Appendix G: Energy Analysis

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Green River Ranch Specific Plan Amendment

SP00.001 AMENDMENT NO.1

ENERGY ANALYSIS

CITY OF CORONA

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LIST OF ABBREVIATED TERMS

%	Percent
(1)	Reference
AGSP	Airport Gateway Specific Plan
AQIA	*Green River Ranch Specific Plan Amendment 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 Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CPEP	Clean Power and Electrification Pathway
CPUC	California Public Utilities Commission
DMV	Department of Motor Vehicles
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
hp-hr-gal	Horsepower Hours Per Gallon
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
LHDT1/LHDT2	Light-Heavy 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
Project	Green River Ranch Specific Plan Amendment
PV	Photovoltaic
SCAB	South Coast Air Basin
SCE	Southern California Edison
SDAB	San Diego Air Basin
sf	Square Feet
SoCalGas	Southern California Gas
SR	State Route
TEA-21	Transportation Equity Act for the 21st Century
TA	*Green River Ranch Specific Plan Amendment (SP00-001 Amendment No.1) Traffic Analysis*
U.S.	United States
VMT	Vehicle Miles Traveled

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Green River Ranch Specific Plan Amendment Energy Analysis* is summarized below based on the significance criteria in Section 5 of this report consistent with Appendix G of the *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?	5.0	*Less Than Significant*	*n/a*
Energy Impact #2: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	5.0	*Less Than Significant*	*n/a*
Energy Impact #3: Would the Project achieve the goal of energy conservation by: • Decreasing overall per capita energy consumption. • Decreasing reliance on fossil fuels such as coal, natural gas and oil. • Increasing reliance on renewable energy sources.	5.0	*Less Than Significant*	*n/a*

ES.2 PROJECT REQUIREMENTS

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

- Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)
- The Transportation Equity Act for the 21st Century (TEA-21
- Integrated Energy Policy Report (IEPR)
- State of California Energy Plan
- California Code Title 24, Part 6, Energy Efficiency Standards

- AB 1493 Pavley Regulations and Fuel Efficiency Standards
- California's Renewable Portfolio Standard (RPS)
- Clean Energy and Pollution Reduction Act of 2015 (SB 350)

Consistency with the above regulations are discussed in detail in section 5 of this EA.

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1 INTRODUCTION

This report presents the results of the energy analysis prepared by Urban Crossroads, Inc., for the proposed Green River Ranch Specific Plan Amendment Project (Project). The purpose of this report is to ensure that energy implication is considered by the City of Corona (Lead Agency), 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 Project is located at the southwest corner of Green River Road and Dominguez Ranch Road in the City of Corona. The Project site is bordered to the south by vacant land, to the east residential uses, the west by open space, and to the north and west by California State Route (SR) 91.

1.2 PROJECT DESCRIPTION

The Project consists of an amendment to the previously approved Green River Ranch Specific Plan, a Precise Plan for the Business Park Industrial portion of the project, and a tentative tract map. The Precise Plan consists of 746,167 sf of building space and for purposes of this analysis is studied as 634,242 sf of Industrial Park use (85 percent [%] of the total Business Park Industrial square footage) and 111,925 sf of High-Cube Cold Storage Warehouse use (15% of the total Business Park Industrial square footage). Cold Storage uses may or may not occupy the site but are studied analytically because this use is allowed by the Specific Plan in up to 15% of the building space. Although specific development plans are not proposed for the other areas of the property, the estate residential area is evaluated at its maximum buildout of 32 residential estate lots and the general commercial area is studied as containing the same commercial uses assumed when the Specific Plan was first adopted, which are still reasonably foreseeable uses – a super convenience market/gas station with 12 vehicle fueling positions and 2,500 sf of fast-food restaurant with drive-thru window use.

Exhibit 1-A illustrates the proposed Specific Plan Amendment and the Precise Plan proposed for the Business Park Industrial component of the Project. The Project is proposed to be developed in phases as follows:

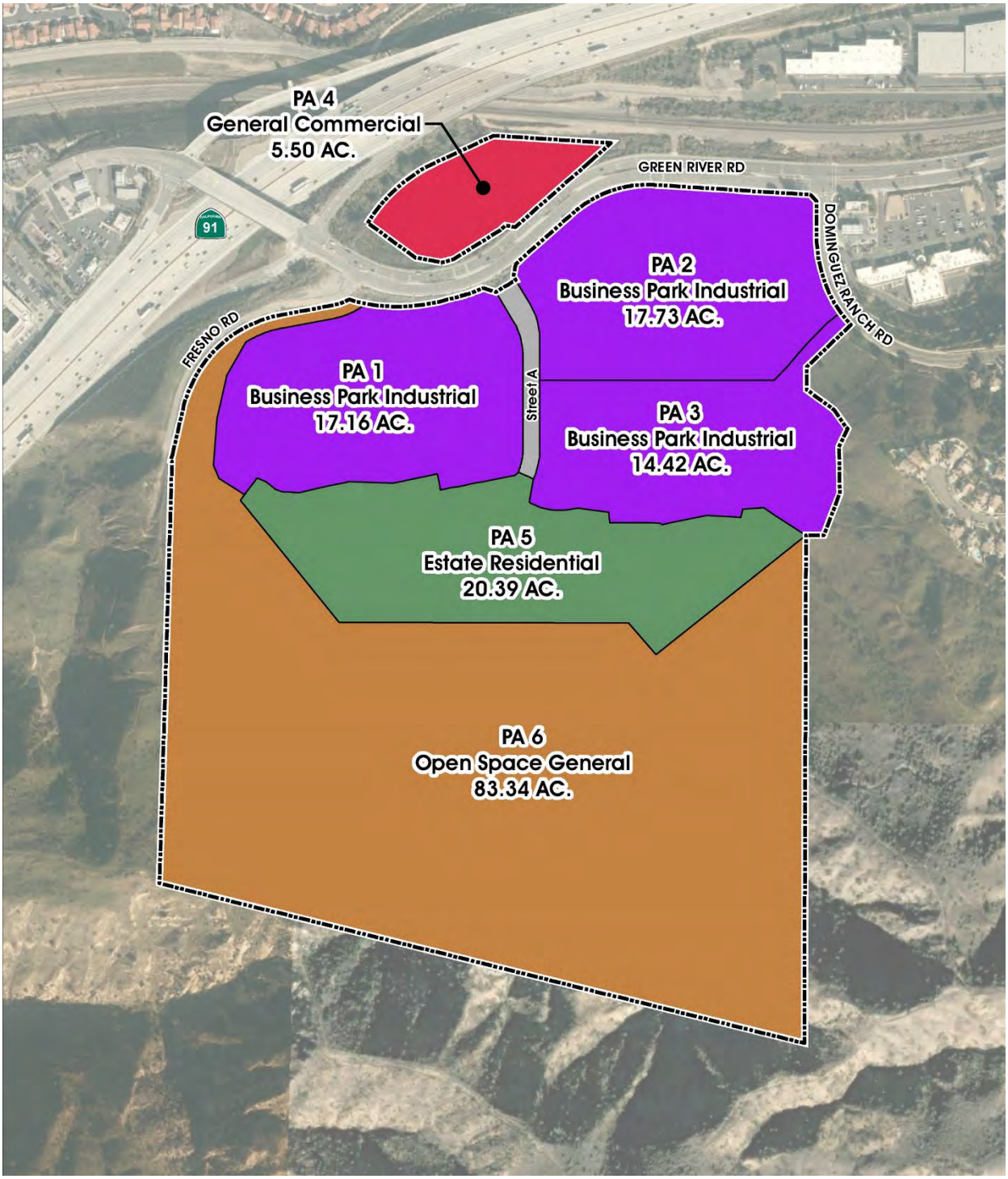
- Phase 1: 634,242 square feet of Business Park Industrial use and 111,925 square feet of High-Cube Cold Storage Warehouse use ((Planning Areas) or PAs 1, 2, and 3)
- Phase 2: Development in Phase 1 plus up to 19,600 square feet of general commercial uses which for the purposes of the traffic study will be evaluated as a Gas Station with Convenience Market with 12 vehicle fueling positions, 2,500 square feet of Fast-Food Restaurant with Drive-Through Window use, 4,200 square feet of Fine Dining Restaurant use, and 9,500 square feet of High Turnover (Sit-Down) Restaurant use (buildout of PAs 1, 2, and 3 and the addition of PA 4). The land uses and intensities proposed for the retail

component were selected in order to conduct a conservative analysis (i.e., evaluate a higher trip generation than 19,600 square feet of general commercial use)

- Project Buildout: Development in Phases 1 and 2 plus the addition of 32 Residential Estate Lots (buildout of PAs 1, 2, 3, and 4 and the addition of PA 5)

This analysis is intended to describe energy impacts associated with the expected typical operational activities at the Project site. This report assumes that the Business Park Industrial component of the Project will operate 24-hours daily for seven days per week. At the time this analysis was prepared, the future tenants of the proposed Project were unknown.

EXHIBIT 1-A: PRELIMINARY LAND USE PLAN



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2 EXISTING CONDITIONS

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

2.1 OVERVIEW

The most recent data for California's estimated total energy consumption and natural gas consumption is from 2021 and 2022, released by the United States (U.S.) Energy Information Administration's (EIA) California State Profile and Energy Estimates and includes (2):

- As of 2021, approximately 7,359 trillion British Thermal Unit (BTU) of energy was consumed
- As of 2021, approximately 605 million barrels of petroleum
- As of 2022, approximately 2,059 billion cubic feet of natural gas
- As of 2022, approximately 1,322 thousand short tons of coal

According to the EIA, in 2022 the U.S. petroleum consumption comprised about 90% of all transportation energy use, excluding fuel consumed for aviation and most marine vessels (3). In 2022, about 251,923 million gallons (or about 5.99 million barrels) of finished petroleum products were consumed in the U.S., an average of about 690 million gallons per day (or about 16.4 million barrels per day) (4). In 2021, California consumed approximately 12,157 million gallons in motor gasoline (33.31 million per day) and approximately 3,541 million gallons of diesel fuel (9.7 million per day) (5).

The most recent data provided by the EIA for energy use in California is reported from 2021 and provided by demand sectors as follows:

- Approximately 37.8% transportation sector
- Approximately 23.2% industrial sector
- Approximately 20.0% residential sector
- Approximately 19.0% commercial sector (6)

According to the EIA, California used approximately 247,250 gigawatt hours of electricity in 2021 (7). By sector in 2021, residential uses utilized 36.5% of the state's electricity, followed by 43.9% for commercial uses, 19.2% for industrial uses, and 0.3% for transportation. Electricity usage in California for differing land uses varies substantially by the type of uses in a building, type of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building (7).

According to the EIA, California used approximately 200,871 million therms of natural gas in 2021 (8). In 2021 (the most recent year for which data is available), by sector, industrial uses utilized 33% of the state's natural gas, followed by 30% used as fuel in the electric power sector, 21% from residential, 11% from commercial, 1% from transportation uses and the remaining 3% was utilized for the operations, processing and production of natural gas itself (8). While the supply of natural gas in the United States and production in the lower 48 states has increased greatly since 2008, California produces little, and imports 90% of its supply of natural gas (8).

In 2022, total system electric generation for California was 287,220 gigawatt hours (GWh). California's massive electricity in-state generation system generated approximately 203,257 GWh which accounted for approximately 71% of the electricity it uses; the rest was imported from the Pacific Northwest (12%) and the U.S. Southwest (17%) (9). Natural gas is the main source for electricity generation at 47.46% of the total in-state electric generation system power as shown in Table 2-1.

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 (10):

- In 2022, California was the seventh-largest producer of crude oil among the 50 states, and, as of January 2022, the state ranked third in crude oil refining capacity.
- California is the largest consumer of jet fuel and second-largest consumer of motor gasoline among the 50 states.
- In 2020, California was the second-largest total energy consumer among the states, but its per capita energy consumption was less than in all but three other states.
- In 2022, renewable resources, including hydroelectric power and small-scale, customer-sited solar power, accounted for 49% of California's in-state electricity generation. Natural gas fueled another 42%. Nuclear power supplied almost all the rest.
- In 2022, California was the fourth-largest electricity producer in the nation. The state was also the nation's third-largest electricity consumer, and additional needed electricity supplies came from out-of-state generators.

As indicated below, California is one of the nation's leading energy-producing states, and California's per capita energy use is among the nation's most efficient. Given the nature of the Project, the remainder of this discussion will focus on the three sources of energy that are most relevant to the Project—namely, electricity, natural gas, and transportation fuel for vehicle trips associated with the uses planned for the Project.

TABLE 2-1: TOTAL ELECTRICITY SYSTEM POWER (CALIFORNIA 2022)

Fuel Type	California In-State Generation (GWh)	% of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	Total Imports (GWh)	Total California Energy Mix (GWh)	Total California Power Mix
Coal	273	0.13%	181	5,716	5,897	6,170	2.15%
Natural Gas	96,457	47.46%	44	7,994	8,038	104,495	36.38%
Oil	65	0.03%	-	-	-	65	0.2%
Other (Waste Heat/Petroleum Coke)	315	0.15%	-	-	-	315	0.11%
Unspecified	-	0.0%	12,485	7,943	20,428	20,428	7.11%
Total Thermal and Unspecified	**97,110**	**47.78%**	**12,710**	**21,653**	**34,363**	**121,473**	**45.77%**
Nuclear	17,627	8.67%	397	8,342	8,739	26,366	9.18%
Large Hydro	14,607	7.19%	10,803	1,118	11,921	26,528	9.24%
Biomass	5,366	2.64%	771	25	797	6,162	2.15%
Geothermal	11,110	5.47%	253	2,048	2,301	13,412	4.67%
Small Hydro	3,005	1.48%	211	13	225	3,230	1.12%
Solar	40,494	19.92%	231	8,225	8,456	48,950	17.04%
Wind	13,938	6.86%	8,804	8,357	17,161	31,099	10.83%
Total Non-GHG and Renewables	**106,147**	**52.22%**	**21,471**	**28,129**	**49,599**	**155,747**	**54.23%**
SYSTEM TOTALS	***203,257***	***100.0%***	***34,180***	***49,782***	***83,962***	***287,220***	***100.0%***

Source: CECs 2022 Total System Electric Generation

2.2 ELECTRICITY

The usage associated with electricity use were calculated using CalEEMod Version 2022.1. 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 Independent Service Operator (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 (11). Similarly, the subsequent 2023 IEPR's provides information and policy recommendations on advancing a clean, reliable, and affordable energy system.

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 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 (12).

Part of the ISO's charge is to plan and coordinate grid enhancements to ensure that electrical power is provided to California consumers. To this end, utilities 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.

Electricity is currently provided to the Project site 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 2022 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).

Table 2-2, SCE's specific proportional shares of electricity sources in 2022. As indicated in Table 2-2, the 2022 SCE Power Mix has renewable energy at 33.2% of the overall energy resources.

Geothermal resources are at 5.7%, wind power is at 9.8%, large hydroelectric sources are at 3.4%, solar energy is at 17.0%, and coal is at 0% (14).

TABLE 2-2: SCE 2022 POWER CONTENT MIX

Energy Resources	2022 SCE Power Mix
Eligible Renewable	**33.2%**
Biomass & Waste	0.1%
Geothermal	5.7%
Eligible Hydroelectric	0.5%
Solar	17.0%
Wind	9.8%
Coal	**0.0%**
Large Hydroelectric	**3.4%**
Natural Gas	**24.7%**
Nuclear	**8.3%**
Other	**0.1%**
Unspecified Sources of power*	30.3%
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 and volumes, supplies, delivery of supplies, storage, service options, and operations is excerpted from information provided by the California Public Utilities Commission (CPUC).

> *"The CPUC regulates natural gas utility service for approximately 10.8 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller natural gas utilities. The CPUC also regulates independent storage operators: Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.*
>
> *California's natural gas utilities provide service to over 11 million gas meters. SoCalGas and PG&E provide service to about 5.9 million and 4.3 million customers, respectively, while SDG&E provides service to over 800, 000 customers. In 2018, California gas utilities forecasted that they would deliver about 4740 million cubic feet per day (MMcfd) of gas to their customers, on average, under normal weather conditions.*
>
> *The overwhelming majority of natural gas utility customers in California are residential and small commercials customers, referred to as "core" customers. Larger volume gas customers, like electric generators and industrial customers, are called "noncore" customers. Although very small in number relative to core customers, noncore customers*

consume about 65% of the natural gas delivered by the state's natural gas utilities, while core customers consume about 35%.

