



Spreckels Distribution Center

ENERGY ANALYSIS

CITY OF MANTECA

PREPARED BY:

Haseeb Qureshi
hqureshi@urbanxroads.com

Michael Tirohn
mtirohn@urbanxroads.com

FEBRUARY 20, 2025

TABLE OF CONTENTS

TABLE OF CONTENTS..... I

APPENDICES..... II

LIST OF EXHIBITS..... II

LIST OF TABLES II

LIST OF ABBREVIATED TERMS III

1 INTRODUCTION..... 5

 1.1 Site Location..... 5

 1.2 Project Description..... 5

2 EXISTING CONDITIONS 9

 2.1 Overview 9

 2.2 Electricity..... 12

 2.3 Natural Gas 13

 2.4 Transportation Energy Resources 17

3 REGULATORY BACKGROUND..... 19

 3.1 Federal Regulations..... 19

 3.2 California Regulations 21

4 PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES 26

 4.1 Evaluation Criteria..... 26

 4.2 Methodology..... 26

 4.3 Construction Energy Demands 27

 4.4 Operational Energy Demands 34

 4.5 Summary 37

5 ENERGY FINDINGS AND RECOMMENDATIONS 41

6 REFERENCES..... 45

7 CERTIFICATIONS..... 48

APPENDICES

- APPENDIX 4.1: CALEEMOD CONSTRUCTION EMISSIONS MODEL OUTPUTS
- APPENDIX 4.2: CALEEMOD OPERATIONAL EMISSIONS MODEL OUTPUTS
- APPENDIX 4.3: EMFAC2021 MODEL OUTPUTS

LIST OF EXHIBITS

EXHIBIT 1-A: LOCATION MAP 6

EXHIBIT 1-B: SITE PLAN..... 7

LIST OF TABLES

TABLE 2-1: TOTAL ELECTRICITY SYSTEM POWER (CALIFORNIA 2022) 11

TABLE 2-2: PG&E 2022 POWER CONTENT MIX..... 13

TABLE 4-1: CONSTRUCTION DURATION 27

TABLE 4-2: CONSTRUCTION POWER COST 28

TABLE 4-3: CONSTRUCTION ELECTRICITY USAGE 28

TABLE 4-4: CONSTRUCTION EQUIPMENT ASSUMPTIONS..... 28

TABLE 4-5: CONSTRUCTION EQUIPMENT FUEL CONSUMPTION ESTIMATES..... 30

TABLE 4-6: CONSTRUCTION TRIPS AND VMT 31

TABLE 4-7: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES 32

TABLE 4-8: CONSTRUCTION VENDOR FUEL CONSUMPTION ESTIMATES..... 33

TABLE 4-9: TOTAL PROJECT-GENERATED TRAFFIC ANNUAL FUEL CONSUMPTION 34

TABLE 4-10: ON-SITE CARGO HANDLING EQUIPMENT FUEL CONSUMPTION ESTIMATES..... 35

TABLE 4-11: EMERGENCY ENGINE FUEL CONSUMPTION ESTIMATES..... 36

TABLE 4-12: PROJECT ANNUAL OPERATIONAL ENERGY DEMAND SUMMARY 36

LIST OF ABBREVIATED TERMS

(1)	Reference
AQIA	Air Quality Impact Analysis
BACM	Best Available Control Measures
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CPUC	California Public Utilities Commission
DMV	Department of Motor Vehicles
EIA	Energy Information Administration
EIR	Environmental Impact Report
EMFAC	Emissions Factor
FERC	Federal Energy Regulatory Commission
GWh	Gigawatt Hour
HHDT	Heavy-Heavy Duty
IEPR	Integrative Energy Policy Report
ISO	Independent Service Operator
ISTEA	Intermodal Surface Transportation Efficiency Act
kBTU	Kilo-British Thermal Units
kWh	Kilowatt Hour
LDA	Light Duty Auto
LDT1/LDT2	Light-Duty Trucks
MDV	Medium Duty Trucks
MHDT	Medium-Heavy Duty Trucks
mpg	Miles Per Gallon
MPO	Metropolitan Planning Organization
PG&E	Pacific Gas and Electric
Project	Spreckels Distribution Center
SDAB	San Diego Air Basin
SDG&E	San Diego Gas and Electric
sf	Square Feet
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SoCalGas	Southern California Gas
TEA-21	Transportation Equity Act for the 21 st Century
VMT	Vehicle Miles Traveled

This page intentionally left blank

1 INTRODUCTION

This report presents the results of the energy analysis prepared by Urban Crossroads, Inc., for the proposed Spreckels Distribution Center (Project). The purpose of this report is to ensure that energy implication is considered by the City of Manteca, as the lead agency, and to quantify anticipated energy usage associated with construction 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 Spreckels Distribution Center (Project) is located at 407 Spreckels Avenue in the City of Manteca, as shown in Exhibit 1-A.

1.2 PROJECT DESCRIPTION

The Project Applicant is processing a Conditional Use Permit and Site Plan Review for the proposed Project to redevelop the Project site with a modern, 289,449 square feet (SF) warehouse and office building with 46 truck dock doors, 180 standard parking spaces, six (6) accessible parking spaces, and 63 truck trailer spaces. Of the total square footage of the building, the Project would allocate 296,230 sf for warehousing/distribution and 8,000 sf for office uses. Currently, the Project site is vacant and undeveloped, consisting primarily of ruderal grasses, which appear to be regularly disked. An eight-foot solid sound wall extends along the western site boundary, and the Manteca Tidewater Bikeway extends along the eastern site boundary.

A preliminary site plan for the proposed Project is shown in Exhibit 1-B. The proposed Project has an anticipated opening year of 2026.

EXHIBIT 1-A: LOCATION MAP

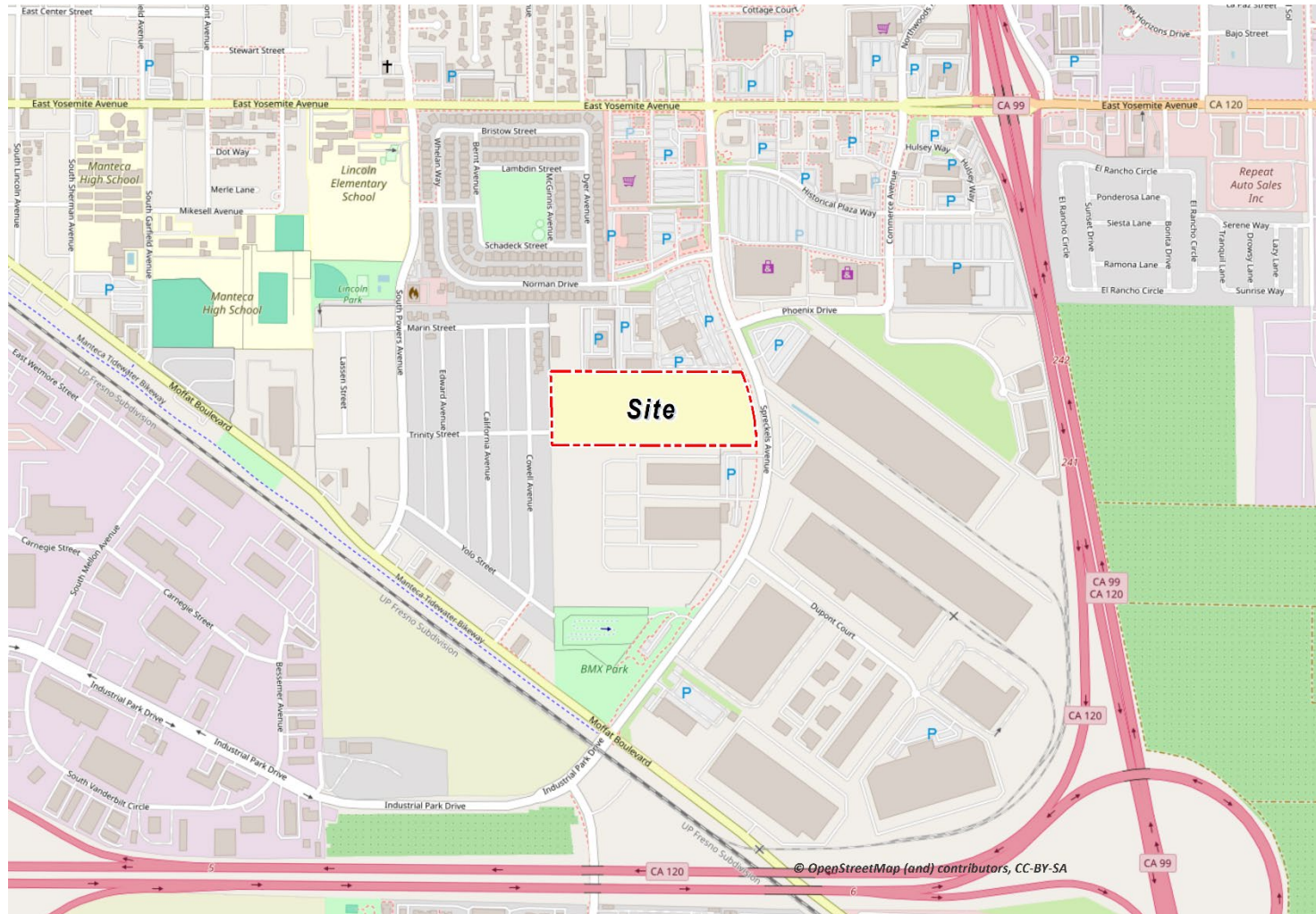
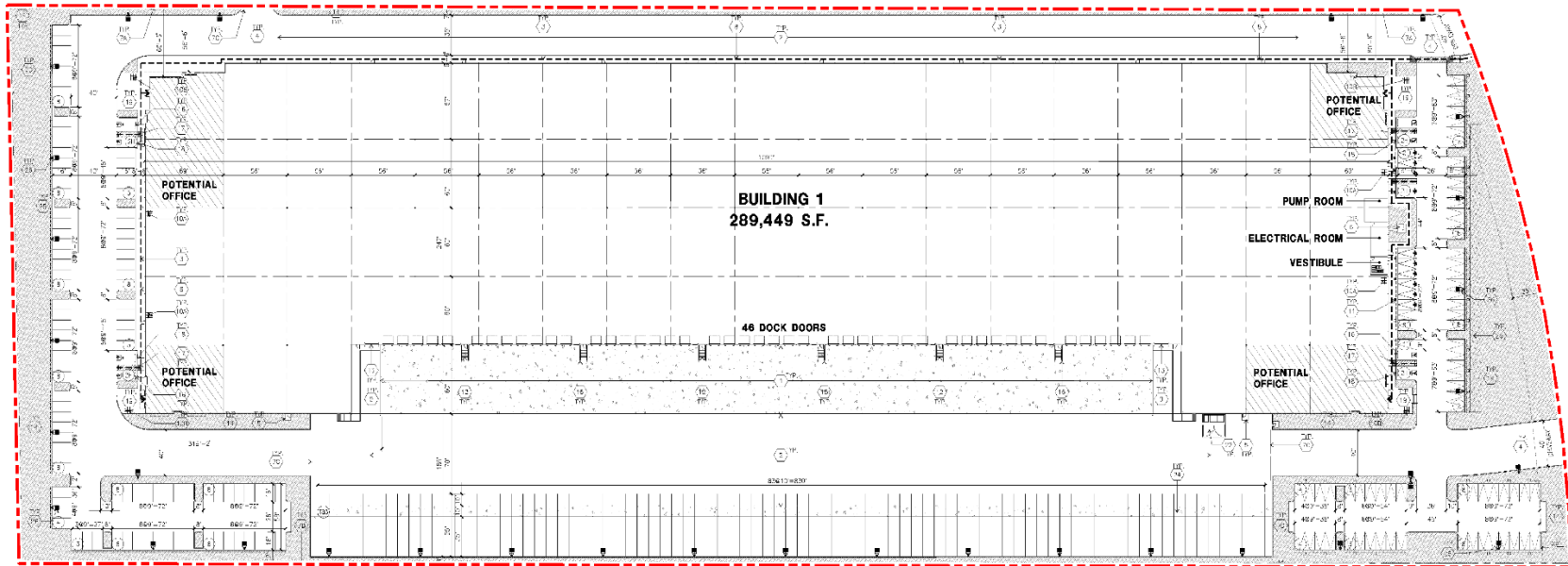


