MHDT
Riverside	2023	MHDT	Aggregate	Aggregate	Diesel	11600.10675	748561.3079	115156.8	64.22663636	64226.63636		748561.3079			
Riverside	2023	OBUS	Aggregate	Aggregate	Gasoli	437.8068702	14961.4141	8759.64	2.859206488	2859.206488	4613.197055	14961.4141	31071.97019	6.74	OBUS
Riverside	2023	OBUS	Aggregate	Aggregate	Diesel	221.7033657	16110.5561	2113.001	1.753990567	1753.990567		16110.5561			
Riverside	2023	SBUS	Aggregate	Aggregate	Gasoli	428.8888994	14909.41731	1715.556	1.679727113	1679.727113	5282.154427	14909.41731	42556.73324	8.06	SBUS
Riverside	2023	SBUS	Aggregate	Aggregate	Diesel	872.8772386	27647.31593	10072.88	3.602427315	3602.427315		27647.31593			
Riverside	2023	UBUS	Aggregate	Aggregate	Gasoli	165.4254964	23291.05069	661.702	3.744875418	3744.875418	10143.9907	23291.05069	50365.41497	4.97	UBUS
Riverside	2023	UBUS	Aggregate	Aggregate	Diesel	0.141961099	11.67769301	0.567844	0.001254634	1.254634181		11.67769301			
Riverside	2023	UBUS	Aggregate	Aggregate	Electr	0.058469431	1.251702935	0.233878	0	0		1.251702935			
Riverside	2023	UBUS	Aggregate	Aggregate	Natur	206.2939379	27061.43488	825.1758	6.397860652	6397.860652		27061.43488			