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

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

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

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

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

PG&E and SoCalGas own and operate several natural gas storage fields that are located within their service territories in northern and southern California, respectively. These storage fields, and four independently owned storage utilities - Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage - help meet peak seasonal and daily natural gas demand and allow California natural gas customers to secure

natural gas supplies more efficiently. PG&E is a 25% owner of the Gill Ranch Storage field. These storage fields provide a significant amount of infrastructure capacity to help meet California's natural gas requirements, and without these storage fields, California would need much more pipeline capacity in order to meet peak gas requirements .

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

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

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

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

In a 2006 decision, the Commission adopted a similar gas transmission framework for Southern California, called the "firm access rights" system. SoCalGas and SDG&E implemented the firm access rights (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." (15)

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.

California accounts for less than 1% of total U.S. natural gas reserves and production. As with crude oil, California's natural gas production has experienced a gradual decline since 1985. In 2021, about 33% of the natural gas delivered to consumers went to the State's industrial sector, and about 31% was delivered to the electric power sector. Natural gas fueled more than two-fifths of the State's utility-scale electricity generation in 2021. The residential sector, where three-fifths of California households use natural gas for home heating, accounted for 22% of natural gas deliveries. The commercial sector received 12% of the deliveries to end users and the transportation sector consumed the remaining 1% (16).

2.4 TRANSPORTATION ENERGY RESOURCES

The Project would generate additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. The Department of Motor Vehicles (DMV) identified 36.2 million registered vehicles in California (17), and those vehicles consume an estimated 17.2 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 396,616 lane miles, more than 26.6 million passenger vehicles and light trucks, and almost 9.0 million medium- and heavy-duty vehicles (17). While gasoline consumption has been declining since 2008 it is still by far the dominant fuel. California is the second-largest consumer of petroleum products, after Texas, and accounts for 10% of the nation's total consumption. The state is the largest U.S. consumer of motor gasoline and jet fuel, and 85% of the petroleum consumed in California is used in the transportation sector (16).

[1] Fuel consumptions estimated utilizing information from EMFAC2021.

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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 CALIFORNIA REGULATIONS

3.2.1 INTEGRATED ENERGY POLICY REPORT (IEPR)

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

The 2023 IEPR was adopted February 2024, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2023 IEPR introduces a new

framework for embedding equity and environmental justice at the CEC and the California Energy Planning Library which allows for easier access to energy data and analytics for a wide range of users. Additionally, energy reliability, western electricity integration, gasoline cost factors and price spikes, the role of hydrogen in California's clean energy future, fossil gas transition, and distributed energy resources are topics discussed within the 2023 IEPR (18).

3.2.2 State of California Energy Plan

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

3.2.3 California Code Title 24, Part 6, Energy Efficiency Standards

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code 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. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2009, and is administered by the California Building Standards Commission. CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that will be effective on January 1, 2023.

Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. CALGreen recognizes that many jurisdictions have developed existing construction waste and demolition ordinances and defers to them as the ruling guidance provided, they establish a minimum 65% diversion requirement.

The code also provides exemptions for areas not served by construction waste and demolition recycling infrastructure. The State Building Code provides the minimum standard that buildings must meet in order to be certified for occupancy, which is generally enforced by the local building official.

Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas (GHG) emissions. The 2022 version of Title 24 was adopted by the CEC and will be effective on January 1, 2023.

The 2022 Title 24 standards would result in less energy use, thereby reducing air pollutant emissions associated with energy consumption in the SCAB and across the State of California. For example, the 2022 Title 24 standards require solar photovoltaic systems for new homes, encourage the use of heat pumps for space and water heating, and require homes to be electric-

ready to ease the adoption of cleaner electric heating, cooking, and EV charging. The CEC anticipates that the 2022 energy code will provide $1.5 billion in consumer benefits and reduce GHG emissions by 10 million metric tons (19). The Project would be required to comply with the applicable standards in place at the time building permit document submittals are made. These require, among other items (20):

RESIDENTIAL MANDATORY MEASURES

- Electric vehicle (EV) charging stations. New construction shall comply with Section 4.106.4.1, 4.106.4.2, 4.106.4.3, to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the *California Electrical Code*, Article 625. (4.106.4).
    - New one- and two-family dwellings and town-houses with attached private garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere 208/240-volt minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.
    - New hotels and motels. All newly constructed hotels and motels shall provide EV spaces capable of supporting future installation of EVSE. The construction documents shall identify the location of the EV spaces. The number of required EV spaces shall be based on the total number of parking spaces provided for all types of parking facilities in accordance with Table 4.106.4.3.1.
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with Sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.1.4.
- Outdoor potable water use in landscape areas. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resource ' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.
- Operation and maintenance manual. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:
    - Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
    - Operations and maintenance instructions for the following:
        1. Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, EV chargers, water-heating systems and other major appliances and equipment.
        2. Roof and yard drainage, including gutter and downspouts.
        3. Space conditioning systems, including condensers and air filters.
        4. Landscape irrigation systems.

5. Water reuse systems.

- Information from local utility, water and waste recovery providers on methods to future reduce resource consumption, including recycle programs and locations.
- Public transportation and/or carpool options available in the area.
- Educational material on the positive impacts of an interior relative humidity between 30-60% and what methods an occupants may use to maintain the relative humidity level in that range.
- Information about water-conserving landscape and irrigation design and controllers which conserve water.
- Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
- Information about state solar energy and incentive programs available.
- A copy of all special inspection verifications required by the enforcing agency of this code.
- Information from CALFIRE on maintenance of defensible space around residential structures.

- Any installed gas fireplace shall be direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.
- Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the CARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat, or Nonflat-high Gloss coating, based on its glass, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 CARB, Suggested Control Measure, and the corresponding Flat, Nonflat, Nonflat-high Gloss VOC limit in Table 4.504.3 shall apply.

NONRESIDENTIAL MANDATORY MEASURES

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking for clean air vehicles. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).

- EV charging stations. New construction shall facilitate the future installation of EV supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. The number of spaces to be provided for is contained in Table 5.106. 5.3.3 (5.106.5.3). Additionally, Table 5.106.5.4.1 specifies requirements for the installation of raceway conduit and panel power requirements for medium- and heavy-duty electric vehicle supply equipment for warehouses, grocery stores, and retail stores.
- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, uplight and glare ratings per Table 5.106.8 (5.106.8).
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1. 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reuse or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
    - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
    - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor- mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
    - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
    - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).
- Outdoor potable water uses in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent (5.304.1).

- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new building or within an addition that is project to consume more than 1,000 gallons per day (GPD) (5.303.1.1 and 5.303.1.2).
- Outdoor water uses in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).
- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2)

3.2.4 AB 1493 Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Under this legislation, CARB adopted regulations to reduce GHG emissions from non-commercial passenger vehicles (cars and light-duty trucks). Although aimed at reducing GHG emissions, specifically, a co-benefit of the Pavley standards is an improvement in fuel efficiency and consequently a reduction in fuel consumption.

3.2.5 California's Renewable Portfolio Standard (RPS)

First established in 2002 under Senate Bill (SB) 1078, California's Renewable Portfolio Standards (RPS) requires retail sellers of electric services to increase procurement from eligible renewable resources to 33% of total retail sales by 2020 (21).

3.2.6 Clean Energy and Pollution Reduction Act of 2015 (SB 350)

In October 2015, the legislature approved, and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the renewables portfolio standard (RPS), higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 45% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States (California Leginfo 2015).

3.2.7 100 PERCENT CLEAN ENERGY ACT OF 2018 (SB 100)

In September 2018, the legislature approved, and the Governor signed SB 100, which builds on the targets established in SB 1078 and SB 350. Most notably, SB 100 sets a goal of powering all retail electricity sold in California with renewable and zero-carbon resources. Additionally, SB 100 updates the interim renewables target from 50% to 60% by 2030.

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4 PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES

4.1 EVALUATION CRITERIA

In compliance with Appendix G of the *State CEQA Guidelines* (22), this report analyzes the project's anticipated energy use during construction and operations to determine if the Project would:

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

In addition, Appendix F of the *State CEQA Guidelines* (23), states that the means of achieving the goal of energy conservation includes the following:

- 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.

4.2 METHODOLOGY

Information from the CalEEMod Version 2022 outputs for the *Green River Ranch Specific Plan Amendment Air Quality Impact Analysis* (AQIA) (24) 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 conjunction with other California air districts, including SCAQMD, released CalEEMod 2022 in May 2022. CalEEMod periodically releases updates, as such the latest version available at the time of this report has been utilized in this analysis. 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 (25). 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 construction and operational model runs are provided in Appendices 4.1 through 4.2.

4.2.2 EMISSION FACTORS MODEL

On May 2, 2022, the EPA approved the 2021 version of the EMissions FACtor model (EMFAC) web database for use in State Implementation Plan and transportation conformity analyses. EMFAC2021 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 (26). This energy study utilizes the different fuel types for each vehicle class from the annual EMFAC2021 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 2024, 2025 and 2026 analysis years were utilized to determine the average vehicle fuel economy used throughout the duration of the Project. Output from the EMFAC2021 model run is provided in Appendix 4.3.

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 total Project construction power costs is the summation of the products of the area (sf) by the construction duration and the typical power cost.

CONSTRUCTION DURATION

For purposes of analysis, construction of Planning Areas 1,2, and 3 is expected to commence in January 2024 and will last through December 2024. Construction of Planning Areas 4 and 5 would commence in January 2025 and end in August 2025 (24). 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* (27).

TABLE 4-1: CONSTRUCTION DURATION

Phase Name	Start Date	End Date	Days
Planning Areas 1, 2, and 3			
Demolition	1/1/2024	2/9/2024	30
Site Preparation	2/12/2024	3/8/2024	20
Grading	3/11/2024	5/17/2024	50
Building Construction	5/20/2024	12/27/2024	160
Paving	9/16/2024	12/27/2024	75
Architectural Coating	6/3/2024	12/27/2024	150
Planning Areas 4 and 5			
Site Preparation	1/1/2025	1/28/2025	20
Grading	1/29/2025	4/1/2025	45
Building Construction	4/2/2025	8/19/2025	100
Paving	7/2/2025	8/19/2025	35
Architectural Coating	5/7/2025	8/19/2025	70

PROJECT CONSTRUCTION POWER COST

The *2024 National Construction Estimator* identifies a typical power cost per 1,000 sf of construction per month of $2.66, which was used to calculate the Project's total construction power cost (28).

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 $85,033.96.

TABLE 4-2: CONSTRUCTION POWER COST

Land Use	Power Cost (per 1,000 SF of construction per month)	Size (1,000 SF)	Construction Duration (months)	Project Construction Power Cost
Planning Areas 1, 2, and 3				
Industrial Park	$2.66	634.242	11	$18,557.92
High-Cube Cold Storage Warehouse	$2.66	111.925	11	$3,274.93
Parking Lot	$2.66	207.423	11	$6,069.20
Other Asphalt Surfaces	$2.66	1,194.417	11	$34,948.64
Planning Areas 4 and 5				
Super Convenience Market/Gas Station	$2.66	17.100	7	$318.40
Fast-Food Restaurant with Drive-Thru	$2.66	2.500	7	$46.55
Single Family Detached Residential	$2.66	888.190	7	$16,538.10
High Turnover (Sit Down Restaurant)	$2.66	9.500	7	$176.89
Quality Restaurant	$2.66	4.200	7	$78.20
Other Asphalt Surfaces	$2.66	269.878	7	$5,025.13
			CONSTRUCTION POWER COST	***$85,033.96***

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 was used to determine the Project's electrical usage. As of March 1, 2024, SCE's general service rate is $0.15 per kilowatt hours (kWh) of electricity for industrial services and $0.20 per kilowatt hours (kWh) of electricity for residential services (29). As shown on Table 4-3, the total electricity usage from on-site Project construction related activities is estimated to be approximately 549,793 kWh.

TABLE 4-3: CONSTRUCTION ELECTRICITY USAGE

Land Use	Cost per kWh	Project Construction Electricity Usage (kWh)
Planning Areas 1, 2, and 3		
Industrial Park	$0.15	126,554
High-Cube Cold Storage Warehouse	$0.15	22,333
Parking Lot	$0.15	41,388
Other Asphalt Surfaces	$0.15	238,330
Planning Areas 4 and 5		
Super Convenience Market/Gas Station	$0.15	2,171
Fast-Food Restaurant with Drive-Thru	$0.15	317
Single Family Detached Residential	$0.20	82,690
High Turnover (Sit Down Restaurant)	$0.15	1,206
Quality Restaurant	$0.15	533
Other Asphalt Surfaces	$0.15	34,268
CONSTRUCTION ELECTRICITY USAGE		***549,793***

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 (1 OF 2)

Phase Name	Equipment	Amount	Hours Per Day
Planning Areas 1, 2, and 3			
Demolition	Concrete/Industrial Saws	2	8
	Excavators	5	8
	Rubber Tired Dozers	4	8
Site Preparation	Crawler Tractors	6	8
	Rubber Tired Dozers	5	8

TABLE 4-4: CONSTRUCTION EQUIPMENT ASSUMPTIONS (2 OF 2)

Phase Name	Equipment	Amount	Hours Per Day
Planning Areas 1, 2,and 3			
Grading	Crawler Tractors	4	8
	Excavators	4	8
	Graders	2	8
	Rubber Tired Dozers	2	8
	Scrapers	4	8
Building Construction	Cranes	2	8
	Crawler Tractors	6	8
	Forklifts	6	8
	Generator Sets	2	8
	Welders	2	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8
Planning Areas 4 and 5			
Site Preparation	Crawler Tractors	4	8
	Rubber Tired Dozers	3	8
Grading	Crawler Tractors	2	8
	Excavators	2	8
	Graders	1	8
	Rubber Tired Dozers	1	8
	Scrapers	2	8
Building Construction	Cranes	2	8
	Crawler Tractors	6	8
	Forklifts	6	8
	Generator Sets	2	8
	Welders	2	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8

PROJECT CONSTRUCTION EQUIPMENT FUEL CONSUMPTION

Project construction activity timeline estimates, construction equipment schedules, equipment power ratings, load factors, and associated fuel consumption estimates are presented in Table 4-5. The aggregate fuel consumption rate for all equipment is estimated at 18.5 horsepower hour per gallon (hp-hr-gal.), obtained from CARB 2018 Emissions Factors Tables and cited fuel consumption rate factors presented in Table D-24 of the Moyer guidelines (30). 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 Project area and region[2]. As presented in Table 4-5, Project construction activities would consume an estimated 143,894 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 (1 OF 2)

Phase Name	Duration (Days)	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption
Planning Areas 1, 2,and 3								
Demolition	30	Concrete/Industrial Saws	33	2	8	0.73	385	625
		Excavators	36	5	8	0.38	547	887
		Rubber Tired Dozers	367	4	8	0.4	4,698	7,618
Site Preparation	20	Rubber Tired Dozers	367	5	8	0.4	5,872	6,348
		Crawler Tractors	87	6	8	0.43	1,796	1,941
Grading	50	Excavators	36	4	8	0.38	438	1,183
		Graders	148	2	8	0.41	971	2,624
		Rubber Tired Dozers	367	2	8	0.4	2,349	6,348
		Scrapers	423	4	8	0.48	6,497	17,560
		Crawler Tractors	87	4	8	0.43	1,197	3,235
Building Construction	160	Cranes	367	2	8	0.29	1,703	14,728
		Forklifts	82	6	8	0.2	787	6,808
		Generator Sets	14	2	8	0.74	166	1,434
		Crawler Tractors	87	6	8	0.43	1,796	15,530
		Welders	46	2	8	0.45	331	2,864
Paving	75	Pavers	81	2	8	0.42	544	2,207
		Paving Equipment	89	2	8	0.36	513	2,078
		Rollers	36	2	8	0.38	219	887
Architectural Coating	150	Air Compressors	37	1	8	0.48	142	1,152

TABLE 4-5: CONSTRUCTION EQUIPMENT FUEL CONSUMPTION ESTIMATES (2 OF 2)

Phase Name	Duration (Days)	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption
Planning Areas 4 and 5								
Site Preparation	20	Rubber Tired Dozers	367	3	8	0.4	3,523	3,809
		Crawler Tractors	87	4	8	0.43	1,197	1,294
Grading	45	Excavators	36	2	8	0.38	219	532
		Graders	148	1	8	0.41	485	1,181
		Rubber Tired Dozers	367	1	8	0.4	1,174	2,857
		Scrapers	423	2	8	0.48	3,249	7,902
		Crawler Tractors	87	2	8	0.43	599	1,456
Building Construction	100	Cranes	367	2	8	0.29	1,703	9,205
		Forklifts	82	6	8	0.2	787	4,255
		Generator Sets	14	2	8	0.74	166	896
		Crawler Tractors	87	6	8	0.43	1,796	9,706
		Welders	46	2	8	0.45	331	1,790
Paving	35	Pavers	81	2	8	0.42	544	1,030
		Paving Equipment	89	2	8	0.36	513	970
		Rollers	36	2	8	0.38	219	414
Architectural Coating	70	Air Compressors	37	1	8	0.48	142	538
CONSTRUCTION FUEL DEMAND (GALLONS DIESEL FUEL)								***143,894***

4.3.3 CONSTRUCTION TRIPS AND VMT

Construction generates on-road vehicle emissions from vehicle usage for workers, hauling, and vendors commuting to and from the site. The number of workers, hauling, and vendor trips are presented below in Table 4-6. It should be noted that for Vendor Trips, specifically, CalEEMod only assigns Vendor Trips to the Building Construction phase. Vendor trips would likely occur during all phases of construction. As such, the CalEEMod defaults for Vendor Trips have been adjusted based on a ratio of the total vendor trips to the number of days of each subphase of activity.