EXHIBIT 1-B: SITE PLAN



This page intentionally left blank

2 EXISTING CONDITIONS

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

2.1 OVERVIEW

The most recent data for California’s estimated total energy consumption and natural gas consumption is from 2021, released by the United States (U.S.) Energy Information Administration’s (EIA) California State Profile and Energy Estimates in 2021 and included (1):

- 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 (2). 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) (3). 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) (4).

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. (5)

According to the EIA, California used approximately 247,250 gigawatt hours of electricity in 2021 (6). 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 (6).

According to the EIA, California used approximately 200,871 million therms of natural gas in 2021 (7). 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 (7). 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 (7).

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%) (8). 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 (9):

- 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 was 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 San Joaquin Valley Air Basin (SJVAB) 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. Similarly, the subsequent 2022 IEPR's provides information and policy recommendations on advancing a clean, reliable, and affordable energy system (10).

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 (11).

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 Pacific Gas & Electric (PG&E). PG&E provides natural gas and electric power to approximately 16 million people in 47 counties, within a service area encompassing approximately 70,000 square miles. Based on PG&E's 2022 Power Content Label Mix, PG&E derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. PG&E also purchases from independent power producers and utilities, including out-of-state suppliers (12).

Table 2-2 presents PG&E's specific proportional shares of electricity sources in 2022. As indicated in Table 2-2, the 2022 PG&E Power Mix has renewable energy at 35.8% of the overall energy

resources. Geothermal resources are at 4.7%, wind power is at 10.8%, large hydroelectric sources are at 9.2%, solar energy is at 17.0%, and coal is at 2.1% (13).

TABLE 2-2: PG&E 2022 POWER CONTENT MIX

Energy Resources	2022 PG&E Power Mix
Eligible Renewable	35.8%
Biomass & Waste	2.1%
Geothermal	4.7%
Eligible Hydroelectric	1.1%
Solar	17.0%
Wind	10.8%
Coal	2.1%
Large Hydroelectric	9.2%
Natural Gas	36.4%
Nuclear	9.2%
Other	0.1%
Unspecified Sources of power*	7.1%
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 commercial 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.” (14)

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

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% (15).

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 (16), 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 (5). 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 8% of the nation's total consumption. The State is the largest U.S. consumer of motor gasoline and jet fuel, and 83% of the petroleum consumed in California is used in the transportation sector (17).

¹ Fuel consumptions estimated utilizing information from EMFAC2021.

This page intentionally left blank

3 REGULATORY BACKGROUND

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

3.1 FEDERAL REGULATIONS

3.1.1 ENERGY POLICY AND CONSERVATION ACT (EPCA)

The EPCA was enacted in 1975 in response to the 1973 oil crisis. The primary goals of EPCA are to increase energy production and supply and reduce energy demand through the establishment of testing procedures, labeling requirements, and energy efficiency standards for vehicles, equipment, and appliances.

3.1.2 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.

3.1.3 ENERGY POLICY ACT OF 1992

The Energy Policy Act of 1992 took effect in October 1992 and established goals and mandates to increase the use of clean energy in the United States, while also amending utility laws and requiring improvements in building and vehicles energy efficiency.

3.1.4 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.

3.1.5 ENERGY POLICY ACT OF 2005

The Energy Policy Act of 2005 was enacted in August 2005 and provided tax incentives and loan guarantees for alternative energy sources such as wind and geothermal. Additionally, the Act set targets for the quantity of biofuels to be mixed with gasoline, resulting in a significant increase in ethanol production.

3.1.6 SAFE, ACCOUNTABLE, FLEXIBLE, EFFICIENT TRANSPORTATION EQUITY ACT: A LEGACY FOR USERS (SAFETEA-LU)

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was a U.S. federal surface transportation funding and authorization bill. Enacted on August 10, 2005, it provided \$244.1 billion to improve and maintain the surface transportation infrastructure in the United States, including highways, transit systems, bicycling and pedestrian facilities, and freight rail operations. The bill was replaced by the Moving Ahead for Progress in the 21st Century Act (MAP-21) in 2012.

3.1.7 ENERGY INDEPENDENCE AND SECURITY ACT OF 2007

The Energy Independence and Security Act of 2007 was enacted in December 2007 with the purpose of moving the United States toward greater energy independence by increasing the production of renewable fuels, improving building and vehicle energy efficiency, and improving the energy performance of the Federal Government. Additionally, the Act sought to promote research on greenhouse gas capture and storage technologies.

3.1.8 MOVING AHEAD FOR PROGRESS IN THE 21ST CENTURY ACT (MAP-21)

The Moving Ahead for Progress in the 21st Century Act (MAP-21) is a U.S. federal surface transportation funding and authorization bill. Signed into law on July 6, 2012, it aimed to reduce crashes, injuries, and fatalities involving large trucks and buses by raising safety standards. The law provided over \$105 billion for fiscal years 2013 and 2014 to guide the growth and development of the country's transportation infrastructure.

3.1.9 FIXING AMERICA'S SURFACE TRANSPORTATION ACT (FAST)

The FAST Act, signed into law in 2015, provides long-term funding certainty for surface transportation. It allocates over \$305 billion for programs like Federal-aid highways, streamlining approval processes, and establishing a National Surface Transportation and Innovative Finance Bureau. The Act aims to improve roads, bridges, transit systems, and rail transportation networks.

3.1.10 Infrastructure Investment and Jobs Act (IIJA)

The IIJA, was enacted in November 2021 and allocates approximately \$550 billion in new federal funds for roads, bridges, water infrastructure, transit, and internet.

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 2022 IEPR was adopted February 2023, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2022 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 2022 IEPR (10).

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 TITLE 24 ENERGY EFFICIENCY STANDARDS AND CALIFORNIA GREEN BUILDING 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 August 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 became effective on January 1, 2023. 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 (18). The Project would be required to comply with the applicable standards in place at the time plan check submittals are made. These require, among other items (19):

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).
- 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 EV 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 reused 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 combined 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 California Air Resources Board (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

First established in 2002 under Senate Bill (SB) 1078, California's RPS requires retail sellers of electric services to increase procurement from eligible renewable resources to 44% of total retail sales by 2024 (20).

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

In October 2015, the legislature approved, and the Governor signed, SB 350 which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the 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 would 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 would facilitate the growth of renewable energy markets in the western U.S. (California Leginfo 2015).

This page intentionally left blank

4 PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES

4.1 EVALUATION CRITERIA

Appendix F of the *State CEQA Guidelines* (21) 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.

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.

4.2 METHODOLOGY

Information from the CalEEMod Version 2022.1 outputs for the *Spreckels Distribution Center Air Quality Impact Analysis* (AQIA) (23) was utilized in this analysis, detailing Project-related construction equipment, transportation energy demands, and facility energy demands.

4.2.1 CAL EEMOD

In May 2022, the SJVAPCD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the CalEEMod Version 2022.1. 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 (24). Accordingly, the latest version of CalEEMod has been used to determine the proposed Project's anticipated transportation and facility energy demands. Outputs from the annual model runs are provided in Appendices 4.1 through 4.3.

4.2.2 EMISSION FACTORS MODEL

On May 2, 2022, the EPA approved the 2021 version of the EMISSIONS FACTOR model (EMFAC2021) 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 (25). 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 and 2025 analysis years were utilized to determine the average vehicle fuel economy used throughout the duration of the Project. Outputs from the EMFAC2021 model run are 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

Construction is expected to commence in February 2025 and will last through December 2025 (23). 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* (26).

TABLE 4-1: CONSTRUCTION DURATION

Construction Activity	Start Date	End Date	Days
Site Preparation	2/1/2025	2/7/2025	5
Grading	2/8/2025	3/5/2025	18
Building Construction	3/6/2025	12/8/2025	198
Paving	10/28/2025	12/8/2025	30
Architectural Coating	10/28/2025	12/8/2025	30

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 (27).

As shown in Table 4-2, the total power cost of the on-site electricity usage during the construction of the Project is estimated to be approximately \$7,699.37.

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
High-Cube Cold Storage Warehouse	\$2.66	289.450	10	\$7,699.37
CONSTRUCTION POWER COST				\$7,699.37

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 PG&E's general service rate schedule was used to determine the Project's electrical usage. As of January 1, 2024, PG&E's general service rate is \$0.28 per kilowatt hours (kWh) of electricity for industrial services (28). As shown in Table 4-3, the total electricity usage from on-site Project construction related activities is estimated to be approximately 27,498 kWh.

