4665 Lampson Avenue

ENERGY ANALYSIS

CITY OF LOS ALAMITOS

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LIST OF ABBREVIATED TERMS

%	Percent
(1)	Reference
AGSP	Airport Gateway Specific Plan
AQIA	*4665 Lampson Avenue Air Quality Impact Analysis*
BACM	Best Available Control Measures
BTU	British Thermal Units
CalEEMod	California Emissions Estimator Model
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
City	City of Los Alamitos
CPEP	Clean Power and Electrification Pathway
CPUC	California Public Utilities Commission
DMV	Department of Motor Vehicles
EIA	Energy Information Administration
EPA	Environmental Protection Agency
EMFAC	EMissions FACtor
FERC	Federal Energy Regulatory Commission
GHG	Greenhouse Gas
GWh	Gigawatt Hour
HHD	Heavy-Heavy Duty Trucks
hp-hr-gal	Horsepower Hours Per Gallon
IEPR	Integrated Energy Policy Report
ISO	Independent Service Operator
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
kBTU	Thousand-British Thermal Units
kWh	Kilowatt Hour
LDA	Light Duty Auto
LDT1/LDT2	Light-Duty Trucks
LHD1/LHD2	Light-Heavy Duty Trucks
MCY	Motorcycles

MDV	Medium Duty Trucks
MH	Motor Homes
MHDT	Medium-Heavy Duty Trucks
MMcfd	Million Cubic Feet Per Day
mpg	Miles Per Gallon
MPO	Metropolitan Planning Organization
OBUS	Other Buses
PG&E	Pacific Gas and Electric
Project	4665 Lampson Avenue
PV	Photovoltaic
SBUS	School Buses
SCAB	South Coast Air Basin
SCE	Southern California Edison
SDAB	San Diego Air Basin
sf	Square Feet
SoCalGas	Southern California Gas
TEA-21	Transportation Equity Act for the 21st Century
U.S.	United States
UBUS	Urban Buses
VMT	Vehicle Miles Traveled

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *4665 Lampson Avenue Energy Analysis* is summarized below based on the significance criteria in Section 6 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Statute and Guidelines (*CEQA Guidelines*) (1). Table ES-1 shows the findings of significance for potential energy impacts under CEQA.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

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

ES.2 PROJECT REQUIREMENTS

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

- Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)
- The Transportation Equity Act for the 21st Century (TEA-21)
- Integrated Energy Policy Report (IEPR)
- State of California Energy Plan
- California Code Title 24, Part 6, Energy Efficiency Standards
- California Code Title 24, Part 11, California Green Building Standards Code (CALGreen)
- AB 1493 Pavley Regulations and Fuel Efficiency Standards
- California's Renewable Portfolio Standard (RPS)
- Clean Energy and Pollution Reduction Act of 2015 (SB 350)

Consistency with the above regulations is discussed in detail in section 6 of this report.

ES.3 PROJECT DESIGN FEATURES

- The Project would include solar photovoltaic with the capability to generate up to 1,229,520 kWh/annually.
- The Project would be 100% electric and would not include natural gas.
- A community electric vehicle for the affordable housing component will be provided for residents to drive short distance trips to the local grocery store.
- Design the proposed parking areas to provide electric vehicle (EV) charging stations. At minimum, the number of EV charging stations shall equal the Tier 2 Residential Voluntary Measures of the California Green Building Standards Code, Section A4.106.8.2.1.

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1 INTRODUCTION

This report presents the results of the energy analysis prepared by Urban Crossroads, Inc., for the proposed 4665 Lampson Avenue Project (Project). The purpose of this report is to evaluate whether the Project would result in any potential impacts related to energy. The City of Los Alamitos (Lead Agency), as the lead agency, will use this analysis to determine if the usage amounts are efficient, typical, or wasteful for the land use type, and to determine if the Project may conflict with or obstruct any State or local plan for renewable energy or energy efficiency.