TABLE 4-6: CONSTRUCTION TRIPS AND VMT

Phase Type	Worker Trips Per Day	Vendor Trips Per Day	Hauling Trips Per Day
Planning Areas 1, 2,and 3			
Demolition	28	14	1
Site Preparation	28	9	0
Grading	40	23	368
Building Construction	313	75	0
Paving	15	0	0
Architectural	63	0	0
Planning Areas 4 and 5			
Site Preparation	18	1	0
Grading	20	2	0
Building Construction	24	5	0
Paving	15	0	0
Architectural	5	0	0

4.3.4 CONSTRUCTION WORKER FUEL ESTIMATES

With respect to estimated VMT for the Project, the construction worker trips would generate an estimated 1,282,605 VMT during the 18 months of construction (11 months for Planning Areas 1, 2, and 3 and 7 months for Planning Areas 4 and 5) (24). Based on CalEEMod methodology, it is assumed that 50% of all vendor trips are from light-duty-auto vehicles (LDA), 25% are from light-duty-trucks (LDT1[3]), and 25% are from light-duty-trucks (LDT2[4]). Data regarding Project related construction worker trips were based on CalEEMod defaults utilized within the AQIA.

Vehicle fuel efficiencies for LDA, LDT1, and LDT2 were estimated using information generated within the 2021 version of the EMFAC developed by CARB. EMFAC2021 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

[3] 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.

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

CARB to project changes in future emissions from on-road mobile sources (26). EMFAC2021 was run for the LDA, LDT1, and LDT2 vehicle class within the Riverside (SC) sub-area for the 2024 through 2025 calendar years. Data from EMFAC2021 is shown in Appendix 4.3.

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 20,240 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

Phase Name	Duration (Days)	Worker Trips / Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Planning Areas 1, 2, and 3						
Demolition	30	14	18.5	7,770	31.51	247
Site Preparation	20	14	18.5	5,180	31.51	164
Grading	50	20	18.5	18,500	31.51	587
Building Construction	160	157	18.5	464,720	31.51	14,750
Paving	75	8	18.5	11,100	31.51	352
Architectural Coating	150	32	18.5	88,800	31.51	2,818
Planning Areas 4 and 5						
Site Preparation	20	9	18.5	3,330	32.49	102
Grading	45	10	18.5	8,325	32.49	256
Building Construction	100	12	18.5	22,200	32.49	683
Paving	35	8	18.5	5,180	32.49	159
Architectural Coating	70	3	18.5	3,885	32.49	120
PROJECT CONSTRUCTION WORKER (LDA) FUEL CONSUMPTION						***20,240***

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 13,051 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 (1 OF 2)

Phase Name	Duration (Days)	Worker Trips / Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Planning Areas 1, 2, and 3						
Demolition	30	7	18.5	3,885	24.62	158
Site Preparation	20	7	18.5	2,590	24.62	105
Grading	50	10	18.5	9,250	24.62	376

TABLE 4-8: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES – LDT1 (2 OF 2)

Phase Name	Duration (Days)	Worker Trips / Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Planning Areas 1, 2, and 3						
Building Construction	160	79	18.5	233,840	24.62	9,497
Paving	75	4	18.5	5,550	24.62	225
Architectural Coating	150	16	18.5	44,400	24.62	1,803
Planning Areas 4 and 5						
Site Preparation	20	5	18.5	1,850	25.14	74
Grading	45	5	18.5	4,163	25.14	166
Building Construction	100	6	18.5	11,100	25.14	442
Paving	35	4	18.5	2,590	25.14	103
Architectural Coating	70	2	18.5	2,590	25.14	103
PROJECT CONSTRUCTION WORKER (LDT1) FUEL CONSUMPTION						***13,051***

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 13,071 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

Phase Name	Duration (Days)	Worker Trips / Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Planning Areas 1, 2, and 3						
Demolition	30	7	18.5	3,885	24.57	158
Site Preparation	20	7	18.5	2,590	24.57	105
Grading	50	10	18.5	9,250	24.57	376
Building Construction	160	79	18.5	233,840	24.57	9,516
Paving	75	4	18.5	5,550	24.57	226
Architectural Coating	150	16	18.5	44,400	24.57	1,807
Planning Areas 4 and 5						
Site Preparation	20	5	18.5	1,850	25.29	73
Grading	45	5	18.5	4,163	25.29	165
Building Construction	100	6	18.5	11,100	25.29	439
Paving	35	4	18.5	2,590	25.29	102
Architectural Coating	70	2	18.5	2,590	25.29	102
PROJECT CONSTRUCTION WORKER (LDT2) FUEL CONSUMPTION						***13,071***

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

4.3.5 CONSTRUCTION VENDOR AND HAULING FUEL ESTIMATES

With respect to estimated VMT, the construction vendor (vehicles that deliver materials to the site during construction) and hauling trips would generate an estimated 519,242 VMT along area roadways for the Project over the duration of construction activity (24). It is assumed that 50% of all vendor trips are from medium-heavy duty trucks (MHDT), 50% are from heavy-heavy duty trucks (HHDT), and 100% of hauling trips are from HHDT. These assumptions are consistent with the CalEEMod defaults utilized within the within the AQIA (24). Vehicle fuel efficiencies for MHDTs and HHDTs were estimated using information generated within EMFAC2021. EMFAC2021 was run for the MHDT and HHDT vehicle classes within the Riverside (SC) sub-area for the 2024 through 2025 calendar years. Data from EMFAC2021 is shown in Appendix 4.3.

Based on Table 4-10, it is estimated that 8,827 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

Phase Name	Duration (Days)	Vendor Trips / Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Planning Areas 1, 2,and 3						
Demolition	30	7	10.2	2,142	8.49	252
Site Preparation	20	5	10.2	1,020	8.49	120
Grading	50	12	10.2	6,120	8.49	721
Building Construction	160	38	10.2	62,016	8.49	7,301
Planning Areas 4 and 5						
Site Preparation	20	1	10.2	204	8.60	24
Grading	45	1	10.2	459	8.60	53
Building Construction	100	3	10.2	3,060	8.60	356
PROJECT CONSTRUCTION VENDOR (MHDT) FUEL CONSUMPTION						***8,827***

Tables 4-11 shows the estimated fuel economy of HHDTs accessing the Project site. Based on Tables 4-11, fuel consumption from construction vendor and hauling trips (HHDTs) will total approximately 72,564 gallons.

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

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

Phase Name	Duration (Days)	Vendor/ Hauling Trips / Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Vendor						
Planning Areas 1, 2, and 3						
Demolition	30	7	10.2	2,142	6.12	350
Site Preparation	20	5	10.2	1,020	6.12	167
Grading	50	12	10.2	6,120	6.12	1,000
Building Construction	160	38	10.2	62,016	6.12	10,132
Planning Areas 4 and 5						
Site Preparation	20	1	10.2	204	6.22	33
Grading	45	1	10.2	459	6.22	74
Building Construction	100	3	10.2	3,060	6.22	492
Hauling						
Planning Areas 1, 2, and 3						
Demolition	30	2	20	1,200	6.12	196
Grading	50	368	20	368,000	6.12	60,121
PROJECT CONSTRUCTION VENDOR/HAULING (HHDT) FUEL CONSUMPTION						***72,564***

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. As with worker and vendors trips, operational vehicle fuel efficiencies were estimated using information generated within EMFAC2021 developed by CARB (26). EMFAC2021 was run for the Riverside (SC) sub-area for the 2026 calendar years. Data from EMFAC2021 is shown in Appendix 4.3.

In order to account for the possibility of refrigerated uses (cold storage), it is assumed that all trucks accessing this land use are presumed to also have transport refrigeration units (TRUs). Therefore, for modeling purposes 43 trucks are assumed to be trucks with TRUs. TRUs are also accounted for during on-site and off-site travel. The TRU calculations are based on EMFAC2021.

The estimated transportation energy demands are summarized on Table 4-12. As summarized on Table 4-12, the Project would result in 1,522,736 annual VMT and an estimated annual fuel consumption of 28,784,264 gallons of fuel.

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

Vehicle Type	Average Vehicle Fuel Economy (mpg)	Annual VMT	Estimated Annual Fuel Consumption (gallons)
LDA	33.43	13,486,488	403,377
LDT1	25.70	1,395,108	54,280
LDT2	26.01	4,407,750	169,473
MDV	20.88	3,589,740	171,925
LHD1	16.89	1,002,201	59,323
LHD2	16.01	282,646	17,657
MHD	8.72	990,075	113,476
HHD	6.33	2,938,181	464,462
OBUS	6.71	6,947	1,035
UBUS	4.56	3,553	780
MCY	42.07	607,498	14,440
SBUS	6.43	12,406	1,928
MH	5.86	61,670	10,530
TRUs			40,049
TOTAL (ALL VEHICLES)		***28,784,264***	***1,522,736***

4.4.2 STATIONARY SOURCE ENERGY DEMANDS

Fuel consumption estimates from stationary sources are presented in Table 4-13. As previously stated, the aggregate fuel consumption rate for all equipment is estimated at 18.5 hp-hr-gal., obtained from CARB 2018 Emissions Factors Tables and cited fuel consumption rate factors presented in Table D-24 of the Moyer guidelines. For the purposes of this analysis, the calculations are based on five 300 hp diesel-fueled generators. Diesel fuel would be supplied by existing commercial fuel providers serving the region. As presented in Table 4-13, Project stationary sources would consume an estimated 2,825 gallons of diesel fuel.

TABLE 4-13: STATIONARY SOURCE EQUIPMENT FUEL CONSUMPTION ESTIMATES

Equipment	HP Rating	Quantity	Usage Hours	Annual Hourly Usage	Load Factor	HP-hrs/day	Total Fuel Consumption
Fire Pump	300	5	1	50	0.73	219	2,825
STATIONARY SOURCE FUEL DEMAND (GALLONS DIESEL FUEL)							***2,825***

4.4.3 FACILITY ENERGY DEMANDS

The Project operational 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 2022 Title 24 and CALGreen standards. Annual natural gas and electricity demands of the Project are summarized in Table 4-14 and provided in Appendix 4.2.

TABLE 4-14: PROJECT ANNUAL OPERATIONAL ENERGY DEMAND SUMMARY

Natural Gas Demand	**kBTU/year**
Planning Areas 1, 2, and 3	
Industrial Park	17,496,615
High-Cube Cold Storage Warehouse	2,961,653
Planning Areas 4, and 5	
Super Convenience Market/Gas Station	287,019
Fast-Food Restaurant with Drive-Thru	285,147
Single Family Detached Residential	1,138,058
High Turnover (Sit Down Restaurant)	1,083,559
Quality Restaurant	479,047
TOTAL PROPOSED PROJECT NATURAL GAS DEMAND	***23,731,098***
Electricity Demand	**kWh/year**
Planning Areas 1, 2, and 3	
Industrial Park	11,063,192
High-Cube Cold Storage Warehouse	2,447,749
Parking Lot	181,635
Planning Areas 4, and 5	
Super Convenience Market/Gas Station	548,563
Fast-Food Restaurant with Drive-Thru	87,787
Single Family Detached Residential	298,856
High Turnover (Sit Down Restaurant)	333,592
Quality Restaurant	147,483
TOTAL PROJECT ELECTRICITY DEMAND	***15,108,857***

kBTU – kilo-British Thermal Units
kWh - Kilo Watt Hours

4.4.3 Operational Energy Efficiency/Conservation Measures

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

Enhanced Vehicle Fuel Efficiencies

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

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

The Property Owner/Developer would comply with the City's transportation demand management ordinance (see Chapter 17.78 of the Development Code).

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 $85,033.96. 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 549,793 kWh.

Construction equipment used by the Project would result in single event consumption of approximately 143,894 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 46,362 gallons of fuel. Additionally, fuel consumption from construction vendor and hauling trips (MHDTs and HHDTs) will total approximately 81,392 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 2023 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 (31). 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

Annual vehicular trips and related VMT generated by the operation of the Project would result in a fuel demand of 1,522,736 gallons of fuel.

Fuel would be provided by current and future commercial vendors. Trip generation and VMT generated by the Project are consistent with other industrial uses of similar scale and configuration, as reflected respectively in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Ed., 2021); and CalEEMod. As such, Project operations would not result in excessive and wasteful vehicle trips and VMT, nor excess and wasteful vehicle energy consumption compared to other residential and commercial uses.

It should be noted that the state strategy for the transportation sector for medium and heavy-duty trucks is focused on making trucks more efficient and expediting truck turnover rather than reducing VMT from trucks. This is in contrast to the passenger vehicle component of the transportation sector where both per-capita VMT reductions and an increase in vehicle efficiency are forecasted to be needed to achieve the overall state emissions reductions goals.

Heavy duty trucks involved in goods movements are generally controlled on the technology side and through fleet turnover of older trucks and engines to newer and cleaner trucks and engines. The first battery-electric heavy-heavy duty trucks are being tested this year and SCAQMD is looking to integrate this new technology into large-scale truck operations. The following state strategies reduce GHG emissions from the medium and heavy-duty trucks:

- CARB's Mobile Source Strategy focuses on reducing GHGs through the transition to zero and low emission vehicles and from medium-duty and heavy-duty trucks.
- CARB's Sustainable Freight Action Plan establishes a goal to improve freight efficiency by 25 percent by 2030, deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.
- CARB's Emissions Reduction Plan for Ports and Goods Movement (Goods Movement Plan) in California focuses on reducing heavy-duty truck-related emissions focus on establishment of emissions standards for trucks, fleet turnover, truck retrofits, and restriction on truck idling (CARB 2006). While the focus of Goods Movement Plan is to reduce criteria air pollutant and air toxic

emissions, the strategies to reduce these pollutants would also generally have a beneficial effect in reducing GHG emissions.

- CARB's On-Road Truck and Bus Regulation (2010) requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet particulate matter filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023 nearly all trucks and buses will need to have 2010 model year engines or equivalent (32).
- CARB's Heavy-Duty (Tractor-Trailer) GHG Regulation requires SmartWay tractor trailers that include idle-reduction technologies, aerodynamic technologies, and low-rolling resistant tires that would reduce fuel consumption and associated GHG emissions.

The proposed Project would implement project design features that would facilitate the accessibility, parking, and loading of trucks on site.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. The Project would implement sidewalks, 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. 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: 23,731,098 kBTU/year of natural gas; and 15,108,857 kWh/year of electricity. Natural gas would be supplied to the Project by SoCalGas; electricity would be supplied by SCE. The Project proposes conventional residential and commercial 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 residential and commercial uses 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.

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5 CONCLUSIONS

5.1 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?

Impact Analysis

A significant impact would occur if the proposed Project would result in the inefficient, wasteful, or unnecessary use of energy.

Construction

Based on CalEEMod estimations within the modeling output files used to estimate GHG emissions associated with future development projects under the Community Plan, construction-related vehicle trips would result in approximately 1.80 million VMT and consume an estimated 127,753 gallons of gasoline and diesel combined during future development projects construction phases. Additionally, on-site construction equipment would consume an estimated 143,894 gallons of diesel fuel. Limitations on idling of vehicles and equipment and requirements that equipment be properly maintained would result in fuel savings. California Code of Regulations, Title 13, Sections 2449 and 2485, limit idling from both on-road and off-road diesel- powered equipment and are enforced by the ARB. Additionally, given the cost of fuel, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction.

Due to the temporary nature of construction and the financial incentives for developers and contractors to use energy-consuming resources in an efficient manner, the construction phase of the proposed project would not result in wasteful, inefficient, and unnecessary consumption of energy. Therefore, the construction-related impacts related to electricity and fuel consumption would be less than significant.

Operation

Electricity and Natural Gas

Operation of the proposed project would consume energy as part of building operations and transportation activities. Building operations would involve energy consumption for multiple purposes including, but not limited to, building heating and cooling, refrigeration, lighting, and electronics. Based on CalEEMod energy use estimations, operations for the Project would result in approximately 15,108,857 kWh of electricity and 23,731,098 kBTU/year of natural gas annually.