TABLE 4-3: CONSTRUCTION ELECTRICITY USAGE

Land Use	Cost per kWh	Project Construction Electricity Usage (kWh)
High-Cube Cold Storage Warehouse	\$0.28	27,498
CONSTRUCTION ELECTRICITY USAGE		27,498

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, typical construction practices, as well as information provided by the Project applicant, each piece of equipment listed in Table 4-4 would 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

Construction Activity	Equipment	Amount	Hours Per Day
Site Preparation	Crawler Tractors	3	8
Grading	Excavators	1	8
	Graders	1	8

Construction Activity	Equipment	Amount	Hours Per Day
	Rubber Tired Dozers	1	8
	Scrapers	3	8
Building Construction	Cranes	1	8
	Forklifts	3	8
	Generator Sets	1	8
	Tractors/Loaders/Backhoes	4	8
	Welders	1	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 (29). For the purposes of this analysis, the calculations are based on all construction equipment being diesel-powered which is consistent with industry standards².

Diesel fuel would be supplied by existing industrial fuel providers serving the Project area and region. As presented in Table 4-5, Project construction activities would consume an estimated 35,634 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

Phase Name	Duration (Days)	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs./day	Total Fuel Consumption
Site Preparation	5	Crawler Tractors	87	3	8	0.43	898	243
Grading	18	Excavators	36	1	8	0.38	109	106
		Graders	148	1	8	0.41	485	472
		Rubber Tired Dozers	367	1	8	0.40	1,174	1,143
		Scrapers	423	3	8	0.48	4,873	4,741
Building Construction	198	Cranes	367	1	8	0.29	851	9,113
		Forklifts	82	3	8	0.20	394	4,213
		Generator Sets	14	1	8	0.74	83	887
		Tractors/Loaders/Backhoes	84	4	8	0.37	995	10,644
		Welders	46	1	8	0.45	166	1,772
Paving	30	Pavers	81	2	8	0.42	544	883
		Paving Equipment	89	2	8	0.36	513	831
		Rollers	36	2	8	0.38	219	355
Architectural Coating	30	Air Compressors	37	1	8	0.48	142	230
CONSTRUCTION FUEL DEMAND (GALLONS DIESEL FUEL)								35,634

4.3.4 CONSTRUCTION TRIPS AND VMT

Construction generates on-road vehicle emissions from vehicle usage for workers and vendors commuting to and from the site. The number of workers 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. Hauling trips are based on CalEEMod defaults.

TABLE 4-6: CONSTRUCTION TRIPS AND VMT

Construction Activity	Worker Trips Per Day	Vendor Trips Per Day	Hauling Trips Per Day
Site Preparation	8	1	0
Grading	15	4	0
Building Construction	122	37	0
Paving	15	6	0
Architectural Coating	25	0	0

4.3.5 CONSTRUCTION WORKER FUEL ESTIMATES

Based on CalEEMod methodology, it is assumed that 50% of all worker trips are from light-duty-auto vehicles (LDA), 25% are from light-duty-trucks (LDT1³), and 25% are from light-duty-trucks (LDT2⁴). 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 CARB to project changes in future emissions from on-road mobile sources (25). EMFAC2021 was run for the LDA, LDT1, and LDT2 vehicle class within the San Joaquin (SJV) area for the 2025 calendar year. Data from EMFAC2021 is shown in Appendix 4.3.

As shown in Table 4-7, the estimated annual fuel consumption resulting from Project construction worker trips is 10,914 gallons during full construction of the Project. It should be noted that construction worker trips would represent a “single-event” gasoline fuel demand and would not require ongoing or permanent commitment of fuel resources for this purpose.

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.

TABLE 4-7: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES

Year	Construction Activity	Duration (Days)	Worker Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)	
2025	LDA							
	Site Preparation	5	4	11.9	238	31.98	7	
	Grading	18	8	11.9	1,607	31.98	50	
	Building Construction	198	61	11.9	143,728	31.98	4,494	
	Paving	30	8	11.9	2,678	31.98	84	
	Architectural Coating	30	13	11.9	4,463	31.98	140	
	LDT1							
	Site Preparation	5	2	11.9	119	24.97	5	
	Grading	18	4	11.9	803	24.97	32	
	Building Construction	198	31	11.9	71,864	24.97	2,878	
	Paving	30	4	11.9	1,339	24.97	54	
	Architectural Coating	30	6	11.9	2,231	24.97	89	
	LDT2							
	Site Preparation	5	2	11.9	119	24.78	5	
	Grading	18	4	11.9	803	24.78	32	
	Building Construction	198	31	11.9	71,864	24.78	2,900	
	Paving	30	4	11.9	1,339	24.78	54	
	Architectural Coating	30	6	11.9	2,231	24.78	90	
	TOTAL CONSTRUCTION WORKER FUEL CONSUMPTION							10,914

4.3.6 CONSTRUCTION VENDOR/HAULING FUEL ESTIMATES

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 all hauling trips are from HHDTs. These assumptions are consistent with the CalEEMod defaults utilized within the AQIA (23). 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 San Joaquin (SJV) area for the 2025 calendar year. Data from EMFAC2021 is shown in Appendix 4.3.

Based on Table 4-8, it is estimated that 9,863 gallons of fuel will be consumed related to construction vendor trips during full construction of the Project. It should be noted that Project construction vendor trips would represent a “single-event” diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

TABLE 4-8: CONSTRUCTION VENDOR FUEL CONSUMPTION ESTIMATES

Year	Construction Activity	Duration (Days)	Vendor Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2025	MHDT						
	Site Preparation	5	1	9.1	23	8.17	3
	Grading	18	2	9.1	328	8.17	40
	Building Construction	198	19	9.1	33,333	8.17	4,079
	Paving	30	3	9.1	819	8.17	100
	HHDT (Vendor)						
	Site Preparation	5	1	9.1	23	6.12	4
	Grading	18	2	9.1	328	6.12	54
	Building Construction	198	19	9.1	33,333	6.12	5,450
	Paving	30	3	9.1	819	6.12	134
TOTAL CONSTRUCTION VENDOR FUEL CONSUMPTION							9,863

4.3.7 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 the construction of the Project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

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

Additional construction-source energy efficiencies would occur due to required California regulations and best available control measures. 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 fuel demands (fuel consumed by passenger car and truck vehicles accessing the Project site), fuel demands from operational equipment, 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 evaluating 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 (25). EMFAC2021 was run for the San Joaquin (SJV) area for the 2026 calendar year. 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, 217 trucks (resulting from 102 two-way truck trips) 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 in Table 4-9. As summarized in Table 4-9, the Project would result in 4,318,370 annual VMT and an estimated annual fuel consumption of 570,753 gallons of fuel.

TABLE 4-9: TOTAL PROJECT-GENERATED TRAFFIC ANNUAL FUEL CONSUMPTION

Vehicle Type	Average Vehicle Fuel Economy (mpg)	Annual VMT	Estimated Annual Fuel Consumption (gallons)
LDA	32.31	551,150	17,058
LDT1	24.61	42,014	1,707
LDT2	25.55	226,530	8,866
MDV	19.71	192,853	9,785
LHDT1	11.65	662,302	56,843
LHDT2	11.48	158,074	13,766
MHDT	8.30	820,377	98,842
HHDT	6.24	1,640,753	263,034
MCY	40.04	24,317	607
TRUs			100,245
PROJECT FUEL CONSUMPTION (ALL VEHICLES)		4,318,370	570,753

Annual VMT based on CalEEMod model outputs and vehicle fleet mix.

4.4.2 ON-SITE CARGO HANDLING EQUIPMENT FUEL DEMANDS

It is common for industrial buildings to require the operation of exterior cargo handling equipment in the building's truck court areas. For this particular Project, on-site modeled operational equipment includes up to two (2) 175 horsepower (hp), natural gas-powered cargo handling equipment – port tractor operating 4 hours a day⁵ for 365 days of the year.

Project operational activity estimates and associated fuel consumption estimates are based on the annual EMFAC2021 offroad emissions for the 2026 operational year and were used to derive the total annual fuel consumption associated on-site equipment. As presented in Table 4-10, Project on-site equipment would consume an estimated 9,284 gallons of natural gas.

TABLE 4-10: ON-SITE CARGO HANDLING EQUIPMENT FUEL CONSUMPTION ESTIMATES

Equipment	Quantity	Usage Hours	Days of Operation	EMFAC2021 Fuel Consumption (gal./yr.)	EMFAC2021 Activity (hrs./yr.)	Total Fuel Consumption
Cargo Handling Equipment	2	4	365	18,339	5,768	9,284
ON-SITE CARGO HANDLING EQUIPMENT FUEL DEMAND (GALLONS FUEL)						9,284

4.4.3 EMERGENCY ENGINE FUEL DEMANDS

It is anticipated that the Project would utilize one 300 horsepower diesel-powered emergency fire pump and one 700 horsepower diesel-powered emergency generator. For analytical purposes, it is anticipated that the fire pump and generator would each operate for a maximum

⁵ Based on Table II-3, Port and Rail Cargo Handling Equipment Demographics by Type, from CARB's Technology Assessment: Mobile Cargo Handling Equipment document, a single piece of equipment could operate up to 2 hours per day (Total Average Annual Activity divided by Total Number Pieces of Equipment). As such, the analysis conservatively assumes that the tractor/loader/backhoe would operate up to 4 hours per day.

time of 1 hour per day and 50 hours per year for maintenance and testing purposes. As presented in Table 4-11, emergency engine operation for maintenance and testing purposes would consume an estimated 1,883 gallons of diesel fuel per year.

TABLE 4-11: EMERGENCY ENGINE FUEL CONSUMPTION ESTIMATES

Equipment	Horsepower	Fuel Consumption (gal./hour)	Activity (hrs./yr.)	Total Fuel Consumption (gal./year)
Emergency Fire Pump	300	11	50	565
Emergency Generator	700	26	50	1,318
EMERGENCY ENGINE FUEL DEMAND (GALLONS FUEL)				1,883

4.4.4 FACILITY ENERGY DEMANDS

Project building operations activities would result in the consumption of natural gas and electricity, which would be supplied to the Project by PG&E. Electricity usage associated with the Project was calculated based on CalEEMod defaults. As summarized in Table 4-12, the Project would result in 1,436,010 kBtu/year of natural gas and 7,292,690 kWh/year of electricity.

TABLE 4-12: PROJECT ANNUAL OPERATIONAL ENERGY DEMAND SUMMARY

Land Use	Natural Gas Demand (kBtu/year)	Electricity Demand (kWh/year)
High-Cube Cold Storage Warehouse	1,436,010	7,082,055
Parking Lot	0	210,635
PROJECT ENERGY DEMAND	1,436,010	7,292,690

4.4.6 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., Title 24, California Green Building Standards Code).