1.1 SITE LOCATION

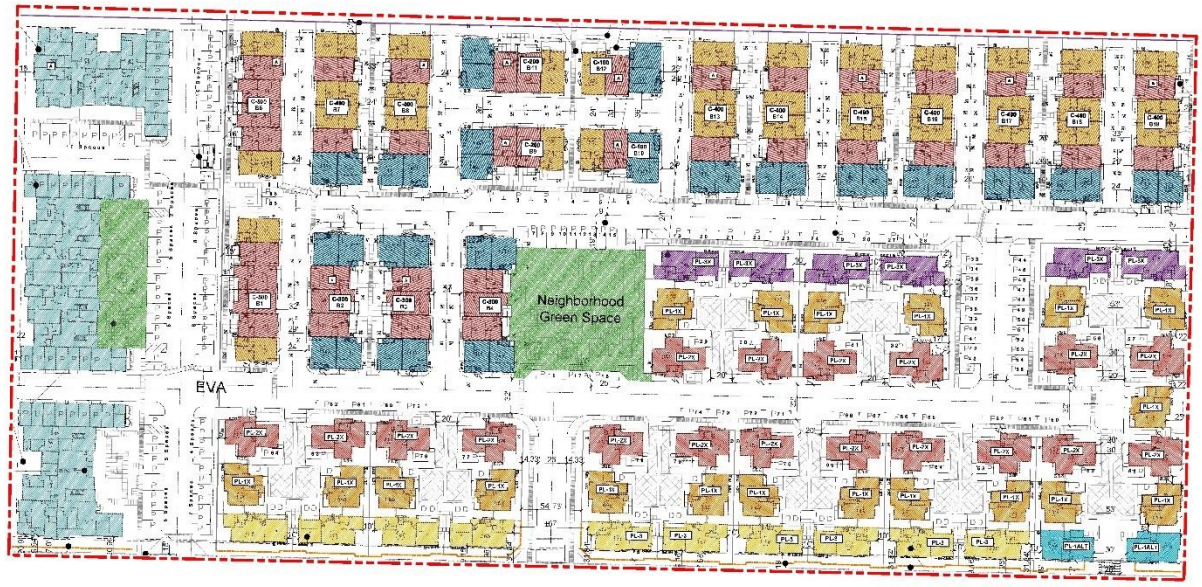
The proposed Project is located at 4665 Lampson Avenue in the City of Los Alamitos. The Project's location in relation to the surrounding area is shown on Exhibit 1-A. The surrounding land use designations are Residential to the south, Los Alamitos Joint Forces Training Base, Navy Golf Course, and Arbor Park (Community Facilities) to the north, east and west. The Interstate 405 (I-405) Freeway is located approximately 0.48 miles south of the Project site.

1.2 PROJECT DESCRIPTION

The Project consists of the development of 55 single family detached residential dwelling units (cluster homes), 114 multifamily (low-rise) residential dwelling units, and 77 affordable apartment dwelling units (total of 246 dwelling units). A preliminary site plan for the proposed Project is shown on Exhibit 1-B. The site is currently occupied by a two-story, 88,000 square foot commercial office building. Access to the Project site will be accommodated to Lampson Avenue via two proposed driveways. The Project is anticipated to generate an increase of 1,658 two-way trip-ends per day with 112 AM peak hour trips and 147 PM peak hour trips. The Project is anticipated to have an Opening Year of 2027.