Future development projects would be designed and constructed in accordance with the City's latest adopted energy efficiency standards, which are based on the California Title 24 energy efficiency standards. Title 24 standards include a broad set of energy conservation requirements

that apply to the structural, mechanical, electrical, and plumbing systems in a building. For example, the Title 24 Lighting Power Density requirements define the maximum wattage of lighting that can be used in a building based on its square footage. Title 24 standards are widely regarded as the most advanced energy efficiency standards, would help reduce the amount of energy required for lighting, water heating, and heating and air conditioning in buildings and promote energy conservation.

Fuel

Operational energy would also be consumed during vehicle trips associated with future development projects envisioned under the proposed project. Fuel consumption would be primarily related to vehicle use by residents, visitors, and employees associated with future development projects. Based on CalEEMod energy use estimations, project-related vehicle trips would result in approximately 28.78 million VMT and consume an estimated 1,522,736 gallons of gasoline and diesel combined, annually (see Appendix 3.3).

The Project is located on an infill site that is surrounded by existing urban uses, the existing transportation facilities and infrastructure would provide future residents, visitors, and employees associated with the Project access to a mix of land uses in close proximity to the Project, thus further reducing fuel consumption demand. Additionally, the Project will also be providing parking and EV infrastructure that would further promote fuel efficient vehicles. For these reasons, operational-related transportation fuel consumption would not result in a significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources. Therefore, the operational impact related to vehicle fuel consumption would be less than significant.

5.2 ENERGY IMPACT 2

Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Impact Analysis

A significant impact would occur if the proposed Project would conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

Construction

As discussed in Section 5.1, above, the proposed project would result in energy consumption through the combustion of fossil fuels in construction vehicles, worker commute vehicles, and construction equipment, and the use of electricity for temporary buildings, lighting, and other sources. California Code of Regulations Title 13, Sections 2449 and 2485, limit idling from both on- road and off-road diesel-powered equipment and are enforced by the ARB. The proposed project would comply with these regulations. There are no policies at the local level applicable to energy conservation specific to the construction phase. Thus, it is anticipated that construction of the proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing energy use or increasing the use of renewable energy. Therefore,

construction- related energy efficiency and renewable energy standards consistency impacts would be less than significant.

Operation

California's Renewable Portfolio Standard (RPS) establishes a goal of renewable energy for local providers to be 44 percent by 2040. Similarly, the State is promoting renewable energy targets to meet the 2022 Scoping Plan greenhouse gas emissions reductions. As discussed in Section 5.1, above, the Project would result in approximately 15,108,857 kWh of electricity and 23,731,098 kBTU/year of natural gas annually.

Future development projects would be designed and constructed in accordance with the City's latest adopted energy efficiency standards, which are based on the California Title 24 energy efficiency standards. Title 24 standards include a broad set of energy conservation requirements that apply to the structural, mechanical, electrical, and plumbing systems in a building. For example, the Title 24 Lighting Power Density requirements define the maximum wattage of lighting that can be used in a building based on its square footage. Title 24 standards are widely regarded as the most advanced energy efficiency standards, would help reduce the amount of energy required for lighting, water heating, and heating and air conditioning in buildings and promote energy conservation.

Compliance with the aforementioned mandatory measures would ensure that future development projects would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing energy use or increasing the use of renewable energy. Therefore, operational energy efficiency and renewable energy standards consistency impacts would be less than significant.

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7 CERTIFICATIONS

The contents of this energy analysis report represent an accurate depiction of the environmental impacts associated with the proposed Green River Ranch Specific Plan Amendment. 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 hqureshi@urbanxroads.com.

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EDUCATION

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

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

PROFESSIONAL AFFILIATIONS

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

PROFESSIONAL CERTIFICATIONS

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

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APPENDIX 4.1:

CALEEMOD PROJECT CONSTRUCTION EMISSIONS MODEL OUTPUTS

12630-Green River Ranch Specific Plan Amendment (Construction Planning Areas 1-3) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	12630-Green River Ranch Specific Plan Amendment (Construction Planning Areas 1-3)
Construction Start Date	1/1/2024
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	21.0
Location	33.878704, -117.642199
County	Riverside-South Coast
City	Corona
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5472
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.13

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Industrial Park	634	1000sqft	14.6	634,242	0.00	—	—	—

Refrigerated Warehouse-No Rail	112	1000sqft	2.57	111,925	0.00	—	—	—
Parking Lot	1,213	Space	4.76	0.00	0.00	—	—	—
Other Asphalt Surfaces	27.4	Acre	27.4	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.7	33.8	105	77.1	0.30	4.04	12.8	16.8	3.76	4.01	7.77	—	40,459	40,459	1.05	4.38	58.7	41,850
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.7	33.6	107	72.6	0.30	4.04	12.8	16.8	3.76	4.57	7.90	—	40,426	40,426	1.05	4.38	1.52	41,760
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.71	15.6	41.7	45.0	0.09	1.94	4.74	6.68	1.79	1.39	3.17	—	12,778	12,778	0.43	0.88	8.96	13,060
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.04	2.84	7.62	8.21	0.02	0.35	0.86	1.22	0.33	0.25	0.58	—	2,116	2,116	0.07	0.15	1.48	2,162

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	10.7	33.8	105	77.1	0.30	4.04	12.8	16.8	3.76	4.01	7.77	—	40,459	40,459	1.05	4.38	58.7	41,850
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	10.7	33.6	107	72.6	0.30	4.04	12.8	16.8	3.76	4.57	7.90	—	40,426	40,426	1.05	4.38	1.52	41,760
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	5.71	15.6	41.7	45.0	0.09	1.94	4.74	6.68	1.79	1.39	3.17	—	12,778	12,778	0.43	0.88	8.96	13,060
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.04	2.84	7.62	8.21	0.02	0.35	0.86	1.22	0.33	0.25	0.58	—	2,116	2,116	0.07	0.15	1.48	2,162

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	6.12	5.13	48.9	42.5	0.06	2.09	—	2.09	1.92	—	1.92	—	6,709	6,709	0.27	0.05	—	6,732

Demolition	—	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	4.02	3.49	0.01	0.17	—	0.17	0.16	—	0.16	—	551	551	0.02	< 0.005	—	553
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.73	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	91.3	91.3	< 0.005	< 0.005	—	91.6
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.13	0.16	1.74	0.00	0.00	0.36	0.36	0.00	0.08	0.08	—	364	364	0.02	0.01	0.04	368
Vendor	0.02	0.01	0.52	0.16	< 0.005	0.01	0.12	0.13	0.01	0.03	0.04	—	435	435	0.01	0.07	0.03	455
Hauling	< 0.005	< 0.005	0.06	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	53.7	53.7	< 0.005	0.01	< 0.005	56.3
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.3	30.3	< 0.005	< 0.005	0.06	30.7
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.7	35.7	< 0.005	0.01	0.04	37.4

Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.41	4.41	< 0.005	< 0.005	< 0.005	4.63
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.01	5.01	< 0.005	< 0.005	0.01	5.08
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.92	5.92	< 0.005	< 0.005	0.01	6.19
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.77

3.3. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	8.65	7.27	69.0	57.2	0.08	3.61	—	3.61	3.32	—	3.32	—	8,983	8,983	0.36	0.07	—	9,014
Dust From Material Movement	—	—	—	—	—	—	9.35	9.35	—	4.47	4.47	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	0.40	3.78	3.13	< 0.005	0.20	—	0.20	0.18	—	0.18	—	492	492	0.02	< 0.005	—	494
Dust From Material Movement	—	—	—	—	—	—	0.51	0.51	—	0.24	0.24	—	—	—	—	—	—	—

Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.69	0.57	< 0.005	0.04	—	0.04	0.03	—	0.03	—	81.5	81.5	< 0.005	< 0.005	—	81.8
Dust From Material Movement	—	—	—	—	—	—	0.09	0.09	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.13	0.16	1.74	0.00	0.00	0.36	0.36	0.00	0.08	0.08	—	364	364	0.02	0.01	0.04	368
Vendor	0.01	0.01	0.33	0.10	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	280	280	0.01	0.04	0.02	292
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.2	20.2	< 0.005	< 0.005	0.04	20.5
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.3	15.3	< 0.005	< 0.005	0.02	16.0
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.34	3.34	< 0.005	< 0.005	0.01	3.39
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.54	2.54	< 0.005	< 0.005	< 0.005	2.65
Hauling	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	0.00

3.5. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	9.38	7.88	75.1	62.7	0.12	3.55	—	3.55	3.26	—	3.26	—	13,430	13,430	0.54	0.11	—	13,476
Dust From Material Movement	—	—	—	—	—	—	5.38	5.38	—	1.97	1.97	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	9.38	7.88	75.1	62.7	0.12	3.55	—	3.55	3.26	—	3.26	—	13,430	13,430	0.54	0.11	—	13,476
Dust From Material Movement	—	—	—	—	—	—	5.38	5.38	—	1.97	1.97	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	1.08	10.3	8.59	0.02	0.49	—	0.49	0.45	—	0.45	—	1,840	1,840	0.07	0.01	—	1,846
Dust From Material Movement	—	—	—	—	—	—	0.74	0.74	—	0.27	0.27	—	—	—	—	—	—	—

Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.20	1.88	1.57	< 0.005	0.09	—	0.09	0.08	—	0.08	—	305	305	0.01	< 0.005	—	306
Dust From Material Movement	—	—	—	—	—	—	0.13	0.13	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.21	0.19	3.34	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	576	576	0.02	0.02	2.28	585
Vendor	0.03	0.02	0.81	0.25	0.01	0.01	0.20	0.21	0.01	0.05	0.06	—	714	714	0.02	0.11	2.01	748
Hauling	1.06	0.41	29.1	7.01	0.17	0.49	6.65	7.14	0.49	1.87	2.35	—	25,739	25,739	0.47	4.15	54.5	27,041
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.19	0.23	2.52	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	529	529	0.03	0.02	0.06	536
Vendor	0.03	0.02	0.85	0.26	0.01	0.01	0.20	0.21	0.01	0.05	0.06	—	715	715	0.02	0.11	0.05	747
Hauling	1.03	0.38	30.3	7.13	0.17	0.49	6.65	7.14	0.49	1.87	2.35	—	25,752	25,752	0.46	4.15	1.41	27,002
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.36	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.4	73.4	< 0.005	< 0.005	0.14	74.4
Vendor	< 0.005	< 0.005	0.12	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	97.8	97.8	< 0.005	0.01	0.12	102
Hauling	0.14	0.05	4.18	0.97	0.02	0.07	0.90	0.97	0.07	0.25	0.32	—	3,527	3,527	0.06	0.57	3.21	3,701
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	12.3
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	16.2	16.2	< 0.005	< 0.005	0.02	17.0

Hauling	0.03	0.01	0.76	0.18	< 0.005	0.01	0.16	0.18	0.01	0.05	0.06	—	584	584	0.01	0.09	0.53	613

3.7. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.61	3.87	34.2	32.0	0.05	2.05	—	2.05	1.89	—	1.89	—	5,611	5,611	0.23	0.05	—	5,630
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.61	3.87	34.2	32.0	0.05	2.05	—	2.05	1.89	—	1.89	—	5,611	5,611	0.23	0.05	—	5,630
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.02	1.69	15.0	14.0	0.02	0.90	—	0.90	0.83	—	0.83	—	2,460	2,460	0.10	0.02	—	2,468
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.31	2.73	2.56	< 0.005	0.16	—	0.16	0.15	—	0.15	—	407	407	0.02	< 0.005	—	409
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.76	1.61	1.51	26.2	0.00	0.00	4.10	4.10	0.00	0.96	0.96	—	4,511	4,511	0.19	0.16	17.9	4,580
Vendor	0.11	0.07	2.64	0.82	0.02	0.03	0.64	0.68	0.03	0.18	0.21	—	2,329	2,329	0.05	0.35	6.56	2,440
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.67	1.51	1.78	19.8	0.00	0.00	4.10	4.10	0.00	0.96	0.96	—	4,145	4,145	0.20	0.16	0.46	4,197
Vendor	0.10	0.07	2.76	0.84	0.02	0.03	0.64	0.68	0.03	0.18	0.21	—	2,330	2,330	0.05	0.35	0.17	2,436
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.73	0.66	0.78	9.13	0.00	0.00	1.77	1.77	0.00	0.41	0.41	—	1,840	1,840	0.09	0.07	3.39	1,866
Vendor	0.04	0.03	1.21	0.36	0.01	0.01	0.28	0.29	0.01	0.08	0.09	—	1,021	1,021	0.02	0.15	1.24	1,068
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.14	1.67	0.00	0.00	0.32	0.32	0.00	0.08	0.08	—	305	305	0.01	0.01	0.56	309
Vendor	0.01	0.01	0.22	0.07	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	169	169	< 0.005	0.03	0.20	177
Hauling	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	0.00

3.9. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	1.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	1.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.61	2.06	< 0.005	0.08	—	0.08	0.07	—	0.07	—	311	311	0.01	< 0.005	—	312
Paving	—	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.29	0.38	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.4	51.4	< 0.005	< 0.005	—	51.6
Paving	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	1.25	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	216	216	0.01	0.01	0.86	219
Vendor	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	0.00

Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	0.95	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	198	198	0.01	0.01	0.02	201
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.20	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	41.3	41.3	< 0.005	< 0.005	0.08	41.9
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.84	6.84	< 0.005	< 0.005	0.01	6.93
Vendor	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	0.00
Hauling	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	0.00

3.11. Architectural Coating (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.18	1.21	1.53	< 0.005	0.04	—	0.04	0.04	—	0.04	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	—	25.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.18	1.21	1.53	< 0.005	0.04	—	0.04	0.04	—	0.04	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	—	25.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.50	0.63	< 0.005	0.02	—	0.02	0.02	—	0.02	—	73.2	73.2	< 0.005	< 0.005	—	73.4
Architectural Coatings	—	10.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.09	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.1	12.1	< 0.005	< 0.005	—	12.2
Architectural Coatings	—	1.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.35	0.32	0.30	5.23	0.00	0.00	0.82	0.82	0.00	0.19	0.19	—	902	902	0.04	0.03	3.58	916

Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.33	0.30	0.36	3.96	0.00	0.00	0.82	0.82	0.00	0.19	0.19	—	829	829	0.04	0.03	0.09	839
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.12	0.15	1.71	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	345	345	0.02	0.01	0.64	350
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.31	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	57.1	57.1	< 0.005	< 0.005	0.11	57.9
Vendor	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	0.00
Hauling	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	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2024	2/9/2024	5.00	30.0	—
Site Preparation	Site Preparation	2/12/2024	3/8/2024	5.00	20.0	—
Grading	Grading	3/11/2024	5/17/2024	5.00	50.0	—
Building Construction	Building Construction	5/20/2024	12/27/2024	5.00	160	—
Paving	Paving	9/16/2024	12/27/2024	5.00	75.0	—
Architectural Coating	Architectural Coating	6/3/2024	12/27/2024	5.00	150	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	2.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	5.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	4.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	5.00	8.00	367	0.40
Site Preparation	Crawler Tractors	Diesel	Average	6.00	8.00	87.0	0.43
Grading	Excavators	Diesel	Average	4.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	2.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	4.00	8.00	423	0.48
Grading	Crawler Tractors	Diesel	Average	4.00	8.00	87.0	0.43
Building Construction	Cranes	Diesel	Average	2.00	8.00	367	0.29

Building Construction	Forklifts	Diesel	Average	6.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction	Crawler Tractors	Diesel	Average	6.00	8.00	87.0	0.43
Building Construction	Welders	Diesel	Average	2.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	27.5	18.5	LDA,LDT1,LDT2
Demolition	Vendor	14.0	10.2	HHDT,MHDT
Demolition	Hauling	0.77	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	27.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	9.00	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	40.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	23.0	10.2	HHDT,MHDT
Grading	Hauling	368	20.0	HHDT

Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	313	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	75.0	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	62.7	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	1,119,251	373,084	84,106

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	2,000	—
Site Preparation	—	—	110	0.00	—
Grading	—	147,000	400	0.00	—
Paving	0.00	0.00	0.00	0.00	32.2

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Industrial Park	0.00	0%
Refrigerated Warehouse-No Rail	0.00	0%
Parking Lot	4.76	100%
Other Asphalt Surfaces	27.4	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	15.0	annual days of extreme heat
Extreme Precipitation	4.00	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	35.4	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2

Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	72.8
AQ-PM	89.7
AQ-DPM	85.7
Drinking Water	85.7
Lead Risk Housing	5.43
Pesticides	0.00
Toxic Releases	68.4
Traffic	73.0
Effect Indicators	—
CleanUp Sites	47.6
Groundwater	0.00