ENHANCED VEHICLE FUEL EFFICIENCIES

Project annual fuel consumption estimates presented previously in Table 4-9 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. The location of the

Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands.

4.5 SUMMARY

4.5.1 CONSTRUCTION ENERGY DEMANDS

The estimated power cost of on-site electricity usage during the construction of the Project is assumed to be approximately \$7,699.37. 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 27,498 kWh.

Construction equipment used by the Project would result in single event consumption of approximately 35,634 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. Best Available Control Measures (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 10,914 gallons of fuel. Additionally, fuel consumption from construction vendor and hauling trips (MHDTs and HHDTs) would total approximately 9,863 gallons. Diesel fuel would be supplied by County and regional industrial vendors. Indirectly, construction energy efficiency and energy conservation would be achieved using bulk purchases, transport and use of construction materials. The 2022 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 (30). 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 4,318,370 annual VMT and a fuel demand of 570,753 gallons of fuel per year during operations.

Fuel would be provided by current and future industrial vendors. Trip generation and VMT generated by the Project are consistent with other industrial uses of similar scale and configuration. 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 industrial 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 SJVAPCD 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 would need to have 2010 model year engines or equivalent (31).
- 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.

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. The 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 means 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.

ON-SITE CARGO HANDLING EQUIPMENT FUEL DEMANDS

As previously stated, it is common for industrial buildings to require the operation of exterior cargo handling equipment in the building's truck court areas. On-site cargo handling equipment used by the Project would result in approximately 9,284 gallons of natural gas. On-site equipment use of fuel would not be atypical for the type of construction proposed because there are no aspects of the Project's proposed operations that are unusual or energy-intensive, and Project on-site equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies.

EMERGENCY ENGINE FUEL DEMANDS

The proposed Project is expected to include the installation of two diesel-powered emergency fire pumps. Operation of these engines for maintenance and testing purposes is estimated to result in annual fuel demand of approximately 1,883 gallons.

FACILITY ENERGY DEMANDS

Project facility operational energy demands are estimated at 1,436,010 kBTU/year of natural gas and 7,292,690 kWh/year of electricity. Natural gas and electricity would be supplied to the Project by PG&E. The Project proposes conventional industrial uses reflecting contemporary energy efficient/energy conserving designs and operational programs. The Project does not propose uses that are inherently energy intensive and the energy demands in total would be comparable to other industrial uses of similar scale and configuration.

Implementation of the Project would increase the demand for electricity at the Project site and petroleum consumption in the region during operation. However, the electrical consumption demands of the Project during operation would conform to the state's Title 24 and to CALGreen standards, which implement conservation measures. Further, the proposed Project would not directly require the construction of new energy generation or supply facilities and providers of electricity are in compliance with regulatory requirements that assist in conservation, including requirements that electrical providers achieve state-mandated renewable energy production requirements. With compliance with Title 24 conservation standards and other regulatory requirements, the Project would not be wasteful or inefficient or unnecessarily consume energy resources during construction or operation.

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.

This page intentionally left blank

5 ENERGY FINDINGS AND RECOMMENDATIONS

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, construction-related vehicle trips would consume an estimated 100,504 gallons of gasoline and diesel combined during future development projects construction phases. 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.

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 client-provided energy use estimations, operations for the Project would result in approximately 1,436,010 kBTU/year of natural gas and 7,292,690 kWh/year of electricity.

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 4,318,370 VMT and consume an estimated 570,753 gallons of gasoline and diesel combined, annually (see Appendix 4.2).

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 provide parking and EV infrastructure that would further promote fuel efficient vehicles.

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.

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 1,436,010 kBTU/year of natural gas and 7,292,690 kWh/year of electricity.

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, 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.

This page intentionally left blank

6 REFERENCES

1. **Administration, U.S. Energy Information.** California State Profile and Energy Estimates. [Online] <https://www.eia.gov/state/data.php?sid=CA#ConsumptionExpenditures>.
2. **U.S. Energy Information Administration.** Use of Energy in the United States Explained Energy Use for Transportation. [Online] <https://www.eia.gov/energyexplained/use-of-energy/transportation.php>.
3. —. Use of Energy in the United States Explained Energy Use for Transportation. [Online] <https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MTPUPUS1&f=A>.
4. —. Prime Supplier Sales Volume, California, Annual. [Online] 2020. https://www.eia.gov/dnav/pet/pet_cons_prim_dcu_SCA_a.htm.
5. —. California Energy Consumption by End-Use Sector. *California State Profile and Energy Estimates*. [Online] <https://www.eia.gov/state/?sid=CA#tabs-2>.
6. —. California State Profile and Energy Estimates. [Online] https://www.eia.gov/state/seds/sep_fuel/html/pdf/fuel_use_es.pdf.
7. —. California State Profile and Energy Estimates. [Online] https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm.
8. **California Energy Commission.** 2022 Total System Electric Generation. *CA.gov*. [Online] <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2022-total-system-electric-generation>.
9. **U.S. Energy Information Administration.** California State Profile and Energy Estimates. [Online] <https://www.eia.gov/state/?sid=CA>.
10. **California Energy Commission Staff.** 2022 Integrated Energy Policy Report Update. [Online] 2022. https://www.energy.ca.gov/sites/default/files/2023-02/Adopted_2022_IEPR_Update_with_errata_ada.pdf.
11. **California ISO.** Understanding the ISO. [Online] <http://www.caiso.com/about/Pages/OurBusiness/UnderstandingtheISO/default.aspx>.
12. **Pacific Gas & Electric.** *Pacific Gas & Electric's Service Area*. [Online] <https://www.pge.com/en/about/company-information/company-profile.html#:~:text=Fast%20facts%20about%20PG%26E&text=The%20company%20provides%20natural%20gas,in%20northern%20and%20central%20California..>
13. —. 2022 Power Content Label. [Online] <https://www.pge.com/content/dam/pge/docs/account/billing-and-assistance/bill-inserts/1023-Power-Content-Label.pdf>.
14. **California Public Utilities Commission.** Natural Gas and California. [Online] <https://www.cpuc.ca.gov/industries-and-topics/natural-gas/natural-gas-and-california>.
15. **United States Energy Information Administration.** California Analysis. *Energy Information Administration*. [Online] <https://www.eia.gov/beta/states/states/ca/analysis>.
16. **Department of Motor Vehicles.** *State of California Department of Motor Vehicles Statistics For Publication January Through December 2021*. 2021.
17. **U.S. Energy Information Administration.** California Analysis. *Energy Information Administration*. [Online] <https://www.eia.gov/beta/states/states/ca/analysis>.

18. **California Energy Commission.** Energy Commission Adopts Updated Building Standards to Improve Efficiency, Reduce Emissions from Homes and Businesses. [Online] August 11, 2021. <https://www.energy.ca.gov/news/2021-08/energy-commission-adopts-updated-building-standards-improve-efficiency-reduce-0>.
19. **California Department of General Services.** 2022 CALGreen Code. *CALGreen*. [Online] <https://codes.iccsafe.org/content/CAGBC2022P1>.
20. **California Energy Commission.** Renewables Portfolio Standard (RPS). [Online] 2002. <http://www.energy.ca.gov/portfolio/>.
21. **State of California.** *California Environmental Quality Act Guideline, California Public Resources Code, Title 14, Division 6, Chapter 3*.
22. **Association of Environmental Professionals.** *2019 CEQA California Environmental Quality Act*. 2019.
23. **Urban Crossroads, Inc.** *Spreckels Distribution Center Air Quality Impact Analysis*. 2024.
24. **California Air Pollution Control Officers Association (CAPCOA).** California Emissions Estimator Model (CalEEMod). [Online] May 2022. www.caleemod.com.
25. **California Department of Transportation.** EMFAC Software. [Online] <http://www.dot.ca.gov/hq/env/air/pages/emfac.htm>.
26. **State of California.** *2024 CEQA California Environmental Quality Act*. 2024.
27. **Pray, Richard.** *2024 National Construction Estimator*. Carlsbad : Craftsman Book Company, 2024.
28. **Pacific Gas & Electric.** Electric Rates. [Online] <https://www.pge.com/tariffs/electric.shtml>.
29. **California Air Resources Board.** *Methods to Find the Cost-Effectiveness of Funding Air Quality Projects For Evaluating Motor Vehicle Registration Fee Projects And Congestion Mitigation and Air Quality Improvement (CMAQ) Projects, Emission Factor Tables*. 2018.
30. **California Energy Commission Staff.** 2019 Integrated Energy Policy Report Update. [Online] 2019. [Cited: March 26, 2020.] <https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2019-integrated-energy-policy-report>.
31. **California Air Resources Board.** Truck and Bus Regulation. [Online] <https://ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation>.

This page intentionally left blank

7 CERTIFICATIONS

The contents of this energy report represent an accurate depiction of the environmental impacts associated with the proposed Spreckels Distribution Center. The information contained in this energy 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.