EXHIBIT 1-A: LOCATION MAP

EXHIBIT 1-B: CONCEPTUAL SITE PLAN



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2 EXISTING CONDITIONS

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

2.1 OVERVIEW

The most recent data for California's estimated total energy consumption and natural gas consumption is from 2020, released by the United States (U.S.) Energy Information Administration's (EIA) California State Profile and Energy Estimates in 2021 and included (2):

- As of 2020, approximately 6,923 trillion British Thermal Unit (BTU) of energy was consumed
- As of 2020, approximately 524 million barrels of petroleum
- As of 2020, approximately 2,075 billion cubic feet of natural gas
- As of 2020, approximately 1 million short tons of coal

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

- Gasoline demand in the transportation sector is expected to decline from approximately 15.8 billion gallons in 2017 to between 12.3 billion and 12.7 billion gallons in 2030 (3)
- Diesel demand in the transportation sector is expected to rise, increasing from approximately 3.7 billion diesel gallons in 2015 to approximately 4.7 billion in 2030 (3)
- Data from the Department of Energy states that approximately 3.9 billion gallons of diesel fuel were consumed in 2019 (4)

The most recent data provided by the EIA for energy use in California by demand sector is from 2020 and is reported as follows:

- Approximately 34.0% transportation
- Approximately 24.6% industrial
- Approximately 21.8% residential
- Approximately 19.6% commercial (5)

In 2021, total system electric generation for California was 277,764 gigawatt hours (GWh). California's massive electricity in-state generation system generated approximately 194,127 GWh which accounted for approximately 70% of the electricity it uses; the rest was imported from the Pacific Northwest (12%) and the U.S. Southwest (18%) (6). Natural gas is the main source for electricity generation at 50.19% of the total in-state electric generation system power as shown in Table 2-1.

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

Fuel Type	California In-State Generation (GWh)	% of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	Total Imports (GWh)	% of Imports	Total California Energy Mix	Total California Power Mix
Coal	303	0.2%	181	7,788	7,969	9.5%	8,272	3.0%
Natural Gas	97,431	50.2%	45	7,880	7,925	9.5%	105,356	379.0%
Oil	37	0.0%	-	-	-	0.0%	37	0.0%
Other (Waste Heat/Petroleum Coke)	382	0.2%	68	15	83	0.1%	465	0.2%
Nuclear	16,477	8.5%	524	8,756	9,281	11.1%	25,758	9.3%
Large Hydro	12,036	6.2%	12,042	1,578	13,620	16.3%	25,656	9.2%
Unspecified	-	0.0%	8,156	10,731	18,887	22.6%	18,887	6.8%
Total Thermal and Non-Renewables	**126,666**	**65.2%**	**21,017**	**36,748**	**57,764**	**6910.0%**	**184,431**	**66.4%**
Biomass	5,381	2.8%	864	26	890	1.1%	6,271	2.3%
Geothermal	11,116	5.7%	192	1,906	2,098	2.5%	13,214	4.8%
Small Hydro	2,531	1.3%	304	1	304	0.4%	2,835	1.0%
Solar	33,260	17.1%	220	5,979	6,199	7.4%	39,458	14.2%
Wind	15,173	7.8%	9,976	6,405	16,381	19.6%	31,555	11.4%
Total Renewables	**67,461**	**34.8%**	**11,555**	**14,317**	**25,872**	**3090.0%**	**93,333**	**33.6%**
SYSTEM TOTALS	***194,127***	***100.0%***	***32,572***	***51,064***	***83,636***	***100.0%***	***277,764***	***100.0%***

Source: CECs 2021 Total System Electric Generation

An updated summary of, and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below (7):

- In 2021, California was the seventh-largest producer of crude oil among the 50 states, and, as of January 2021, it 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 and, the state accounted for 15% of the nation's jet fuel consumption and 10% of motor gasoline consumption in 2020.
- In 2019, California was the second-largest total energy consumer among the states, but its per capita energy consumption was less than in all other states except Rhode Island, due in part to its mild climate and its energy efficiency programs.
- In 2021, California was the nation's top producer of electricity from solar, geothermal, and biomass energy. The state was fourth in the nation in conventional hydroelectric power generation, down from second in 2019, in part because of drought and increased water demand.
- In 2021, California was the fourth-largest electricity producer in the nation, but the state was also the nation's second-largest consumer of electricity, and in 2020, it received about 30% of its electricity supply from generating facilities outside of California, including imports from Mexico.