Haz Waste Facilities/Generators	65.9
Impaired Water Bodies	12.5
Solid Waste	0.00
Sensitive Population	—
Asthma	17.7
Cardio-vascular	55.6
Low Birth Weights	35.0
Socioeconomic Factor Indicators	—
Education	34.8
Housing	13.9
Linguistic	43.9
Poverty	32.0
Unemployment	64.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	87.60426023
Employed	68.38188118
Median HI	91.41537277
Education	—
Bachelor's or higher	72.98857949
High school enrollment	21.05735917
Preschool enrollment	74.18195817
Transportation	—
Auto Access	90.86359553

Active commuting	16.68163737
Social	—
2-parent households	77.37713332
Voting	54.17682536
Neighborhood	—
Alcohol availability	88.3485179
Park access	43.85987425
Retail density	23.97022969
Supermarket access	30.95085333
Tree canopy	72.38547414
Housing	—
Homeownership	91.03041191
Housing habitability	80.07185936
Low-inc homeowner severe housing cost burden	86.1157449
Low-inc renter severe housing cost burden	19.90247658
Uncrowded housing	79.21211344
Health Outcomes	—
Insured adults	79.19928141
Arthritis	74.6
Asthma ER Admissions	80.4
High Blood Pressure	62.1
Cancer (excluding skin)	49.7
Asthma	76.7
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	86.1
Diagnosed Diabetes	85.5
Life Expectancy at Birth	51.9

Cognitively Disabled	82.5
Physically Disabled	81.6
Heart Attack ER Admissions	41.3
Mental Health Not Good	77.2
Chronic Kidney Disease	85.5
Obesity	63.1
Pedestrian Injuries	19.6
Physical Health Not Good	83.3
Stroke	91.3
Health Risk Behaviors	—
Binge Drinking	24.0
Current Smoker	73.3
No Leisure Time for Physical Activity	74.2
Climate Change Exposures	—
Wildfire Risk	29.3
SLR Inundation Area	0.0
Children	48.8
Elderly	88.2
English Speaking	77.6
Foreign-born	53.7
Outdoor Workers	67.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	82.0
Traffic Density	52.1
Traffic Access	23.0
Other Indices	—
Hardship	13.5

Other Decision Support	—
2016 Voting	70.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	44.0
Healthy Places Index Score for Project Location (b)	81.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Taken from Site plan
Construction: Construction Phases	Construction schedule adjusted based off client provided information Building, Paving, and Architectural Coating overlap to present a conservative analysis
Construction: Off-Road Equipment	T/L/B replaced with Crawler Tractor to accurately calculate disturbance for Site Preparation and Grading phases Standard 8-hour work days

Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Demolition, Site Preparation, Grading, and Building Construction
Construction: Architectural Coatings	SCAQMD Rule 1113

12630-Green River Ranch Specific Plan Amendment Construction (PA 4 & 5) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	12630-Green River Ranch Specific Plan Amendment Construction (PA 4 & 5)
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	21.0
Location	33.878704, -117.642199
County	Riverside-South Coast
City	Corona
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5472
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Convenience Market with Gas Pumps	12.0	Pump	0.39	17,100	0.00	—	—	—

Fast Food Restaurant with Drive Thru	2.50	1000sqft	0.06	2,500	0.00	—	—	—
Single Family Housing	32.0	Dwelling Unit	20.4	62,400	0.00	—	103	—
Other Asphalt Surfaces	6.20	Acre	6.20	0.00	0.00	—	—	—
High Turnover (Sit Down Restaurant)	9.50	1000sqft	0.22	9,500	0.00	—	—	—
Quality Restaurant	4.20	1000sqft	0.10	4,200	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.9	14.0	40.4	46.6	0.07	2.17	2.95	4.47	1.99	1.05	2.44	—	8,067	8,067	0.32	0.10	2.69	8,108
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.90	4.12	37.6	33.5	0.06	1.93	5.90	7.83	1.78	2.74	4.52	—	7,036	7,036	0.29	0.07	0.03	7,065
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.88	3.54	15.7	16.1	0.03	0.82	0.81	1.63	0.76	0.31	1.07	—	3,059	3,059	0.12	0.04	0.34	3,074

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.71	0.65	2.87	2.94	0.01	0.15	0.15	0.30	0.14	0.06	0.19	—	507	507	0.02	0.01	0.06	509

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	14.9	14.0	40.4	46.6	0.07	2.17	2.95	4.47	1.99	1.05	2.44	—	8,067	8,067	0.32	0.10	2.69	8,108
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.90	4.12	37.6	33.5	0.06	1.93	5.90	7.83	1.78	2.74	4.52	—	7,036	7,036	0.29	0.07	0.03	7,065
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.88	3.54	15.7	16.1	0.03	0.82	0.81	1.63	0.76	0.31	1.07	—	3,059	3,059	0.12	0.04	0.34	3,074
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.71	0.65	2.87	2.94	0.01	0.15	0.15	0.30	0.14	0.06	0.19	—	507	507	0.02	0.01	0.06	509

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.82	4.05	37.5	32.4	0.05	1.93	—	1.93	1.78	—	1.78	—	5,528	5,528	0.22	0.04	—	5,547
Dust From Material Movement	—	—	—	—	—	—	5.66	5.66	—	2.69	2.69	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.22	2.05	1.78	< 0.005	0.11	—	0.11	0.10	—	0.10	—	303	303	0.01	< 0.005	—	304
Dust From Material Movement	—	—	—	—	—	—	0.31	0.31	—	0.15	0.15	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	0.32	< 0.005	0.02	—	0.02	0.02	—	0.02	—	50.2	50.2	< 0.005	< 0.005	—	50.3
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	1.02	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	227	227	0.01	0.01	0.02	230
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.6	30.6	< 0.005	< 0.005	< 0.005	32.0
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.6	12.6	< 0.005	< 0.005	0.02	12.8
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.68	1.68	< 0.005	< 0.005	< 0.005	1.76
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.08	2.08	< 0.005	< 0.005	< 0.005	2.11
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.29
Hauling	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	0.00

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.24	3.57	32.6	29.4	0.06	1.52	—	1.52	1.40	—	1.40	—	6,715	6,715	0.27	0.05	—	6,738
Dust From Material Movement	—	—	—	—	—	—	2.67	2.67	—	0.98	0.98	—	—	—	—	—	—	—
Onsite truck	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.24	3.57	32.6	29.4	0.06	1.52	—	1.52	1.40	—	1.40	—	6,715	6,715	0.27	0.05	—	6,738
Dust From Material Movement	—	—	—	—	—	—	2.67	2.67	—	0.98	0.98	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.44	4.02	3.63	0.01	0.19	—	0.19	0.17	—	0.17	—	828	828	0.03	0.01	—	831
Dust From Material Movement	—	—	—	—	—	—	0.33	0.33	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.73	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	137	137	0.01	< 0.005	—	138
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	0.09	1.54	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	282	282	0.01	0.01	1.04	286

Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.2	61.2	< 0.005	0.01	0.17	64.2
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.10	1.17	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	259	259	0.01	0.01	0.03	262
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.2	61.2	< 0.005	0.01	< 0.005	64.0
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	32.4	32.4	< 0.005	< 0.005	0.06	32.8
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.55	7.55	< 0.005	< 0.005	0.01	7.90
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.36	5.36	< 0.005	< 0.005	0.01	5.43
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.25	1.25	< 0.005	< 0.005	< 0.005	1.31
Hauling	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	0.00

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.22	3.54	31.4	31.7	0.05	1.78	—	1.78	1.64	—	1.64	—	5,610	5,610	0.23	0.05	—	5,629
Onsite truck	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.16	0.97	8.59	8.68	0.01	0.49	—	0.49	0.45	—	0.45	—	1,537	1,537	0.06	0.01	—	1,542
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.18	1.57	1.58	< 0.005	0.09	—	0.09	0.08	—	0.08	—	254	254	0.01	< 0.005	—	255
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.11	0.10	1.84	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	335	335	0.01	0.01	1.23	340
Vendor	0.01	< 0.005	0.17	0.05	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	153	153	< 0.005	0.02	0.43	160
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.40	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	85.5	85.5	< 0.005	< 0.005	0.15	86.8
Vendor	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.9	41.9	< 0.005	0.01	0.05	43.9
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.2	14.2	< 0.005	< 0.005	0.02	14.4
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.94	6.94	< 0.005	< 0.005	0.01	7.27

Hauling	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	0.00

3.7. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.46	0.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.71	0.96	< 0.005	0.03	—	0.03	0.03	—	0.03	—	145	145	0.01	< 0.005	—	145
Paving	0.04	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.13	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	1.16	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	211	211	0.01	0.01	0.78	215
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.9	18.9	< 0.005	< 0.005	0.03	19.1
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.12	3.12	< 0.005	< 0.005	0.01	3.17
Vendor	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	0.00
Hauling	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	0.00

3.9. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.18	1.52	< 0.005	0.04	—	0.04	0.03	—	0.03	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	8.86	8.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.23	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	34.1	34.1	< 0.005	< 0.005	—	34.3
Architectural Coatings	1.70	1.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.65	5.65	< 0.005	< 0.005	—	5.67
Architectural Coatings	0.31	0.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.37	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	67.1	67.1	< 0.005	< 0.005	0.25	68.1
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.02	12.1
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.98	1.98	< 0.005	< 0.005	< 0.005	2.01
Vendor	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	0.00
Hauling	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	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2025	1/28/2025	5.00	20.0	—
Grading	Grading	1/29/2025	4/1/2025	5.00	45.0	—
Building Construction	Building Construction	4/2/2025	8/19/2025	5.00	100	—
Paving	Paving	7/2/2025	8/19/2025	5.00	35.0	—

Architectural Coating	Architectural Coating	5/14/2025	8/19/2025	5.00	70.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Crawler Tractors	Diesel	Average	4.00	8.00	87.0	0.43
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Building Construction	Cranes	Diesel	Average	2.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Average	6.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction	Crawler Tractors	Diesel	Average	6.00	8.00	87.0	0.43
Building Construction	Welders	Diesel	Average	2.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	1.00	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	2.00	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	23.8	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	5.00	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	4.76	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	126,360	42,120	49,950	16,650	16,204

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	600	0.00	—
Grading	—	—	1,200	0.00	—
Paving	0.00	0.00	0.00	0.00	6.55

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Convenience Market with Gas Pumps	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Single Family Housing	0.35	0%
Other Asphalt Surfaces	6.20	100%
High Turnover (Sit Down Restaurant)	0.00	0%

Quality Restaurant	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	15.0	annual days of extreme heat
Extreme Precipitation	4.00	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	35.4	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	72.8
AQ-PM	89.7
AQ-DPM	85.7

Drinking Water	85.7
Lead Risk Housing	5.43
Pesticides	0.00
Toxic Releases	68.4
Traffic	73.0
Effect Indicators	—
CleanUp Sites	47.6
Groundwater	0.00
Haz Waste Facilities/Generators	65.9
Impaired Water Bodies	12.5
Solid Waste	0.00
Sensitive Population	—
Asthma	17.7
Cardio-vascular	55.6
Low Birth Weights	35.0
Socioeconomic Factor Indicators	—
Education	34.8
Housing	13.9
Linguistic	43.9
Poverty	32.0
Unemployment	64.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	87.60426023

Employed	68.38188118
Median HI	91.41537277
Education	—
Bachelor's or higher	72.98857949
High school enrollment	21.05735917
Preschool enrollment	74.18195817
Transportation	—
Auto Access	90.86359553
Active commuting	16.68163737
Social	—
2-parent households	77.37713332
Voting	54.17682536
Neighborhood	—
Alcohol availability	88.3485179
Park access	43.85987425
Retail density	23.97022969
Supermarket access	30.95085333
Tree canopy	72.38547414
Housing	—
Homeownership	91.03041191
Housing habitability	80.07185936
Low-inc homeowner severe housing cost burden	86.1157449
Low-inc renter severe housing cost burden	19.90247658
Uncrowded housing	79.21211344
Health Outcomes	—
Insured adults	79.19928141
Arthritis	74.6

Asthma ER Admissions	80.4
High Blood Pressure	62.1
Cancer (excluding skin)	49.7
Asthma	76.7
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	86.1
Diagnosed Diabetes	85.5
Life Expectancy at Birth	51.9
Cognitively Disabled	82.5
Physically Disabled	81.6
Heart Attack ER Admissions	41.3
Mental Health Not Good	77.2
Chronic Kidney Disease	85.5
Obesity	63.1
Pedestrian Injuries	19.6
Physical Health Not Good	83.3
Stroke	91.3
Health Risk Behaviors	—
Binge Drinking	24.0
Current Smoker	73.3
No Leisure Time for Physical Activity	74.2
Climate Change Exposures	—
Wildfire Risk	29.3
SLR Inundation Area	0.0
Children	48.8
Elderly	88.2
English Speaking	77.6

Foreign-born	53.7
Outdoor Workers	67.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	82.0
Traffic Density	52.1
Traffic Access	23.0
Other Indices	—
Hardship	13.5
Other Decision Support	—
2016 Voting	70.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	44.0
Healthy Places Index Score for Project Location (b)	81.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Taken from site plan
Construction: Construction Phases	Client provided schedule Building, Paving, and Architectural Coating overlap to present a conservative analysis
Construction: Off-Road Equipment	T/L/B replaced with Crawler Tractor to accurately calculate disturbance for Site Preparation and Grading phases Standard 8-hour work days
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Site Preparation, Grading, and Building Construction
Construction: Architectural Coatings	SCAQMD Rule 1113
Construction: Dust From Material Movement	As a conservative measure, it is assumed that a maximum of 20 acres per day can be actively disturbed during construction of the site

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APPENDIX 4.2:

CALEEMOD OPERATIONAL EMISSIONS MODEL OUTPUTS

Green River Ranch Specific Plan Amendment (Operations) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Green River Ranch Specific Plan Amendment (Operations)
Operational Year	2026
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	21.0
Location	33.875872, -117.655476
County	Riverside-South Coast
City	Corona
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5471
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Industrial Park	634	1000sqft	14.6	634,242	647,754	—	—	—

Refrigerated Warehouse-No Rail	112	1000sqft	2.57	111,925	0.00	—	—	—
Convenience Market with Gas Pumps	12.0	Pump	0.39	17,100	0.00	—	—	—
Fast Food Restaurant with Drive Thru	2.50	1000sqft	0.06	2,500	0.00	—	—	—
Single Family Housing	32.0	Dwelling Unit	20.4	62,400	374,811	—	103	—
Parking Lot	1,213	Space	4.76	0.00	0.00	—	—	—
Other Asphalt Surfaces	33.9	Acre	33.6	0.00	0.00	—	—	—
User Defined Industrial	746	User Defined Unit	0.00	0.00	0.00	—	—	—
High Turnover (Sit Down Restaurant)	9.50	1000sqft	0.22	9,500	0.00	—	—	—
Quality Restaurant	4.20	1000sqft	0.10	4,200	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	70.6	66.0	80.3	336	1.01	2.28	66.9	69.2	2.22	17.1	19.3	643	123,880	124,522	69.8	8.12	632	129,318

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	62.2	58.0	83.4	259	0.97	2.22	66.9	69.2	2.17	17.1	19.3	643	119,602	120,244	69.9	8.22	327	124,769
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	56.8	53.1	65.8	249	0.85	1.50	58.2	59.7	1.45	14.9	16.3	643	107,118	107,761	69.4	7.46	439	112,159
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.4	9.70	12.0	45.5	0.16	0.27	10.6	10.9	0.26	2.72	2.98	106	17,735	17,841	11.5	1.24	72.6	18,569

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	38.8	35.6	59.4	282	0.95	0.97	66.9	67.9	0.92	17.1	18.0	—	98,254	98,254	3.19	7.75	313	100,958
Area	25.6	25.1	0.78	35.9	0.01	0.10	—	0.10	0.08	—	0.08	0.00	751	751	0.02	< 0.005	—	752
Energy	0.70	0.35	6.36	5.22	0.04	0.48	—	0.48	0.48	—	0.48	—	21,936	21,936	2.04	0.18	—	22,041
Water	—	—	—	—	—	—	—	—	—	—	—	65.0	421	486	6.70	0.16	—	702
Waste	—	—	—	—	—	—	—	—	—	—	—	578	0.00	578	57.7	0.00	—	2,021
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	318	318
Stationary	5.41	4.92	13.8	12.6	0.02	0.72	0.00	0.72	0.72	0.00	0.72	0.00	2,519	2,519	0.10	0.02	0.00	2,527
Total	70.6	66.0	80.3	336	1.01	2.28	66.9	69.2	2.22	17.1	19.3	643	123,880	124,522	69.8	8.12	632	129,318
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	36.6	33.4	62.9	241	0.91	0.97	66.9	67.9	0.92	17.1	18.0	—	94,120	94,120	3.32	7.86	8.13	96,553