Haseeb Qureshi
Principal
hqureshi@urbanxroads.com

EDUCATION

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

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

PROFESSIONAL AFFILIATIONS

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

PROFESSIONAL CERTIFICATIONS

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

This page intentionally left blank

APPENDIX 4.1:

CALEEMOD CONSTRUCTION EMISSIONS MODEL OUTPUTS

15639 Spreckels Distribution Center Construction Detailed Report

Table of Contents

1. Basic Project Information
 - 1.1. Basic Project Information
 - 1.2. Land Use Types
 - 1.3. User-Selected Emission Reduction Measures by Emissions Sector
2. Emissions Summary
 - 2.1. Construction Emissions Compared Against Thresholds
 - 2.2. Construction Emissions by Year, Unmitigated
3. Construction Emissions Details
 - 3.1. Site Preparation (2025) - Unmitigated
 - 3.3. Grading (2025) - Unmitigated
 - 3.5. Building Construction (2025) - Unmitigated
 - 3.7. Paving (2025) - Unmitigated
 - 3.9. Architectural Coating (2025) - Unmitigated
4. Operations Emissions Details
 - 4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	15639 Spreckels Distribution Center Construction
Construction Start Date	3/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	9.00
Location	37.79226630248337, -121.19957343281175
County	San Joaquin
City	Manteca
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2132
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.26

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
Refrigerated Warehouse-No Rail	289	1000sqft	6.64	289,450	116,279	—	—	—
Parking Lot	5.52	Acre	5.52	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.	2.19	1.86	14.1	22.8	0.04	0.52	1.30	1.83	0.48	0.32	0.80	—	5,093	5,093	0.19	0.22	7.06	5,171
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	50.9	50.4	33.7	34.7	0.07	1.39	2.83	4.22	1.28	1.02	2.30	—	8,009	8,009	0.32	0.27	0.23	8,043
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.40	5.17	10.2	14.4	0.02	0.39	0.88	1.27	0.36	0.23	0.59	—	3,309	3,309	0.11	0.13	1.74	3,352
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.99	0.94	1.86	2.63	< 0.005	0.07	0.16	0.23	0.07	0.04	0.11	—	548	548	0.02	0.02	0.29	555

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	2.19	1.86	14.1	22.8	0.04	0.52	1.30	1.83	0.48	0.32	0.80	—	5,093	5,093	0.19	0.22	7.06	5,171

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	50.9	50.4	33.7	34.7	0.07	1.39	2.83	4.22	1.28	1.02	2.30	—	8,009	8,009	0.32	0.27	0.23	8,043
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	5.40	5.17	10.2	14.4	0.02	0.39	0.88	1.27	0.36	0.23	0.59	—	3,309	3,309	0.11	0.13	1.74	3,352
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.99	0.94	1.86	2.63	< 0.005	0.07	0.16	0.23	0.07	0.04	0.11	—	548	548	0.02	0.02	0.29	555

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	1.04	0.88	7.67	7.42	0.01	0.55	—	0.55	0.51	—	0.51	—	1,046	1,046	0.04	0.01	—	1,050
Dust From Material Movement	—	—	—	—	—	—	0.41	0.41	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

15639 Spreckels Distribution Center Construction Detailed Report, 8/26/2024

Off-Road Equipment	0.01	0.01	0.11	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	14.3	14.3	< 0.005	< 0.005	—	14.4
Dust From Material Movement	—	—	—	—	—	—	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	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.37	2.37	< 0.005	< 0.005	—	2.38
Dust From Material Movement	—	—	—	—	—	—	< 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	0.03	0.03	0.03	0.31	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	62.7	62.7	< 0.005	< 0.005	0.01	63.5
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.3	28.3	< 0.005	< 0.005	< 0.005	29.6
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	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.88	0.88	< 0.005	< 0.005	< 0.005	0.89
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.39	0.39	< 0.005	< 0.005	< 0.005	0.41
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	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.15	0.15	< 0.005	< 0.005	< 0.005	0.15
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.07
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.30	3.62	33.5	29.1	0.07	1.39	—	1.39	1.28	—	1.28	—	7,770	7,770	0.32	0.06	—	7,797
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	0.21	0.18	1.65	1.44	< 0.005	0.07	—	0.07	0.06	—	0.06	—	383	383	0.02	< 0.005	—	385
Dust From Material Movement	—	—	—	—	—	—	0.13	0.13	—	0.05	0.05	—	—	—	—	—	—	—

15639 Spreckels Distribution Center Construction Detailed Report, 8/26/2024

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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.30	0.26	< 0.005	0.01	—	0.01	0.01	—	0.01	—	63.4	63.4	< 0.005	< 0.005	—	63.7	
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.06	0.06	0.06	0.62	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	125	125	< 0.005	0.01	0.01	127	
Vendor	0.01	< 0.005	0.15	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	113	113	< 0.005	0.02	0.01	118	
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	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.34	6.34	< 0.005	< 0.005	0.01	6.43	
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.59	5.59	< 0.005	< 0.005	0.01	5.84	
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	—	1.05	1.05	< 0.005	< 0.005	< 0.005	1.06	
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.92	0.92	< 0.005	< 0.005	< 0.005	0.97	
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	1.58	1.32	12.4	16.1	0.03	0.51	—	0.51	0.47	—	0.47	—	2,921	2,921	0.12	0.02	—	2,931
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	1.58	1.32	12.4	16.1	0.03	0.51	—	0.51	0.47	—	0.47	—	2,921	2,921	0.12	0.02	—	2,931
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	0.86	0.72	6.74	8.71	0.02	0.28	—	0.28	0.25	—	0.25	—	1,584	1,584	0.06	0.01	—	1,590
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	0.16	0.13	1.23	1.59	< 0.005	0.05	—	0.05	0.05	—	0.05	—	262	262	0.01	< 0.005	—	263

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	0.55	0.51	0.34	6.34	0.00	0.00	1.02	1.02	0.00	0.24	0.24	—	1,125	1,125	0.05	0.04	4.18	1,143
Vendor	0.06	0.03	1.30	0.44	0.01	0.01	0.28	0.30	0.01	0.08	0.09	—	1,048	1,048	0.02	0.15	2.88	1,097
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	0.51	0.47	0.46	5.03	0.00	0.00	1.02	1.02	0.00	0.24	0.24	—	1,016	1,016	0.03	0.04	0.11	1,030
Vendor	0.05	0.03	1.39	0.45	0.01	0.01	0.28	0.30	0.01	0.08	0.09	—	1,048	1,048	0.02	0.15	0.07	1,095
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	0.28	0.25	0.21	2.80	0.00	0.00	0.55	0.55	0.00	0.13	0.13	—	565	565	0.01	0.02	0.98	573
Vendor	0.03	0.02	0.73	0.24	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	568	568	0.01	0.08	0.67	594
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	0.05	0.05	0.04	0.51	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	93.6	93.6	< 0.005	< 0.005	0.16	94.9
Vendor	0.01	< 0.005	0.13	0.04	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	94.1	94.1	< 0.005	0.01	0.11	98.4
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (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	0.48	0.48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.08	0.07	0.61	0.82	< 0.005	0.03	—	0.03	0.03	—	0.03	—	124	124	0.01	< 0.005	—	125
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	0.01	0.01	0.11	0.15	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	20.6	20.6	< 0.005	< 0.005	—	20.6
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.62	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	125	125	< 0.005	0.01	0.01	127
Vendor	0.01	0.01	0.23	0.07	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	170	170	< 0.005	0.03	0.01	178
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	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.6	10.6	< 0.005	< 0.005	0.02	10.7
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.02	14.6
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	—	1.75	1.75	< 0.005	< 0.005	< 0.005	1.77
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.31	2.31	< 0.005	< 0.005	< 0.005	2.42
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (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

15639 Spreckels Distribution Center Construction Detailed Report, 8/26/2024

Architectural Coating	47.0	47.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.02	0.01	0.10	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	3.86	3.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	0.70	0.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	1.01	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	203	203	0.01	0.01	0.02	206
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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.03	17.4	
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	—	2.83	2.83	< 0.005	< 0.005	< 0.005	2.88	
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	2/1/2025	2/7/2025	5.00	5.00	—
Grading	Grading	2/8/2025	3/5/2025	5.00	18.0	—
Building Construction	Building Construction	3/6/2025	12/8/2025	5.00	198	—

Paving	Paving	10/28/2025	12/8/2025	5.00	30.0	—
Architectural Coating	Architectural Coating	10/28/2025	12/8/2025	5.00	30.0	—

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	Crawler Tractors	Diesel	Average	3.00	8.00	87.0	0.43
Grading	Excavators	Diesel	Average	1.00	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	3.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	4.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	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	7.50	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	1.00	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	4.00	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	122	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	37.0	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	6.00	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	24.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	9.10	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	434,175	144,725	14,427

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	—	—	7.50	0.00	—
Grading	—	—	72.0	0.00	—
Paving	0.00	0.00	0.00	0.00	5.52

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
Refrigerated Warehouse-No Rail	0.00	0%
Parking Lot	5.52	100%

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	204	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	20.4	annual days of extreme heat
Extreme Precipitation	1.60	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	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 $\frac{3}{4}$ 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	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	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	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A

Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
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	58.2
AQ-PM	55.3
AQ-DPM	81.4
Drinking Water	99.0
Lead Risk Housing	54.1
Pesticides	91.0
Toxic Releases	52.0
Traffic	73.5
Effect Indicators	—
CleanUp Sites	29.5
Groundwater	39.4

Haz Waste Facilities/Generators	58.8
Impaired Water Bodies	0.00
Solid Waste	22.1
Sensitive Population	—
Asthma	91.0
Cardio-vascular	94.3
Low Birth Weights	33.0
Socioeconomic Factor Indicators	—
Education	63.9
Housing	68.1
Linguistic	55.6
Poverty	78.1
Unemployment	76.1

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	28.03798281
Employed	15.32144232
Median HI	45.72051841
Education	—
Bachelor's or higher	10.07314256
High school enrollment	100
Preschool enrollment	56.79455922
Transportation	—
Auto Access	81.29090209
Active commuting	58.95034005

Social	—
2-parent households	41.93506993
Voting	53.79186449
Neighborhood	—
Alcohol availability	50.53252919
Park access	81.35506224
Retail density	58.05209804
Supermarket access	69.85756448
Tree canopy	69.03631464
Housing	—
Homeownership	50.03208007
Housing habitability	64.35262415
Low-inc homeowner severe housing cost burden	65.41768254
Low-inc renter severe housing cost burden	66.40574875
Uncrowded housing	34.15886052
Health Outcomes	—
Insured adults	53.66354421
Arthritis	12.5
Asthma ER Admissions	4.7
High Blood Pressure	18.2
Cancer (excluding skin)	27.6
Asthma	21.6
Coronary Heart Disease	15.5
Chronic Obstructive Pulmonary Disease	13.3
Diagnosed Diabetes	44.3
Life Expectancy at Birth	16.1
Cognitively Disabled	29.3
Physically Disabled	23.7

Heart Attack ER Admissions	9.3
Mental Health Not Good	31.0
Chronic Kidney Disease	35.4
Obesity	23.9
Pedestrian Injuries	74.3
Physical Health Not Good	32.6
Stroke	26.0
Health Risk Behaviors	—
Binge Drinking	30.9
Current Smoker	20.8
No Leisure Time for Physical Activity	33.2
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	25.4
Elderly	54.5
English Speaking	58.9
Foreign-born	25.7
Outdoor Workers	31.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	37.3
Traffic Density	74.0
Traffic Access	0.0
Other Indices	—
Hardship	73.6
Other Decision Support	—
2016 Voting	44.3

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	89.0
Healthy Places Index Score for Project Location (b)	39.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
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
Construction: Construction Phases	Construction schedule based on data provided by the Project applicant.
Construction: Off-Road Equipment	Construction equipment estimated by the Project applicant.
Construction: Trips and VMT	Vendor trips apportioned to the site preparation, grading, building construction, and paving phases based on the duration of each phase.

This page intentionally left blank

APPENDIX 4.2:

CALEEMOD OPERATIONAL EMISSIONS MODEL OUTPUTS

15639 Spreckels Distribution Center Ops All Air Districts Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	15639 Spreckels Distribution Center Ops All Air Districts
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	9.00
Location	37.79197075484117, -121.1992052878777
County	San Joaquin
City	Manteca
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2132
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.26

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
Refrigerated Warehouse-No Rail	289	1000sqft	6.64	289,450	116,279	—	—	PC

User Defined Industrial	289	User Defined Unit	0.00	0.00	0.00	—	—	Trucks
Parking Lot	5.52	Acre	5.52	0.00	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.	13.7	12.7	38.7	41.9	0.36	0.83	13.4	14.2	0.80	3.54	4.34	275	41,918	42,193	29.2	5.24	413	44,896
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	11.4	10.5	41.2	27.1	0.35	0.81	13.4	14.2	0.78	3.54	4.32	275	41,607	41,882	29.2	5.26	298	44,476
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.4	9.78	27.8	24.4	0.26	0.51	9.74	10.2	0.48	2.58	3.06	275	31,390	31,665	29.0	3.94	332	33,896
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.91	1.78	5.07	4.46	0.05	0.09	1.78	1.87	0.09	0.47	0.56	45.5	5,197	5,243	4.80	0.65	55.0	5,612

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
--------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

15639 Spreckels Distribution Center Ops All Air Districts Detailed Report, 8/29/2024

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.57	2.82	35.0	26.0	0.35	0.61	13.4	14.0	0.58	3.54	4.12	—	36,620	36,620	0.61	4.84	118	38,194
Area	8.84	8.67	0.11	12.6	< 0.005	0.02	—	0.02	0.02	—	0.02	—	51.8	51.8	< 0.005	< 0.005	—	52.0
Energy	0.04	0.02	0.39	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	4,536	4,536	0.70	0.08	—	4,577
Water	—	—	—	—	—	—	—	—	—	—	—	128	124	252	13.2	0.31	—	675
Waste	—	—	—	—	—	—	—	—	—	—	—	147	0.00	147	14.7	0.00	—	513
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	295	295
Stationary	1.26	1.15	3.21	2.93	0.01	0.17	0.00	0.17	0.17	0.00	0.17	0.00	588	588	0.02	< 0.005	0.00	590
Total	13.7	12.7	38.7	41.9	0.36	0.83	13.4	14.2	0.80	3.54	4.34	275	41,918	42,193	29.2	5.24	413	44,896
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.46	2.71	37.6	23.8	0.34	0.61	13.4	14.0	0.58	3.54	4.12	—	36,360	36,360	0.62	4.86	3.07	37,826
Area	6.60	6.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.04	0.02	0.39	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	4,536	4,536	0.70	0.08	—	4,577
Water	—	—	—	—	—	—	—	—	—	—	—	128	124	252	13.2	0.31	—	675
Waste	—	—	—	—	—	—	—	—	—	—	—	147	0.00	147	14.7	0.00	—	513
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	295	295
Stationary	1.26	1.15	3.21	2.93	0.01	0.17	0.00	0.17	0.17	0.00	0.17	0.00	588	588	0.02	< 0.005	0.00	590
Total	11.4	10.5	41.2	27.1	0.35	0.81	13.4	14.2	0.78	3.54	4.32	275	41,607	41,882	29.2	5.26	298	44,476
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.53	1.98	26.9	17.5	0.25	0.44	9.74	10.2	0.42	2.58	3.00	—	26,625	26,625	0.45	3.54	37.4	27,729
Area	7.70	7.62	0.05	6.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.5	25.5	< 0.005	< 0.005	—	25.6
Energy	0.04	0.02	0.39	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	4,536	4,536	0.70	0.08	—	4,577
Water	—	—	—	—	—	—	—	—	—	—	—	128	124	252	13.2	0.31	—	675
Waste	—	—	—	—	—	—	—	—	—	—	—	147	0.00	147	14.7	0.00	—	513

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	295	295
Stationary	0.17	0.16	0.44	0.40	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	80.5	80.5	< 0.005	< 0.005	0.00	80.8
Total	10.4	9.78	27.8	24.4	0.26	0.51	9.74	10.2	0.48	2.58	3.06	275	31,390	31,665	29.0	3.94	332	33,896
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.46	0.36	4.91	3.19	0.05	0.08	1.78	1.86	0.08	0.47	0.55	—	4,408	4,408	0.07	0.59	6.19	4,591
Area	1.41	1.39	0.01	1.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.23	4.23	< 0.005	< 0.005	—	4.24
Energy	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	751	751	0.12	0.01	—	758
Water	—	—	—	—	—	—	—	—	—	—	—	21.2	20.5	41.7	2.18	0.05	—	112
Waste	—	—	—	—	—	—	—	—	—	—	—	24.3	0.00	24.3	2.43	0.00	—	84.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	48.8	48.8
Stationary	0.03	0.03	0.08	0.07	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	13.3	13.3	< 0.005	< 0.005	0.00	13.4
Total	1.91	1.78	5.07	4.46	0.05	0.09	1.78	1.87	0.09	0.47	0.56	45.5	5,197	5,243	4.80	0.65	55.0	5,612

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	1.64	1.52	0.72	14.6	0.03	0.01	2.72	2.73	0.01	0.69	0.70	—	2,890	2,890	0.12	0.07	9.65	2,925

15639 Spreckels Distribution Center Ops All Air Districts Detailed Report, 8/29/2024

User Defined Industrial	1.93	1.30	34.3	11.4	0.32	0.59	10.7	11.3	0.57	2.86	3.42	—	33,730	33,730	0.49	4.76	109	35,270
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
Total	3.57	2.82	35.0	26.0	0.35	0.61	13.4	14.0	0.58	3.54	4.12	—	36,620	36,620	0.61	4.84	118	38,194
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	1.56	1.43	0.91	12.6	0.03	0.01	2.72	2.73	0.01	0.69	0.70	—	2,626	2,626	0.14	0.09	0.25	2,656
User Defined Industrial	1.90	1.27	36.7	11.2	0.32	0.59	10.7	11.3	0.57	2.86	3.42	—	33,734	33,734	0.49	4.77	2.82	35,170
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
Total	3.46	2.71	37.6	23.8	0.34	0.61	13.4	14.0	0.58	3.54	4.12	—	36,360	36,360	0.62	4.86	3.07	37,826
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.21	0.19	0.11	1.68	< 0.005	< 0.005	0.36	0.36	< 0.005	0.09	0.09	—	325	325	0.02	0.01	0.50	329
User Defined Industrial	0.26	0.17	4.80	1.51	0.04	0.08	1.42	1.50	0.08	0.38	0.46	—	4,083	4,083	0.06	0.58	5.68	4,262
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
Total	0.46	0.36	4.91	3.19	0.05	0.08	1.78	1.86	0.08	0.47	0.55	—	4,408	4,408	0.07	0.59	6.19	4,591

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	3,958	3,958	0.64	0.08	—	3,997
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	118	118	0.02	< 0.005	—	119
Total	—	—	—	—	—	—	—	—	—	—	—	—	4,076	4,076	0.66	0.08	—	4,116
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	3,958	3,958	0.64	0.08	—	3,997
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	118	118	0.02	< 0.005	—	119
Total	—	—	—	—	—	—	—	—	—	—	—	—	4,076	4,076	0.66	0.08	—	4,116
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Refrigerated Warehouse-No	—	—	—	—	—	—	—	—	—	—	—	—	655	655	0.11	0.01	—	662
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	19.5	19.5	< 0.005	< 0.005	—	19.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	675	675	0.11	0.01	—	681

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.04	0.02	0.39	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	460	460	0.04	< 0.005	—	461
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
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
Total	0.04	0.02	0.39	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	460	460	0.04	< 0.005	—	461
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Refrigerated Warehouse-No Rail	0.04	0.02	0.39	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	460	460	0.04	< 0.005	—	461
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
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
Total	0.04	0.02	0.39	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	460	460	0.04	< 0.005	—	461
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	76.2	76.2	0.01	< 0.005	—	76.4
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
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
Total	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	76.2	76.2	0.01	< 0.005	—	76.4

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	6.21	6.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.39	0.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.24	2.07	0.11	12.6	< 0.005	0.02	—	0.02	0.02	—	0.02	—	51.8	51.8	< 0.005	< 0.005	—	52.0
Total	8.84	8.67	0.11	12.6	< 0.005	0.02	—	0.02	0.02	—	0.02	—	51.8	51.8	< 0.005	< 0.005	—	52.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	6.21	6.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.39	0.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	6.60	6.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.13	1.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.07	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.20	0.19	0.01	1.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.23	4.23	< 0.005	< 0.005	—	4.24

Total	1.41	1.39	0.01	1.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.23	4.23	< 0.005	< 0.005	—	4.24
-------	------	------	------	------	---------	---------	---	---------	---------	---	---------	---	------	------	---------	---------	---	------

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	128	124	252	13.2	0.31	—	675
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	128	124	252	13.2	0.31	—	675
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	128	124	252	13.2	0.31	—	675
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	128	124	252	13.2	0.31	—	675
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	21.2	20.5	41.7	2.18	0.05	—	112
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	21.2	20.5	41.7	2.18	0.05	—	112

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	147	0.00	147	14.7	0.00	—	513
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	147	0.00	147	14.7	0.00	—	513

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	147	0.00	147	14.7	0.00	—	513
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	147	0.00	147	14.7	0.00	—	513
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	24.3	0.00	24.3	2.43	0.00	—	84.9
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	24.3	0.00	24.3	2.43	0.00	—	84.9

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	295	295
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	295	295
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	295	295
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	295	295
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	48.8	48.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	48.8	48.8

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)

Equipm ent 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)

Equipm ent 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergen cy Generator	1.26	1.15	3.21	2.93	0.01	0.17	0.00	0.17	0.17	0.00	0.17	0.00	588	588	0.02	< 0.005	0.00	590
Total	1.26	1.15	3.21	2.93	0.01	0.17	0.00	0.17	0.17	0.00	0.17	0.00	588	588	0.02	< 0.005	0.00	590
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergen cy Generator	1.26	1.15	3.21	2.93	0.01	0.17	0.00	0.17	0.17	0.00	0.17	0.00	588	588	0.02	< 0.005	0.00	590
Total	1.26	1.15	3.21	2.93	0.01	0.17	0.00	0.17	0.17	0.00	0.17	0.00	588	588	0.02	< 0.005	0.00	590
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Emergency Generator	0.03	0.03	0.08	0.07	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	13.3	13.3	< 0.005	< 0.005	0.00	13.4
Total	0.03	0.03	0.08	0.07	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	13.3	13.3	< 0.005	< 0.005	0.00	13.4