Area	19.4	19.4	0.48	0.20	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	606	606	0.01	< 0.005	—	607
Energy	0.70	0.35	6.36	5.22	0.04	0.48	—	0.48	0.48	—	0.48	—	21,936	21,936	2.04	0.18	—	22,041
Water	—	—	—	—	—	—	—	—	—	—	—	65.0	421	486	6.70	0.16	—	702
Waste	—	—	—	—	—	—	—	—	—	—	—	578	0.00	578	57.7	0.00	—	2,021
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	318	318
Stationary	5.41	4.92	13.8	12.6	0.02	0.72	0.00	0.72	0.72	0.00	0.72	0.00	2,519	2,519	0.10	0.02	0.00	2,527
Total	62.2	58.0	83.4	259	0.97	2.22	66.9	69.2	2.17	17.1	19.3	643	119,602	120,244	69.9	8.22	327	124,769
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	31.7	28.8	57.3	218	0.81	0.88	58.2	59.1	0.83	14.9	15.7	—	84,276	84,276	2.93	7.12	120	86,590
Area	23.6	23.3	0.24	24.5	< 0.005	0.04	—	0.04	0.03	—	0.03	0.00	140	140	< 0.005	< 0.005	—	141
Energy	0.70	0.35	6.36	5.22	0.04	0.48	—	0.48	0.48	—	0.48	—	21,936	21,936	2.04	0.18	—	22,041
Water	—	—	—	—	—	—	—	—	—	—	—	65.0	421	486	6.70	0.16	—	702
Waste	—	—	—	—	—	—	—	—	—	—	—	578	0.00	578	57.7	0.00	—	2,021
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	318	318
Stationary	0.74	0.67	1.88	1.72	< 0.005	0.10	0.00	0.10	0.10	0.00	0.10	0.00	345	345	0.01	< 0.005	0.00	346
Total	56.8	53.1	65.8	249	0.85	1.50	58.2	59.7	1.45	14.9	16.3	643	107,118	107,761	69.4	7.46	439	112,159
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.78	5.26	10.5	39.8	0.15	0.16	10.6	10.8	0.15	2.72	2.87	—	13,953	13,953	0.48	1.18	19.9	14,336
Area	4.31	4.25	0.04	4.47	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	23.2	23.2	< 0.005	< 0.005	—	23.3
Energy	0.13	0.06	1.16	0.95	0.01	0.09	—	0.09	0.09	—	0.09	—	3,632	3,632	0.34	0.03	—	3,649
Water	—	—	—	—	—	—	—	—	—	—	—	10.8	69.7	80.5	1.11	0.03	—	116
Waste	—	—	—	—	—	—	—	—	—	—	—	95.6	0.00	95.6	9.56	0.00	—	335
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	52.7	52.7
Stationary	0.14	0.12	0.34	0.31	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	57.1	57.1	< 0.005	< 0.005	0.00	57.3
Total	10.4	9.70	12.0	45.5	0.16	0.27	10.6	10.9	0.26	2.72	2.98	106	17,735	17,841	11.5	1.24	72.6	18,569

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	8.79	7.87	5.43	117	0.26	0.11	25.9	26.0	0.10	6.55	6.65	—	26,627	26,627	0.79	0.56	88.0	26,903
Refrigerated Warehouse-No Rail	0.86	0.77	0.53	11.4	0.03	0.01	2.52	2.53	0.01	0.64	0.65	—	2,589	2,589	0.08	0.05	8.56	2,616
Convenience Market with Gas Pumps	13.0	12.4	6.13	51.3	0.10	0.08	8.18	8.26	0.07	2.08	2.15	—	10,071	10,071	0.71	0.60	33.4	10,300
Fast Food Restaurant with Drive Thru	6.03	5.68	3.72	32.9	0.07	0.06	6.31	6.37	0.05	1.60	1.65	—	7,546	7,546	0.39	0.38	25.7	7,693
Single Family Housing	1.84	1.61	2.40	23.2	0.06	0.04	5.54	5.59	0.04	1.41	1.45	—	6,432	6,432	0.20	0.26	22.6	6,536
Parking Lot	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	0.00

Other Asphalt Surfaces	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	0.00
User Defined Industrial	1.60	0.91	37.2	10.8	0.34	0.61	11.7	12.3	0.59	3.13	3.71	—	36,905	36,905	0.60	5.50	108	38,666
High Turnover (Sit Down Restaurant)	5.35	5.03	3.38	30.0	0.07	0.05	5.81	5.86	0.05	1.47	1.52	—	6,936	6,936	0.35	0.34	23.7	7,070
Quality Restaurant	1.39	1.33	0.68	5.70	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	1,147	1,147	0.08	0.07	3.82	1,173
Total	38.8	35.6	59.4	282	0.95	0.97	66.9	67.9	0.92	17.1	18.0	—	98,254	98,254	3.19	7.75	313	100,958
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	8.47	7.55	6.04	94.4	0.24	0.11	25.9	26.0	0.10	6.55	6.65	—	24,580	24,580	0.81	0.61	2.28	24,784
Refrigerated Warehouse-No Rail	0.82	0.73	0.59	9.18	0.02	0.01	2.52	2.53	0.01	0.64	0.65	—	2,390	2,390	0.08	0.06	0.22	2,410
Convenience Market with Gas Pumps	12.1	11.5	6.54	47.5	0.09	0.08	8.18	8.26	0.07	2.08	2.15	—	9,494	9,494	0.77	0.62	0.87	9,698
Fast Food Restaurant with Drive Thru	5.63	5.28	3.98	29.0	0.07	0.06	6.31	6.37	0.05	1.60	1.65	—	7,098	7,098	0.41	0.39	0.67	7,225
Single Family Housing	1.76	1.52	2.58	18.7	0.06	0.04	5.54	5.59	0.04	1.41	1.45	—	6,036	6,036	0.20	0.26	0.59	6,121

Parking Lot	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	0.00
Other Asphalt Surfaces	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	0.00
User Defined Industrial	1.57	0.88	38.8	10.9	0.34	0.61	11.7	12.3	0.59	3.13	3.71	—	36,916	36,916	0.60	5.50	2.79	38,573
High Turnover (Sit Down Restaurant)	5.00	4.67	3.61	26.3	0.06	0.05	5.81	5.86	0.05	1.47	1.52	—	6,523	6,523	0.37	0.35	0.61	6,638
Quality Restaurant	1.29	1.23	0.72	5.25	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	1,081	1,081	0.08	0.07	0.10	1,104
Total	36.6	33.4	62.9	241	0.91	0.97	66.9	67.9	0.92	17.1	18.0	—	94,120	94,120	3.32	7.86	8.13	96,553
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	1.34	1.20	0.99	15.7	0.04	0.02	4.08	4.10	0.02	1.03	1.05	—	3,602	3,602	0.12	0.09	5.50	3,637
Refrigerated Warehouse-No Rail	0.13	0.11	0.09	1.49	< 0.005	< 0.005	0.39	0.39	< 0.005	0.10	0.10	—	342	342	0.01	0.01	0.52	345
Convenience Market with Gas Pumps	1.98	1.89	1.10	8.09	0.02	0.01	1.34	1.35	0.01	0.34	0.35	—	1,440	1,440	0.12	0.09	2.17	1,473
Fast Food Restaurant with Drive Thru	0.81	0.76	0.59	4.34	0.01	0.01	0.90	0.91	0.01	0.23	0.24	—	943	943	0.05	0.05	1.46	961
Single Family Housing	0.31	0.27	0.47	3.50	0.01	0.01	0.98	0.99	0.01	0.25	0.26	—	991	991	0.03	0.04	1.59	1,006

Parking Lot	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	0.00
Other Asphalt Surfaces	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	0.00
User Defined Industrial	0.26	0.15	6.55	1.81	0.06	0.10	1.93	2.04	0.10	0.52	0.62	—	5,596	5,596	0.09	0.83	7.04	5,854
High Turnover (Sit Down Restaurant)	0.72	0.68	0.54	3.97	0.01	0.01	0.84	0.85	0.01	0.21	0.22	—	874	874	0.05	0.05	1.36	891
Quality Restaurant	0.22	0.20	0.12	0.91	< 0.005	< 0.005	0.16	0.16	< 0.005	0.04	0.04	—	166	166	0.01	0.01	0.25	170
Total	5.78	5.26	10.5	39.8	0.15	0.16	10.6	10.8	0.15	2.72	2.87	—	13,953	13,953	0.48	1.18	19.9	14,336

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	10,493	10,493	1.00	0.12	—	10,554
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	2,322	2,322	0.22	0.03	—	2,335

Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	520	520	0.05	0.01	—	523
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	83.3	83.3	0.01	< 0.005	—	83.7
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	283	283	0.03	< 0.005	—	285
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	172	172	0.02	< 0.005	—	173
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	316	316	0.03	< 0.005	—	318
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	—	140	140	0.01	< 0.005	—	141
Total	—	—	—	—	—	—	—	—	—	—	—	—	14,330	14,330	1.37	0.17	—	14,414
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	10,493	10,493	1.00	0.12	—	10,554

Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	2,322	2,322	0.22	0.03	—	2,335
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	520	520	0.05	0.01	—	523
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	83.3	83.3	0.01	< 0.005	—	83.7
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	283	283	0.03	< 0.005	—	285
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	172	172	0.02	< 0.005	—	173
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	316	316	0.03	< 0.005	—	318
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	—	140	140	0.01	< 0.005	—	141
Total	—	—	—	—	—	—	—	—	—	—	—	—	14,330	14,330	1.37	0.17	—	14,414
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	1,737	1,737	0.17	0.02	—	1,747

Refrigera Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	384	384	0.04	< 0.005	—	387
Convenie nce Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	86.1	86.1	0.01	< 0.005	—	86.6
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	13.8	13.8	< 0.005	< 0.005	—	13.9
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	46.9	46.9	< 0.005	< 0.005	—	47.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	28.5	28.5	< 0.005	< 0.005	—	28.7
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	52.4	52.4	< 0.005	< 0.005	—	52.7
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	—	23.2	23.2	< 0.005	< 0.005	—	23.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,373	2,373	0.23	0.03	—	2,386

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.52	0.26	4.70	3.95	0.03	0.36	—	0.36	0.36	—	0.36	—	5,607	5,607	0.50	0.01	—	5,623
Refrigerated Warehouse-No Rail	0.09	0.04	0.80	0.67	< 0.005	0.06	—	0.06	0.06	—	0.06	—	949	949	0.08	< 0.005	—	952
Convenience Market with Gas Pumps	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	92.0	92.0	0.01	< 0.005	—	92.2
Fast Food Restaurant with Drive Thru	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	91.4	91.4	0.01	< 0.005	—	91.6
Single Family Housing	0.03	0.02	0.29	0.12	< 0.005	0.02	—	0.02	0.02	—	0.02	—	365	365	0.03	< 0.005	—	366
Parking Lot	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
Other Asphalt Surfaces	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
User Defined Industrial	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
High Turnover (Sit Down Restaurant)	0.03	0.02	0.29	0.24	< 0.005	0.02	—	0.02	0.02	—	0.02	—	347	347	0.03	< 0.005	—	348

Quality Restaurant	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	154	154	0.01	< 0.005	—	154
Total	0.70	0.35	6.36	5.22	0.04	0.48	—	0.48	0.48	—	0.48	—	7,605	7,605	0.67	0.01	—	7,627
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.52	0.26	4.70	3.95	0.03	0.36	—	0.36	0.36	—	0.36	—	5,607	5,607	0.50	0.01	—	5,623
Refrigerated Warehouse-No Rail	0.09	0.04	0.80	0.67	< 0.005	0.06	—	0.06	0.06	—	0.06	—	949	949	0.08	< 0.005	—	952
Convenience Market with Gas Pumps	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	92.0	92.0	0.01	< 0.005	—	92.2
Fast Food Restaurant with Drive Thru	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	91.4	91.4	0.01	< 0.005	—	91.6
Single Family Housing	0.03	0.02	0.29	0.12	< 0.005	0.02	—	0.02	0.02	—	0.02	—	365	365	0.03	< 0.005	—	366
Parking Lot	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
Other Asphalt Surfaces	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
User Defined Industrial	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

High Turnover (Sit Down Restaurant)	0.03	0.02	0.29	0.24	< 0.005	0.02	—	0.02	0.02	—	0.02	—	347	347	0.03	< 0.005	—	348
Quality Restaurant	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	154	154	0.01	< 0.005	—	154
Total	0.70	0.35	6.36	5.22	0.04	0.48	—	0.48	0.48	—	0.48	—	7,605	7,605	0.67	0.01	—	7,627
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.09	0.05	0.86	0.72	0.01	0.07	—	0.07	0.07	—	0.07	—	928	928	0.08	< 0.005	—	931
Refrigerated Warehouse-No Rail	0.02	0.01	0.15	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	157	157	0.01	< 0.005	—	158
Convenience Market with Gas Pumps	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.2	15.2	< 0.005	< 0.005	—	15.3
Fast Food Restaurant with Drive Thru	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.1	15.1	< 0.005	< 0.005	—	15.2
Single Family Housing	0.01	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	60.4	60.4	0.01	< 0.005	—	60.6
Parking Lot	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
Other Asphalt Surfaces	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
User Defined Industrial	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

High Turnover (Sit Down Restaurant)	0.01	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	57.5	57.5	0.01	< 0.005	—	57.7
Quality Restaurant	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.4	25.4	< 0.005	< 0.005	—	25.5
Total	0.13	0.06	1.16	0.95	0.01	0.09	—	0.09	0.09	—	0.09	—	1,259	1,259	0.11	< 0.005	—	1,263

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.06	0.03	0.48	0.20	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	606	606	0.01	< 0.005	—	607
Consumer Products	18.1	18.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.22	1.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	6.20	5.73	0.30	35.7	< 0.005	0.06	—	0.06	0.05	—	0.05	—	144	144	0.01	< 0.005	—	145
Total	25.6	25.1	0.78	35.9	0.01	0.10	—	0.10	0.08	—	0.08	0.00	751	751	0.02	< 0.005	—	752
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.06	0.03	0.48	0.20	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	606	606	0.01	< 0.005	—	607

Consumer	18.1	18.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.22	1.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	19.4	19.4	0.48	0.20	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	606	606	0.01	< 0.005	—	607
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	6.88	6.88	< 0.005	< 0.005	—	6.88
Consumer Products	3.31	3.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.22	0.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.77	0.72	0.04	4.46	< 0.005	0.01	—	0.01	0.01	—	0.01	—	16.4	16.4	< 0.005	< 0.005	—	16.4
Total	4.31	4.25	0.04	4.47	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	23.2	23.2	< 0.005	< 0.005	—	23.3

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	40.3	172	212	4.15	0.10	—	346

Refrigerated Warehou Rail	—	—	—	—	—	—	—	—	—	—	—	7.11	24.0	31.1	0.73	0.02	—	54.6
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	3.18	10.7	13.9	0.33	0.01	—	24.5
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	0.49	1.65	2.14	0.05	< 0.005	—	3.76
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	11.3	204	216	1.18	0.03	—	254
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	1.78	6.00	7.78	0.18	< 0.005	—	13.7
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	0.79	2.65	3.44	0.08	< 0.005	—	6.05
Total	—	—	—	—	—	—	—	—	—	—	—	65.0	421	486	6.70	0.16	—	702
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	40.3	172	212	4.15	0.10	—	346

Refrigera Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	7.11	24.0	31.1	0.73	0.02	—	54.6
Convenie nce Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	3.18	10.7	13.9	0.33	0.01	—	24.5
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	0.49	1.65	2.14	0.05	< 0.005	—	3.76
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	11.3	204	216	1.18	0.03	—	254
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	1.78	6.00	7.78	0.18	< 0.005	—	13.7
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	0.79	2.65	3.44	0.08	< 0.005	—	6.05
Total	—	—	—	—	—	—	—	—	—	—	—	65.0	421	486	6.70	0.16	—	702
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	6.67	28.4	35.1	0.69	0.02	—	57.2

Refrigerated Warehou Rail	—	—	—	—	—	—	—	—	—	—	—	1.18	3.97	5.14	0.12	< 0.005	—	9.04
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.53	1.78	2.30	0.05	< 0.005	—	4.05
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	0.08	0.27	0.35	0.01	< 0.005	—	0.62
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.88	33.8	35.7	0.20	< 0.005	—	42.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	0.29	0.99	1.29	0.03	< 0.005	—	2.26
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	0.13	0.44	0.57	0.01	< 0.005	—	1.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.8	69.7	80.5	1.11	0.03	—	116