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Refrigerated Warehouse-No Rail	397	33.6	13.3	105,981	3,885	328	130	1,036,864
User Defined Industrial	217	18.2	7.24	57,926	12,298	1,033	410	3,281,506
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

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)
0	0.00	434,175	144,725	14,427

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

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)
Refrigerated Warehouse-No Rail	7,082,055	204	0.0330	0.0040	1,436,010
User Defined Industrial	0.00	204	0.0330	0.0040	0.00
Parking Lot	210,635	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Refrigerated Warehouse-No Rail	66,935,313	1,632,098
User Defined Industrial	0.00	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Refrigerated Warehouse-No Rail	272	—
User Defined Industrial	0.00	—
Parking Lot	0.00	—

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
Refrigerated Warehouse-No Rail	Cold storage	User Defined	150	7.50	7.50	7.50	25.0

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	1.00	1.00	50.0	300	0.73
Emergency Generator	Diesel	1.00	1.00	50.0	700	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	20.4	annual days of extreme heat
Extreme Precipitation	1.60	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	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	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	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	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
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	58.2
AQ-PM	55.3
AQ-DPM	81.4
Drinking Water	99.0
Lead Risk Housing	54.1
Pesticides	91.0
Toxic Releases	52.0
Traffic	73.5
Effect Indicators	—
CleanUp Sites	29.5
Groundwater	39.4
Haz Waste Facilities/Generators	58.8
Impaired Water Bodies	0.00
Solid Waste	22.1
Sensitive Population	—
Asthma	91.0
Cardio-vascular	94.3
Low Birth Weights	33.0
Socioeconomic Factor Indicators	—

Education	63.9
Housing	68.1
Linguistic	55.6
Poverty	78.1
Unemployment	76.1

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	28.03798281
Employed	15.32144232
Median HI	45.72051841
Education	—
Bachelor's or higher	10.07314256
High school enrollment	100
Preschool enrollment	56.79455922
Transportation	—
Auto Access	81.29090209
Active commuting	58.95034005
Social	—
2-parent households	41.93506993
Voting	53.79186449
Neighborhood	—
Alcohol availability	50.53252919
Park access	81.35506224
Retail density	58.05209804
Supermarket access	69.85756448

Tree canopy	69.03631464
Housing	—
Homeownership	50.03208007
Housing habitability	64.35262415
Low-inc homeowner severe housing cost burden	65.41768254
Low-inc renter severe housing cost burden	66.40574875
Uncrowded housing	34.15886052
Health Outcomes	—
Insured adults	53.66354421
Arthritis	12.5
Asthma ER Admissions	4.7
High Blood Pressure	18.2
Cancer (excluding skin)	27.6
Asthma	21.6
Coronary Heart Disease	15.5
Chronic Obstructive Pulmonary Disease	13.3
Diagnosed Diabetes	44.3
Life Expectancy at Birth	16.1
Cognitively Disabled	29.3
Physically Disabled	23.7
Heart Attack ER Admissions	9.3
Mental Health Not Good	31.0
Chronic Kidney Disease	35.4
Obesity	23.9
Pedestrian Injuries	74.3
Physical Health Not Good	32.6
Stroke	26.0
Health Risk Behaviors	—

Binge Drinking	30.9
Current Smoker	20.8
No Leisure Time for Physical Activity	33.2
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	25.4
Elderly	54.5
English Speaking	58.9
Foreign-born	25.7
Outdoor Workers	31.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	37.3
Traffic Density	74.0
Traffic Access	0.0
Other Indices	—
Hardship	73.6
Other Decision Support	—
2016 Voting	44.3

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	89.0
Healthy Places Index Score for Project Location (b)	39.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
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	Project site is 14.83 acres.
Operations: Vehicle Data	Trip characteristics based on information provided in the Trip Generation.
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: Refrigerants	As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater. Further, R-404A (the CalEEMod default) is unacceptable for new supermarket and cold storage systems as of 1 January 2019 and 2023, respectively.
Operations: Energy Use	—

This page intentionally left blank

APPENDIX 4.3:

EMFAC2021 MODEL OUTPUTS

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: Sub-Area

Region: San Joaquin (SJV)

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	CalYr	VehClass	MdYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
San Joaquin (SJV)	2025	HHDT	Aggregate	Aggregate	Gasoline	1.372290651	54.29517764	0.014900233	14.90023279	206503.8176	54.29517764	1263029.567	6.12	HHDT
San Joaquin (SJV)	2025	HHDT	Aggregate	Aggregate	Diesel	9206.558556	1240767.372	203.4804018	203480.4018		1240767.372			
San Joaquin (SJV)	2025	HHDT	Aggregate	Aggregate	Electricity	61.63510013	7163.940202	0	0		7163.940202			
San Joaquin (SJV)	2025	HHDT	Aggregate	Aggregate	Natural Gas	242.4015861	15043.96	3.008515532	3008.515532		15043.96			
San Joaquin (SJV)	2025	LDA	Aggregate	Aggregate	Gasoline	247812.193	10065418.68	337.3209777	337320.9777	343844.4943	10065418.68	10996396.99	31.98	LDA
San Joaquin (SJV)	2025	LDA	Aggregate	Aggregate	Diesel	620.8563183	19917.73747	0.458686533	458.6865334		19917.73747			
San Joaquin (SJV)	2025	LDA	Aggregate	Aggregate	Electricity	11892.39433	568591.8142	0	0		568591.8142			
San Joaquin (SJV)	2025	LDA	Aggregate	Aggregate	Plug-in Hybric	7069.846968	342468.7613	6.064830077	6064.830077		342468.7613			
San Joaquin (SJV)	2025	LDT1	Aggregate	Aggregate	Gasoline	20969.62889	704503.5262	28.33345049	28333.45049	28365.2982	704503.5262	708244.8118	24.97	LDT1
San Joaquin (SJV)	2025	LDT1	Aggregate	Aggregate	Diesel	5.057977491	54.79857187	0.002229936	2.229935557		54.79857187			
San Joaquin (SJV)	2025	LDT1	Aggregate	Aggregate	Electricity	39.24259251	1820.919278	0	0		1820.919278			
San Joaquin (SJV)	2025	LDT1	Aggregate	Aggregate	Plug-in Hybric	34.33443395	1865.567756	0.029617775	29.61777517		1865.567756			
San Joaquin (SJV)	2025	LDT2	Aggregate	Aggregate	Gasoline	105887.2734	4297523.941	175.750706	175750.706	176944.0342	4297523.941	4384816.665	24.78	LDT2
San Joaquin (SJV)	2025	LDT2	Aggregate	Aggregate	Diesel	305.5941154	13558.41861	0.40134555	401.3455503		13558.41861			
San Joaquin (SJV)	2025	LDT2	Aggregate	Aggregate	Electricity	751.2347778	26331.51348	0	0		26331.51348			
San Joaquin (SJV)	2025	LDT2	Aggregate	Aggregate	Plug-in Hybric	917.475862	47402.79271	0.791982571	791.9825705		47402.79271			
San Joaquin (SJV)	2025	LHDT1	Aggregate	Aggregate	Gasoline	9450.489324	335570.0181	34.90157426	34901.57426	53283.20938	335570.0181	632098.6836	11.86	LHDT1
San Joaquin (SJV)	2025	LHDT1	Aggregate	Aggregate	Diesel	8447.684296	292201.982	18.38163512	18381.63512		292201.982			
San Joaquin (SJV)	2025	LHDT1	Aggregate	Aggregate	Electricity	63.55493116	4326.683512	0	0		4326.683512			
San Joaquin (SJV)	2025	LHDT2	Aggregate	Aggregate	Gasoline	1129.168714	39496.24366	4.600897482	4600.897482	13094.09906	39496.24366	152632.1544	11.66	LHDT2
San Joaquin (SJV)	2025	LHDT2	Aggregate	Aggregate	Diesel	3098.911716	112092.227	8.493201579	8493.201579		112092.227			
San Joaquin (SJV)	2025	LHDT2	Aggregate	Aggregate	Electricity	16.11652078	1043.683705	0	0		1043.683705			
San Joaquin (SJV)	2025	MCY	Aggregate	Aggregate	Gasoline	12009.69999	64631.08274	1.598967718	1598.967718	1598.967718	64631.08274	64631.08274	40.42	MCY
San Joaquin (SJV)	2025	MDV	Aggregate	Aggregate	Gasoline	92446.53152	3253692.896	166.8506732	166850.6732	169514.9805	3253692.896	3365594.847	19.85	MDV
San Joaquin (SJV)	2025	MDV	Aggregate	Aggregate	Diesel	1393.091492	51951.9772	2.120474723	2120.474723		51951.9772			
San Joaquin (SJV)	2025	MDV	Aggregate	Aggregate	Electricity	825.6071367	28882.85403	0	0		28882.85403			
San Joaquin (SJV)	2025	MDV	Aggregate	Aggregate	Plug-in Hybric	654.6905541	31067.11976	0.543832612	543.8326117		31067.11976			
San Joaquin (SJV)	2025	MH	Aggregate	Aggregate	Gasoline	1345.73466	11738.09809	2.660033836	2660.033836	3240.317395	11738.09809	17191.33927	5.31	MH
San Joaquin (SJV)	2025	MH	Aggregate	Aggregate	Diesel	631.6240768	5453.241177	0.580283559	580.2835592		5453.241177			
San Joaquin (SJV)	2025	MHDT	Aggregate	Aggregate	Gasoline	531.0756316	27321.53996	5.695995374	5695.995374	38060.10723	27321.53996	311055.1665	8.17	MHDT
San Joaquin (SJV)	2025	MHDT	Aggregate	Aggregate	Diesel	5899.028117	277483.8298	31.85478037	31854.78037		277483.8298			
San Joaquin (SJV)	2025	MHDT	Aggregate	Aggregate	Electricity	47.19690376	2613.081012	0	0		2613.081012			
San Joaquin (SJV)	2025	MHDT	Aggregate	Aggregate	Natural Gas	66.88460395	3636.715774	0.509331489	509.331489		3636.715774			
San Joaquin (SJV)	2025	OBUS	Aggregate	Aggregate	Gasoline	170.8324994	7309.030244	1.52248184	1522.48184	2390.3942	7309.030244	13501.25735	5.65	OBUS
San Joaquin (SJV)	2025	OBUS	Aggregate	Aggregate	Diesel	86.7294433	5968.794603	0.848256579	848.2565787		5968.794603			
San Joaquin (SJV)	2025	OBUS	Aggregate	Aggregate	Electricity	0.853350965	79.14521045	0	0		79.14521045			
San Joaquin (SJV)	2025	OBUS	Aggregate	Aggregate	Natural Gas	2.579091072	144.2872927	0.019655781	19.65578128		144.2872927			
San Joaquin (SJV)	2025	SBUS	Aggregate	Aggregate	Gasoline	131.6189784	7271.294677	0.71341232	713.4123202	2448.790258	7271.294677	20530.73471	8.38	SBUS
San Joaquin (SJV)	2025	SBUS	Aggregate	Aggregate	Diesel	490.2787139	10849.65479	1.320741795	1320.741795		10849.65479			
San Joaquin (SJV)	2025	SBUS	Aggregate	Aggregate	Electricity	2.931904799	88.40188389	0	0		88.40188389			
San Joaquin (SJV)	2025	SBUS	Aggregate	Aggregate	Natural Gas	95.13830408	2321.383357	0.414636143	414.6361428		2321.383357			
San Joaquin (SJV)	2025	UBUS	Aggregate	Aggregate	Gasoline	50.67993554	3818.163154	0.812722391	812.7223915	1926.199162	3818.163154	14261.81534	7.40	UBUS
San Joaquin (SJV)	2025	UBUS	Aggregate	Aggregate	Diesel	73.34639924	4977.172652	0.526331001	526.3310011		4977.172652			
San Joaquin (SJV)	2025	UBUS	Aggregate	Aggregate	Electricity	18.29683154	849.1293457	0	0		849.1293457			
San Joaquin (SJV)	2025	UBUS	Aggregate	Aggregate	Natural Gas	69.84987761	4617.350189	0.58714577	587.1457696		4617.350189			

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: Sub-Area

Region: San Joaquin (SVJ)

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	CalYr	VehClass	MdYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
San Joaquin (SVJ)	2026	HHDT	Aggregate	Aggregate	Gasoline	0.716847418	49.35429542	0.014900233	14.90023279	206503.8176	49.35429542	1288128.584	6.24	HHDT
San Joaquin (SVJ)	2026	HHDT	Aggregate	Aggregate	Diesel	9478.115204	1260022.511	203.4804018	203480.4018		1260022.511			
San Joaquin (SVJ)	2026	HHDT	Aggregate	Aggregate	Electricity	107.1472143	12546.41001	0	0		12546.41001			
San Joaquin (SVJ)	2026	HHDT	Aggregate	Aggregate	Natural Gas	254.1486497	15510.30909	3.008515532	3008.515532		15510.30909			
San Joaquin (SVJ)	2026	LDA	Aggregate	Aggregate	Gasoline	248954.3471	10081616.22	337.3209777	337320.9777	343844.4943	10081616.22	11109429.49	32.31	LDA
San Joaquin (SVJ)	2026	LDA	Aggregate	Aggregate	Diesel	575.6642269	18287.29038	0.458686533	458.6865334		18287.29038			
San Joaquin (SVJ)	2026	LDA	Aggregate	Aggregate	Electricity	13715.47909	644191.7323	0	0		644191.7323			
San Joaquin (SVJ)	2026	LDA	Aggregate	Aggregate	Plug-in Hybric	7672.891861	365334.2482	6.064830077	6064.830077		365334.2482			
San Joaquin (SVJ)	2026	LDT1	Aggregate	Aggregate	Gasoline	20548.59516	692970.4437	28.33345049	28333.45049	28365.2982	692970.4437	697973.2801	24.61	LDT1
San Joaquin (SVJ)	2026	LDT1	Aggregate	Aggregate	Diesel	4.569019972	48.12886228	0.002229936	2.229935557		48.12886228			
San Joaquin (SVJ)	2026	LDT1	Aggregate	Aggregate	Electricity	52.43650314	2475.247542	0	0		2475.247542			
San Joaquin (SVJ)	2026	LDT1	Aggregate	Aggregate	Plug-in Hybric	46.48830658	2479.459943	0.029617775	29.61777517		2479.459943			
San Joaquin (SVJ)	2026	LDT2	Aggregate	Aggregate	Gasoline	108966.8805	4418192.45	175.750706	175750.706	176944.0342	4418192.45	4520974.73	25.55	LDT2
San Joaquin (SVJ)	2026	LDT2	Aggregate	Aggregate	Diesel	326.5741275	14345.45726	0.40134555	401.3455503		14345.45726			
San Joaquin (SVJ)	2026	LDT2	Aggregate	Aggregate	Electricity	967.6499633	33362.08647	0	0		33362.08647			
San Joaquin (SVJ)	2026	LDT2	Aggregate	Aggregate	Plug-in Hybric	1090.01128	55074.73612	0.791982571	791.9825705		55074.73612			
San Joaquin (SVJ)	2026	LHDT1	Aggregate	Aggregate	Gasoline	9286.217245	330876.2233	34.90157426	34901.57426	53283.20938	330876.2233	620829.826	11.65	LHDT1
San Joaquin (SVJ)	2026	LHDT1	Aggregate	Aggregate	Diesel	8223.369798	281945.2979	18.38163512	18381.63512		281945.2979			
San Joaquin (SVJ)	2026	LHDT1	Aggregate	Aggregate	Electricity	123.1439771	8008.304774	0	0		8008.304774			
San Joaquin (SVJ)	2026	LHDT2	Aggregate	Aggregate	Gasoline	1106.269293	38648.46441	4.600897482	4600.897482	13094.09906	38648.46441	150357.9601	11.48	LHDT2
San Joaquin (SVJ)	2026	LHDT2	Aggregate	Aggregate	Diesel	3071.344738	109795.1081	8.493201579	8493.201579		109795.1081			
San Joaquin (SVJ)	2026	LHDT2	Aggregate	Aggregate	Electricity	30.86247929	1914.387666	0	0		1914.387666			
San Joaquin (SVJ)	2026	MCY	Aggregate	Aggregate	Gasoline	11953.19871	64028.24506	1.598967718	1598.967718	1598.967718	64028.24506	64028.24506	40.04	MCY
San Joaquin (SVJ)	2026	MDV	Aggregate	Aggregate	Gasoline	91590.44942	3218634.995	166.8506732	166850.6732	169514.9805	3218634.995	3341123.657	19.71	MDV
San Joaquin (SVJ)	2026	MDV	Aggregate	Aggregate	Diesel	1387.090585	50484.50119	2.120474723	2120.474723		50484.50119			
San Joaquin (SVJ)	2026	MDV	Aggregate	Aggregate	Electricity	1056.311474	36337.92254	0	0		36337.92254			
San Joaquin (SVJ)	2026	MDV	Aggregate	Aggregate	Plug-in Hybric	763.4341699	35666.23827	0.543832612	543.8326117		35666.23827			
San Joaquin (SVJ)	2026	MH	Aggregate	Aggregate	Gasoline	1275.211031	11138.78339	2.660033836	2660.033836	3240.317395	11138.78339	16488.52517	5.09	MH
San Joaquin (SVJ)	2026	MH	Aggregate	Aggregate	Diesel	624.9287031	5349.741786	0.580283559	580.2835592		5349.741786			
San Joaquin (SVJ)	2026	MHDT	Aggregate	Aggregate	Gasoline	520.4470172	27274.27298	5.695995374	5695.995374	38060.10723	27274.27298	315895.5346	8.30	MHDT
San Joaquin (SVJ)	2026	MHDT	Aggregate	Aggregate	Diesel	6024.694323	280005.2121	31.85478037	31854.78037		280005.2121			
San Joaquin (SVJ)	2026	MHDT	Aggregate	Aggregate	Electricity	88.5627563	4907.525434	0	0		4907.525434			
San Joaquin (SVJ)	2026	MHDT	Aggregate	Aggregate	Natural Gas	70.06374547	3708.524145	0.509331489	509.331489		3708.524145			
San Joaquin (SVJ)	2026	OBUS	Aggregate	Aggregate	Gasoline	165.0163032	6952.66696	1.52248184	1522.48184	2390.3942	6952.66696	13252.27252	5.54	OBUS
San Joaquin (SVJ)	2026	OBUS	Aggregate	Aggregate	Diesel	90.164349	6008.595	0.848256579	848.2565787		6008.595			
San Joaquin (SVJ)	2026	OBUS	Aggregate	Aggregate	Electricity	1.43551772	130.9291339	0	0		130.9291339			
San Joaquin (SVJ)	2026	OBUS	Aggregate	Aggregate	Natural Gas	2.971688437	160.0814306	0.019655781	19.65578128		160.0814306			
San Joaquin (SVJ)	2026	SBUS	Aggregate	Aggregate	Gasoline	133.4288859	7368.829633	0.71341232	713.4123202	2448.790258	7368.829633	20643.21555	8.43	SBUS
San Joaquin (SVJ)	2026	SBUS	Aggregate	Aggregate	Diesel	490.2650513	10760.7153	1.320741795	1320.741795		10760.7153			
San Joaquin (SVJ)	2026	SBUS	Aggregate	Aggregate	Electricity	5.004648514	150.1949136	0	0		150.1949136			
San Joaquin (SVJ)	2026	SBUS	Aggregate	Aggregate	Natural Gas	97.99987117	2363.475701	0.414636143	414.6361428		2363.475701			
San Joaquin (SVJ)	2026	UBUS	Aggregate	Aggregate	Gasoline	51.25091276	3861.179865	0.812722391	812.7223915	1926.199162	3861.179865	14422.49375	7.49	UBUS
San Joaquin (SVJ)	2026	UBUS	Aggregate	Aggregate	Diesel	73.6486603	4996.985539	0.526331001	526.3310011		4996.985539			
San Joaquin (SVJ)	2026	UBUS	Aggregate	Aggregate	Electricity	18.59632595	867.1605275	0	0		867.1605275			
San Joaquin (SVJ)	2026	UBUS	Aggregate	Aggregate	Natural Gas	71.06755788	4697.167822	0.58714577	587.1457696		4697.167822			

This page intentionally left blank