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	424	0.00	424	42.4	0.00	—	1,483
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	56.7	0.00	56.7	5.67	0.00	—	198
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	2.74	0.00	2.74	0.27	0.00	—	9.59
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	15.5	0.00	15.5	1.55	0.00	—	54.3
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	15.7	0.00	15.7	1.57	0.00	—	55.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.09	0.00	—	213
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	2.07	0.00	2.07	0.21	0.00	—	7.23
Total	—	—	—	—	—	—	—	—	—	—	—	578	0.00	578	57.7	0.00	—	2,021
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	424	0.00	424	42.4	0.00	—	1,483
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	56.7	0.00	56.7	5.67	0.00	—	198
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	2.74	0.00	2.74	0.27	0.00	—	9.59
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	15.5	0.00	15.5	1.55	0.00	—	54.3
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	15.7	0.00	15.7	1.57	0.00	—	55.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.09	0.00	—	213
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	2.07	0.00	2.07	0.21	0.00	—	7.23
Total	—	—	—	—	—	—	—	—	—	—	—	578	0.00	578	57.7	0.00	—	2,021
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	70.2	0.00	70.2	7.01	0.00	—	246
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	9.39	0.00	9.39	0.94	0.00	—	32.8
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.45	0.00	0.45	0.05	0.00	—	1.59
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	2.57	0.00	2.57	0.26	0.00	—	8.99
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	2.61	0.00	2.61	0.26	0.00	—	9.11
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	10.1	0.00	10.1	1.01	0.00	—	35.3
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	0.34	0.00	0.34	0.03	0.00	—	1.20
Total	—	—	—	—	—	—	—	—	—	—	—	95.6	0.00	95.6	9.56	0.00	—	335

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	59.3	59.3
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	114	114
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	136	136

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.40	1.40
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.40	0.40
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.33	5.33
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.36	2.36
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	318	318
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	59.3	59.3
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	114	114
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	136	136
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.40	1.40
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.40	0.40

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.33	5.33
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.36	2.36
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	318	318
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.82	9.82
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.9	18.9
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22.4	22.4
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.23	0.23
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.88	0.88
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	52.7	52.7

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fire Pump	5.41	4.92	13.8	12.6	0.02	0.72	0.00	0.72	0.72	0.00	0.72	0.00	2,519	2,519	0.10	0.02	0.00	2,527
Total	5.41	4.92	13.8	12.6	0.02	0.72	0.00	0.72	0.72	0.00	0.72	0.00	2,519	2,519	0.10	0.02	0.00	2,527

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fire Pump	5.41	4.92	13.8	12.6	0.02	0.72	0.00	0.72	0.72	0.00	0.72	0.00	2,519	2,519	0.10	0.02	0.00	2,527
Total	5.41	4.92	13.8	12.6	0.02	0.72	0.00	0.72	0.72	0.00	0.72	0.00	2,519	2,519	0.10	0.02	0.00	2,527
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fire Pump	0.14	0.12	0.34	0.31	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	57.1	57.1	< 0.005	< 0.005	0.00	57.3
Total	0.14	0.12	0.34	0.31	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	57.1	57.1	< 0.005	< 0.005	0.00	57.3

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Industrial Park	1,776	1,338	653	566,873	37,240	28,061	13,698	11,886,525
Refrigerated Warehouse-No Rail	154	88.3	173	53,762	3,229	1,852	3,621	1,127,314
Convenience Market with Gas Pumps	3,182	3,198	3,568	1,182,400	10,297	10,348	11,545	3,826,063
Fast Food Restaurant with Drive Thru	1,170	1,540	1,181	446,956	6,766	8,907	6,832	2,584,629
Single Family Housing	302	303	271	108,724	7,787	7,820	6,995	2,802,804
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
User Defined Industrial	448	319	312	149,637	13,440	9,587	9,363	4,492,115
High Turnover (Sit Down Restaurant)	1,018	1,163	1,355	396,702	6,161	7,037	8,200	2,400,642
Quality Restaurant	352	378	302	127,252	1,230	1,322	1,056	444,754

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	29
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	3

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
126360	42,120	1,169,201	389,734	100,310

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Industrial Park	11,063,192	346	0.0330	0.0040	17,496,615
Refrigerated Warehouse-No Rail	2,447,749	346	0.0330	0.0040	2,961,653
Convenience Market with Gas Pumps	548,563	346	0.0330	0.0040	287,019
Fast Food Restaurant with Drive Thru	87,787	346	0.0330	0.0040	285,147
Single Family Housing	298,856	346	0.0330	0.0040	1,138,058
Parking Lot	181,635	346	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	346	0.0330	0.0040	0.00
User Defined Industrial	0.00	346	0.0330	0.0040	0.00
High Turnover (Sit Down Restaurant)	333,592	346	0.0330	0.0040	1,083,559
Quality Restaurant	147,483	346	0.0330	0.0040	479,047

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Industrial Park	21,027,814	7,136,480
Refrigerated Warehouse-No Rail	3,710,791	0.00
Convenience Market with Gas Pumps	1,662,005	0.00
Fast Food Restaurant with Drive Thru	255,693	0.00
Single Family Housing	5,915,756	33,013,684
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00
User Defined Industrial	0.00	0.00
High Turnover (Sit Down Restaurant)	929,400	0.00

Quality Restaurant	410,893	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Industrial Park	786	—
Refrigerated Warehouse-No Rail	105	—
Convenience Market with Gas Pumps	5.08	—
Fast Food Restaurant with Drive Thru	28.8	—
Single Family Housing	29.2	—
Parking Lot	0.00	—
Other Asphalt Surfaces	0.00	—
User Defined Industrial	0.00	—
High Turnover (Sit Down Restaurant)	113	—
Quality Restaurant	3.83	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Industrial Park	Other commercial A/C and heat pumps	User Defined	750	0.30	4.00	4.00	18.0
Refrigerated Warehouse-No Rail	User Defined	User Defined	150	7.50	7.50	7.50	25.0
Convenience Market with Gas Pumps	Other commercial A/C and heat pumps	User Defined	750	< 0.005	4.00	4.00	18.0

Convenience Market with Gas Pumps	Supermarket refrigeration and condensing units	User Defined	150	26.5	16.5	16.5	18.0
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	User Defined	750	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	User Defined	750	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	User Defined	750	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
Quality Restaurant	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Quality Restaurant	Other commercial A/C and heat pumps	User Defined	750	1.80	4.00	4.00	18.0
Quality Restaurant	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Fire Pump	Diesel	5.00	1.00	50.0	300	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	15.0	annual days of extreme heat
Extreme Precipitation	4.00	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	35.4	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A

Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	71.8
AQ-PM	64.5
AQ-DPM	8.03
Drinking Water	85.7
Lead Risk Housing	0.84
Pesticides	0.00
Toxic Releases	65.2
Traffic	99.3
Effect Indicators	—
CleanUp Sites	38.4
Groundwater	0.00
Haz Waste Facilities/Generators	23.7
Impaired Water Bodies	12.5
Solid Waste	0.00
Sensitive Population	—
Asthma	6.74
Cardio-vascular	40.4
Low Birth Weights	11.1
Socioeconomic Factor Indicators	—
Education	25.1
Housing	32.3
Linguistic	22.2
Poverty	12.7

Unemployment	35.0

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	85.76928012
Employed	47.8121391
Median HI	87.09097908
Education	—
Bachelor's or higher	69.48543565
High school enrollment	18.81175414
Preschool enrollment	13.15282946
Transportation	—
Auto Access	74.57975106
Active commuting	9.303220839
Social	—
2-parent households	98.93494161
Voting	54.20248941
Neighborhood	—
Alcohol availability	89.47773643
Park access	49.18516617
Retail density	5.748748877
Supermarket access	34.80046195
Tree canopy	40.76735532
Housing	—
Homeownership	92.7242397

Housing habitability	79.62273835
Low-inc homeowner severe housing cost burden	30.37341204
Low-inc renter severe housing cost burden	52.0980367
Uncrowded housing	91.95431798
Health Outcomes	—
Insured adults	67.56063134
Arthritis	61.9
Asthma ER Admissions	87.2
High Blood Pressure	51.5
Cancer (excluding skin)	45.0
Asthma	58.2
Coronary Heart Disease	83.6
Chronic Obstructive Pulmonary Disease	76.7
Diagnosed Diabetes	83.3
Life Expectancy at Birth	63.2
Cognitively Disabled	72.6
Physically Disabled	83.0
Heart Attack ER Admissions	55.9
Mental Health Not Good	67.2
Chronic Kidney Disease	85.5
Obesity	49.6
Pedestrian Injuries	66.1
Physical Health Not Good	74.9
Stroke	84.7
Health Risk Behaviors	—
Binge Drinking	21.6
Current Smoker	63.8

No Leisure Time for Physical Activity	72.6
Climate Change Exposures	—
Wildfire Risk	25.0
SLR Inundation Area	0.0
Children	64.0
Elderly	70.8
English Speaking	81.7
Foreign-born	28.2
Outdoor Workers	60.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	78.7
Traffic Density	98.1
Traffic Access	23.0
Other Indices	—
Hardship	29.3
Other Decision Support	—
2016 Voting	64.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	15.0
Healthy Places Index Score for Project Location (b)	69.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Taken From Site Plan
Operations: Vehicle Data	Trip Characteristics based on information provided in the Traffic Analysis
Operations: Fleet Mix	Passenger Car Mix estimated based on CalEEMod default fleet mix and the ratio of the vehicle classes (LDA, LDT1, LDT2, MDV, MCY). Truck Fleet Mix based on 2, 3 and 4 axle trucks
Operations: Hearths	SCAQMD Rule 445 no wood burning devices, Wood burning fireplaces added to gas fireplaces
Operations: Architectural Coatings	SCAQMD Rule 1113
Operations: Water and Waste Water	Water usage adjusted to reflect the WSA (December 2020)
Operations: Refrigerants	As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater. Beginning 1 January 2025, all new air conditioning equipment may not use refrigerants with a GWP of 750 or greater.

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APPENDIX 4.3:

EMFAC2021

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Riverside (SC)
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calenc	Vehicle Cat	Model Year	Speed	Fuel	Population	Total VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
Riverside (SC)	2024	HHDT	Aggregate	Aggregate	Gasoline	7.589475903	347.9694468	0.092180823	92.18082291	321404.9638	347.9694468	1967302.751	6.12	HHDT
Riverside (SC)	2024	HHDT	Aggregate	Aggregate	Diesel	14792.02338	1911347.779	313.0439759	313043.9759		1911347.779			
Riverside (SC)	2024	HHDT	Aggregate	Aggregate	Electricity	47.99547895	5148.201829	0	0		5148.201829			
Riverside (SC)	2024	HHDT	Aggregate	Aggregate	Natural Gas	740.0705237	50458.80082	8.268807048	8268.807048		50458.80082			
Riverside (SC)	2024	LDA	Aggregate	Aggregate	Gasoline	469145.3818	20418129.53	688.4836596	688483.6596	700469.6115	20418129.53	22069128.65	31.51	LDA
Riverside (SC)	2024	LDA	Aggregate	Aggregate	Diesel	1473.049219	54327.45303	1.267188759	1267.188759		54327.45303			
Riverside (SC)	2024	LDA	Aggregate	Aggregate	Electricity	19934.69439	945704.6798	0	0		945704.6798			
Riverside (SC)	2024	LDA	Aggregate	Aggregate	Plug-in Hybri	12893.65575	650966.9876	10.71876311	10718.76311		650966.9876			
Riverside (SC)	2024	LDT1	Aggregate	Aggregate	Gasoline	40643.24621	1523061.246	62.04624692	62046.24692	62104.32538	1523061.246	1529163.988	24.62	LDT1
Riverside (SC)	2024	LDT1	Aggregate	Aggregate	Diesel	18.16927182	339.6979643	0.013831102	13.83110227		339.6979643			
Riverside (SC)	2024	LDT1	Aggregate	Aggregate	Electricity	60.98632141	2789.967089	0	0		2789.967089			
Riverside (SC)	2024	LDT1	Aggregate	Aggregate	Plug-in Hybri	52.35545177	2973.077776	0.044247357	44.24735695		2973.077776			
Riverside (SC)	2024	LDT2	Aggregate	Aggregate	Gasoline	196761.1569	8732860.794	359.674683	359674.683	361927.3798	8732860.794	8893408.735	24.57	LDT2
Riverside (SC)	2024	LDT2	Aggregate	Aggregate	Diesel	611.2140627	29007.74721	0.880423066	880.4230662		29007.74721			
Riverside (SC)	2024	LDT2	Aggregate	Aggregate	Electricity	1212.721837	43455.52608	0	0		43455.52608			
Riverside (SC)	2024	LDT2	Aggregate	Aggregate	Plug-in Hybri	1617.209463	88084.6679	1.372273758	1372.273758		88084.6679			
Riverside (SC)	2024	LHDT1	Aggregate	Aggregate	Gasoline	17828.73734	656766.0119	48.36247552	48362.47552	75554.20605	656766.0119	1221087.42	16.16	LHDT1
Riverside (SC)	2024	LHDT1	Aggregate	Aggregate	Diesel	15247.60565	560367.9206	27.19173053	27191.73053		560367.9206			
Riverside (SC)	2024	LHDT1	Aggregate	Aggregate	Electricity	53.50587181	3953.487241	0	0		3953.487241			
Riverside (SC)	2024	LHDT2	Aggregate	Aggregate	Gasoline	2494.679179	89754.81853	7.38743171	7387.43171	22224.411	89754.81853	344827.7113	15.52	LHDT2
Riverside (SC)	2024	LHDT2	Aggregate	Aggregate	Diesel	6844.928194	254103.3578	14.83697929	14836.97929		254103.3578			
Riverside (SC)	2024	LHDT2	Aggregate	Aggregate	Electricity	13.8489928	969.5349487	0	0		969.5349487			
Riverside (SC)	2024	MCY	Aggregate	Aggregate	Gasoline	24077.0623	140258.0803	3.359217865	3359.217865	3359.217865	140258.0803	140258.0803	41.75	MCY
Riverside (SC)	2024	MDV	Aggregate	Aggregate	Gasoline	158529.7591	6468418.76	332.0736912	332073.6912	337278.1883	6468418.76	6673535.232	19.79	MDV
Riverside (SC)	2024	MDV	Aggregate	Aggregate	Diesel	2456.219583	102039.6434	4.306633032	4306.633032		102039.6434			
Riverside (SC)	2024	MDV	Aggregate	Aggregate	Electricity	1347.135818	48185.7285	0	0		48185.7285			
Riverside (SC)	2024	MDV	Aggregate	Aggregate	Plug-in Hybri	1094.492843	54891.09982	0.897864131	897.864131		54891.09982			
Riverside (SC)	2024	MH	Aggregate	Aggregate	Gasoline	4781.777946	41623.53594	8.518926412	8518.926412	10212.97469	41623.53594	59176.14669	5.79	MH
Riverside (SC)	2024	MH	Aggregate	Aggregate	Diesel	2046.063726	17552.61075	1.694048275	1694.048275		17552.61075			
Riverside (SC)	2024	MHDT	Aggregate	Aggregate	Gasoline	1238.0029	49965.95549	9.588666638	9588.666638	73502.73221	49965.95549	624307.4842	8.49	MHDT
Riverside (SC)	2024	MHDT	Aggregate	Aggregate	Diesel	12954.3675	564761.4751	63.06414519	63064.14519		564761.4751			
Riverside (SC)	2024	MHDT	Aggregate	Aggregate	Electricity	40.46425607	2074.722372	0	0		2074.722372			
Riverside (SC)	2024	MHDT	Aggregate	Aggregate	Natural Gas	158.0466253	7505.331205	0.849920382	849.9203818		7505.331205			
Riverside (SC)	2024	OBUS	Aggregate	Aggregate	Gasoline	374.6153087	12781.812	2.496601383	2496.601383	4662.380277	12781.812	30088.9967	6.45	OBUS
Riverside (SC)	2024	OBUS	Aggregate	Aggregate	Diesel	219.2789175	15140.91273	1.951181612	1951.181612		15140.91273			
Riverside (SC)	2024	OBUS	Aggregate	Aggregate	Electricity	0.821516166	55.60331633	0	0		55.60331633			
Riverside (SC)	2024	OBUS	Aggregate	Aggregate	Natural Gas	34.6553722	2110.668656	0.214597282	214.5972817		2110.668656			
Riverside (SC)	2024	SBUS	Aggregate	Aggregate	Gasoline	423.5817437	16753.46749	1.914821769	1914.821769	5918.221943	16753.46749	37909.3201	6.41	SBUS
Riverside (SC)	2024	SBUS	Aggregate	Aggregate	Diesel	491.8063992	10225.99182	1.394925642	1394.925642		10225.99182			
Riverside (SC)	2024	SBUS	Aggregate	Aggregate	Electricity	2.445505521	61.99924762	0	0		61.99924762			
Riverside (SC)	2024	SBUS	Aggregate	Aggregate	Natural Gas	443.1589434	10867.86154	2.608474532	2608.474532		10867.86154			
Riverside (SC)	2024	UBUS	Aggregate	Aggregate	Gasoline	146.2127201	18511.1132	3.282633075	3282.633075	11054.35384	18511.1132	49631.8201	4.49	UBUS
Riverside (SC)	2024	UBUS	Aggregate	Aggregate	Diesel	0.3117338	30.10971099	0.002675115	2.675115035		30.10971099			
Riverside (SC)	2024	UBUS	Aggregate	Aggregate	Electricity	0.120004951	18.36371585	0	0		18.36371585			
Riverside (SC)	2024	UBUS	Aggregate	Aggregate	Natural Gas	252.109466	31072.23347	7.769045647	7769.045647		31072.23347			

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Riverside (SC)
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calenc	Vehicle Cat	Model Year	Speed	Fuel	Population	Total VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
Riverside (SC)	2025	HHDT	Aggregate	Aggregate	Gasoline	6.232252524	303.889871	0.078875502	78.87550173	324061.9332	303.889871	2014903.459	6.22	HHDT
Riverside (SC)	2025	HHDT	Aggregate	Aggregate	Diesel	15281.49903	1950611.476	315.5182536	315518.2536		1950611.476			
Riverside (SC)	2025	HHDT	Aggregate	Aggregate	Electricity	103.9487733	11894.93596	0	0		11894.93596			
Riverside (SC)	2025	HHDT	Aggregate	Aggregate	Natural Gas	781.6601067	52093.15724	8.464804133	8464.804133		52093.15724			
Riverside (SC)	2025	LDA	Aggregate	Aggregate	Gasoline	469318.5342	20373765.83	673.3165394	673316.5394	685799.5767	20373765.83	22281991.59	32.49	LDA
Riverside (SC)	2025	LDA	Aggregate	Aggregate	Diesel	1383.809245	49996.02059	1.157204906	1157.204906		49996.02059			
Riverside (SC)	2025	LDA	Aggregate	Aggregate	Electricity	23756.17576	1153396.904	0	0		1153396.904			
Riverside (SC)	2025	LDA	Aggregate	Aggregate	Plug-in Hybri	14087.23202	704832.8394	11.32583244	11325.83244		704832.8394			
Riverside (SC)	2025	LDT1	Aggregate	Aggregate	Gasoline	39844.42885	1499609.575	59.92078241	59920.78241	59994.79347	1499609.575	1508277.871	25.14	LDT1
Riverside (SC)	2025	LDT1	Aggregate	Aggregate	Diesel	16.26032827	298.1728862	0.012131898	12.13189805		298.1728862			
Riverside (SC)	2025	LDT1	Aggregate	Aggregate	Electricity	84.57619148	4089.475353	0	0		4089.475353			
Riverside (SC)	2025	LDT1	Aggregate	Aggregate	Plug-in Hybri	76.19034646	4280.647946	0.061879155	61.87915548		4280.647946			
Riverside (SC)	2025	LDT2	Aggregate	Aggregate	Gasoline	201900.7772	8973973.952	360.0165635	360016.5635	362521.4419	8973973.952	9168424.554	25.29	LDT2
Riverside (SC)	2025	LDT2	Aggregate	Aggregate	Diesel	648.0824816	30519.42791	0.906087045	906.0870448		30519.42791			
Riverside (SC)	2025	LDT2	Aggregate	Aggregate	Electricity	1658.408696	58637.73041	0	0		58637.73041			
Riverside (SC)	2025	LDT2	Aggregate	Aggregate	Plug-in Hybri	1963.286623	105293.4446	1.598791388	1598.791388		105293.4446			
Riverside (SC)	2025	LHDT1	Aggregate	Aggregate	Gasoline	17598.36242	652458.21	46.82732866	46827.32866	73403.79877	652458.21	1212550.7	16.52	LHDT1
Riverside (SC)	2025	LHDT1	Aggregate	Aggregate	Diesel	15075.59282	549831.8274	26.5764701	26576.4701		549831.8274			
Riverside (SC)	2025	LHDT1	Aggregate	Aggregate	Electricity	149.6982853	10260.66293	0	0		10260.66293			
Riverside (SC)	2025	LHDT2	Aggregate	Aggregate	Gasoline	2462.303572	88408.90183	7.133200743	7133.200743	21661.35468	88408.90183	341190.0394	15.75	LHDT2
Riverside (SC)	2025	LHDT2	Aggregate	Aggregate	Diesel	6820.445818	250292.8301	14.52815394	14528.15394		250292.8301			
Riverside (SC)	2025	LHDT2	Aggregate	Aggregate	Electricity	38.18158868	2488.307475	0	0		2488.307475			
Riverside (SC)	2025	MCY	Aggregate	Aggregate	Gasoline	24005.46384	138549.7935	3.307549619	3307.549619	3307.549619	138549.7935	138549.7935	41.89	MCY
Riverside (SC)	2025	MDV	Aggregate	Aggregate	Gasoline	157992.5704	6448292.677	323.4938203	323493.8203	328676.5122	6448292.677	6678432.543	20.32	MDV
Riverside (SC)	2025	MDV	Aggregate	Aggregate	Diesel	2427.253752	99526.12558	4.137752355	4137.752355		99526.12558			
Riverside (SC)	2025	MDV	Aggregate	Aggregate	Electricity	1830.142844	64565.5975	0	0		64565.5975			
Riverside (SC)	2025	MDV	Aggregate	Aggregate	Plug-in Hybri	1324.504282	66048.14278	1.044939643	1044.939643		66048.14278			
Riverside (SC)	2025	MH	Aggregate	Aggregate	Gasoline	4508.467531	38795.29207	7.939175542	7939.175542	9582.26868	38795.29207	55815.16631	5.82	MH
Riverside (SC)	2025	MH	Aggregate	Aggregate	Diesel	2015.081247	17019.87424	1.643093138	1643.093138		17019.87424			
Riverside (SC)	2025	MHDT	Aggregate	Aggregate	Gasoline	1219.56756	49718.98291	9.418016992	9418.016992	73843.62953	49718.98291	635118.1523	8.60	MHDT
Riverside (SC)	2025	MHDT	Aggregate	Aggregate	Diesel	13275.74248	571359.1019	63.53271272	63532.71272		571359.1019			
Riverside (SC)	2025	MHDT	Aggregate	Aggregate	Electricity	118.7135177	6143.919124	0	0		6143.919124			
Riverside (SC)	2025	MHDT	Aggregate	Aggregate	Natural Gas	169.7860028	7896.148358	0.892899818	892.8998181		7896.148358			
Riverside (SC)	2025	OBUS	Aggregate	Aggregate	Gasoline	362.5102847	12151.28279	2.347950658	2347.950658	4510.758842	12151.28279	29688.04546	6.58	OBUS
Riverside (SC)	2025	OBUS	Aggregate	Aggregate	Diesel	224.9321911	15183.67961	1.940769719	1940.769719		15183.67961			
Riverside (SC)	2025	OBUS	Aggregate	Aggregate	Electricity	2.021694394	134.2617193	0	0		134.2617193			
Riverside (SC)	2025	OBUS	Aggregate	Aggregate	Natural Gas	36.9521167	2218.821339	0.222038465	222.0384652		2218.821339			
Riverside (SC)	2025	SBUS	Aggregate	Aggregate	Gasoline	426.2067312	16859.59503	1.92304347	1923.04347	5926.536182	16859.59503	38036.5897	6.42	SBUS
Riverside (SC)	2025	SBUS	Aggregate	Aggregate	Diesel	483.8964136	9931.139032	1.352394432	1352.394432		9931.139032			
Riverside (SC)	2025	SBUS	Aggregate	Aggregate	Electricity	5.22909553	143.1587763	0	0		143.1587763			
Riverside (SC)	2025	SBUS	Aggregate	Aggregate	Natural Gas	457.8096259	11102.69686	2.65109828	2651.09828		11102.69686			
Riverside (SC)	2025	UBUS	Aggregate	Aggregate	Gasoline	146.4959788	18545.85863	3.288543187	3288.543187	10964.44655	18545.85863	49731.99827	4.54	UBUS
Riverside (SC)	2025	UBUS	Aggregate	Aggregate	Diesel	0.3117338	30.10971099	0.002675115	2.675115035		30.10971099			
Riverside (SC)	2025	UBUS	Aggregate	Aggregate	Electricity	0.20926462	33.75780976	0	0		33.75780976			
Riverside (SC)	2025	UBUS	Aggregate	Aggregate	Natural Gas	252.5418031	31122.27213	7.673228246	7673.228246		31122.27213			

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Riverside (SC)
Calendar Year: 2026
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calenc	Vehicle Cat	Model Year	Speed	Fuel	Population	Total VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
Riverside (SC)	2026	HHDT	Aggregate	Aggregate	Gasoline	5.301713201	269.8155783	0.068469804	68.46980429	326183.3321	269.8155783	2063431.007	6.33	HHDT
Riverside (SC)	2026	HHDT	Aggregate	Aggregate	Diesel	15687.78827	1988453.103	317.4311809	317431.1809		1988453.103			
Riverside (SC)	2026	HHDT	Aggregate	Aggregate	Electricity	181.0556624	20854.79688	0	0		20854.79688			
Riverside (SC)	2026	HHDT	Aggregate	Aggregate	Natural Gas	822.9858358	53853.29132	8.683681391	8683.681391		53853.29132			
Riverside (SC)	2026	LDA	Aggregate	Aggregate	Gasoline	470220.2179	20338993.18	657.9019755	657901.9755	670683.7214	20338993.18	22423581.77	33.43	LDA
Riverside (SC)	2026	LDA	Aggregate	Aggregate	Diesel	1278.903087	45656.81459	1.04446634	1044.46634		45656.81459			
Riverside (SC)	2026	LDA	Aggregate	Aggregate	Electricity	27110.24505	1294343.513	0	0		1294343.513			
Riverside (SC)	2026	LDA	Aggregate	Aggregate	Plug-in Hybri	15111.22646	744588.2646	11.73727955	11737.27955		744588.2646			
Riverside (SC)	2026	LDT1	Aggregate	Aggregate	Gasoline	39097.73904	1475770.596	57.77065353	57770.65353	57860.51954	1475770.596	1487146.031	25.70	LDT1
Riverside (SC)	2026	LDT1	Aggregate	Aggregate	Diesel	13.62192751	246.3725383	0.009960174	9.960173709		246.3725383			
Riverside (SC)	2026	LDT1	Aggregate	Aggregate	Electricity	113.2552136	5510.233656	0	0		5510.233656			
Riverside (SC)	2026	LDT1	Aggregate	Aggregate	Plug-in Hybri	101.686721	5618.828531	0.079905828	79.90582849		5618.828531			
Riverside (SC)	2026	LDT2	Aggregate	Aggregate	Gasoline	207104.2919	9189016.153	359.2463978	359246.3978	361967.9264	9189016.153	9414279.735	26.01	LDT2
Riverside (SC)	2026	LDT2	Aggregate	Aggregate	Diesel	682.5626595	31821.71127	0.923868936	923.8689364		31821.71127			
Riverside (SC)	2026	LDT2	Aggregate	Aggregate	Electricity	2094.273367	72949.08151	0	0		72949.08151			
Riverside (SC)	2026	LDT2	Aggregate	Aggregate	Plug-in Hybri	2291.195555	120492.7893	1.797659677	1797.659677		120492.7893			
Riverside (SC)	2026	LHDT1	Aggregate	Aggregate	Gasoline	17398.34216	648258.6134	45.43230342	45432.30342	71378.10447	648258.6134	1205852.586	16.89	LHDT1
Riverside (SC)	2026	LHDT1	Aggregate	Aggregate	Diesel	14868.32038	538771.2685	25.94580105	25945.80105		538771.2685			
Riverside (SC)	2026	LHDT1	Aggregate	Aggregate	Electricity	286.9935654	18822.70429	0	0		18822.70429			
Riverside (SC)	2026	LHDT2	Aggregate	Aggregate	Gasoline	2430.034218	87077.56554	6.894650038	6894.650038	21104.05262	87077.56554	337819.1023	16.01	LHDT2
Riverside (SC)	2026	LHDT2	Aggregate	Aggregate	Diesel	6777.719033	246178.6334	14.20940258	14209.40258		246178.6334			
Riverside (SC)	2026	LHDT2	Aggregate	Aggregate	Electricity	73.06243174	4562.903373	0	0		4562.903373			
Riverside (SC)	2026	MCY	Aggregate	Aggregate	Gasoline	23937.33086	137142.5787	3.259850983	3259.850983	3259.850983	137142.5787	137142.5787	42.07	MCY
Riverside (SC)	2026	MDV	Aggregate	Aggregate	Gasoline	157654.7501	6425602.492	314.7102388	314710.2388	319841.9429	6425602.492	6678197.896	20.88	MDV
Riverside (SC)	2026	MDV	Aggregate	Aggregate	Diesel	2395.180805	96875.32958	3.958815392	3958.815392		96875.32958			
Riverside (SC)	2026	MDV	Aggregate	Aggregate	Electricity	2298.450518	79855.22944	0	0		79855.22944			
Riverside (SC)	2026	MDV	Aggregate	Aggregate	Plug-in Hybri	1539.714974	75864.84529	1.172888712	1172.888712		75864.84529			
Riverside (SC)	2026	MH	Aggregate	Aggregate	Gasoline	4250.734566	36312.00617	7.425870006	7425.870006	9021.53348	36312.00617	52833.22222	5.86	MH
Riverside (SC)	2026	MH	Aggregate	Aggregate	Diesel	1981.725027	16521.21606	1.595663475	1595.663475		16521.21606			
Riverside (SC)	2026	MHDT	Aggregate	Aggregate	Gasoline	1204.155669	49534.83957	9.263997368	9263.997368	74067.74937	49534.83957	646239.7348	8.72	MHDT
Riverside (SC)	2026	MHDT	Aggregate	Aggregate	Diesel	13571.64646	577213.7586	63.87135704	63871.35704		577213.7586			
Riverside (SC)	2026	MHDT	Aggregate	Aggregate	Electricity	219.063018	11241.81607	0	0		11241.81607			
Riverside (SC)	2026	MHDT	Aggregate	Aggregate	Natural Gas	180.8134913	8249.320573	0.932394966	932.394966		8249.320573			
Riverside (SC)	2026	OBUS	Aggregate	Aggregate	Gasoline	350.9276772	11597.74291	2.216471452	2216.471452	4375.818964	11597.74291	29375.18585	6.71	OBUS
Riverside (SC)	2026	OBUS	Aggregate	Aggregate	Diesel	230.0918445	15233.6578	1.930307181	1930.307181		15233.6578			
Riverside (SC)	2026	OBUS	Aggregate	Aggregate	Electricity	3.398598414	222.0634986	0	0		222.0634986			
Riverside (SC)	2026	OBUS	Aggregate	Aggregate	Natural Gas	39.09901647	2321.721637	0.229040331	229.0403313		2321.721637			
Riverside (SC)	2026	SBUS	Aggregate	Aggregate	Gasoline	428.6165302	16957.83533	1.930418011	1930.418011	5931.110106	16957.83533	38160.16985	6.43	SBUS
Riverside (SC)	2026	SBUS	Aggregate	Aggregate	Diesel	474.8674611	9627.108018	1.308586985	1308.586985		9627.108018			
Riverside (SC)	2026	SBUS	Aggregate	Aggregate	Electricity	8.960082283	245.5300912	0	0		245.5300912			
Riverside (SC)	2026	SBUS	Aggregate	Aggregate	Natural Gas	472.4302591	11329.69641	2.69210511	2692.10511		11329.69641			
Riverside (SC)	2026	UBUS	Aggregate	Aggregate	Gasoline	146.7792196	18580.60009	3.25315693	3253.15693	10939.25606	18580.60009	49832.17645	4.56	UBUS
Riverside (SC)	2026	UBUS	Aggregate	Aggregate	Diesel	0.3117338	30.10971099	0.002675115	2.675114958		30.10971099			
Riverside (SC)	2026	UBUS	Aggregate	Aggregate	Electricity	0.298524289	49.15190367	0	0		49.15190367			
Riverside (SC)	2026	UBUS	Aggregate	Aggregate	Natural Gas	252.9741581	31172.31474	7.683424013	7683.424013		31172.31474			

Fule Consumption Multiplier	1000

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