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

2.2 ELECTRICITY

The usage associated with electricity use were calculated using CalEEMod Version 2022.1. The Southern California region's electricity reliability has been of concern for the past several years due to the planned retirement of aging facilities that depend upon once-through cooling technologies, as well as the June 2013 retirement of the San Onofre Nuclear Generating Station (San Onofre). While the once-through cooling phase-out has been ongoing since the May 2010 adoption of the State Water Resources Control Board's once-through cooling policy, the retirement of San Onofre complicated the situation. California Independent Service Operator (ISO) studies revealed the extent to which the South Coast Air Basin (SCAB) and the San Diego Air Basin (SDAB) region were vulnerable to low-voltage and post-transient voltage instability concerns. A preliminary plan to address these issues was detailed in the 2013 Integrative Energy Policy Report (IEPR) after a collaborative process with other energy agencies, utilities, and air districts (8). Similarly, the subsequent 2022 IEPR's provides information and policy recommendations on advancing a clean, reliable, and affordable energy system.

California's electricity industry is an organization of traditional utilities, private generating companies, and state agencies, each with a variety of roles and responsibilities to ensure that electrical power is provided to consumers. The California ISO is a nonprofit public benefit

corporation and is the impartial operator of the State's wholesale power grid and is charged with maintaining grid reliability, and to direct uninterrupted electrical energy supplies to California's homes and communities. While utilities still own transmission assets, the ISO routes electrical power along these assets, maximizing the use of the transmission system and its power generation resources. The ISO matches buyers and sellers of electricity to ensure that enough power is available to meet demand. To these ends, every five minutes the ISO forecasts electrical demands, accounts for operating reserves, and assigns the lowest cost power plant unit to meet demands while ensuring adequate system transmission capacities and capabilities (9).

Part of the ISO's charge is to plan and coordinate grid enhancements to ensure that electrical power is provided to California consumers. To this end, utilities file annual transmission expansion/modification plans to accommodate the State's growing electrical needs. The ISO reviews and either approves or denies the proposed additions. In addition, and perhaps most importantly, the ISO works with other areas in the western United States electrical grid to ensure that adequate power supplies are available to the State. In this manner, continuing reliable and affordable electrical power is assured to existing and new consumers throughout the State.

Electricity is currently provided to the Project site by Southern California Edison (SCE). SCE provides electric power to more than 15 million persons in 15 counties and in 180 incorporated cities, within a service area encompassing approximately 50,000 square miles. Based on SCE's 2018 Power Content Label Mix, SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers (10).

Table 2-2 presents SCE's specific proportional shares of electricity sources in 2021. As indicated in Table 2-2, the 2021 SCE Power Mix has renewable energy at 31.4% of the overall energy resources. Geothermal resources are at 5.7%, wind power is at 10.2%, large hydroelectric sources are at 2.3%, solar energy is at 14.9%, and coal is at 0% (11).

TABLE 2-2: SCE 2021 POWER CONTENT MIX

Energy Resources	2020 SCE Power Mix
Eligible Renewable	**31.4%**
Biomass & Waste	0.1%
Geothermal	5.7%
Eligible Hydroelectric	0.5%
Solar	14.9%
Wind	10.2%
Coal	**0.0%**
Large Hydroelectric	**2.3%**
Natural Gas	**22.3%**
Nuclear	**9.2%**
Other	**0.2%**
Unspecified Sources of power*	34.6%
Total	**100%**

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

2.3 NATURAL GAS

Based on information provided by the Project applicant, no natural gas would be used as a result of the Project and as such, use of natural gas is not considered in this analysis.

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 (13), 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 (13). While gasoline consumption has been declining since 2008 it is still by far the dominant fuel. California is the second-largest consumer of petroleum products, after Texas, and accounts for 10% of the nation's total consumption. The state is the largest U.S. consumer of motor gasoline and jet fuel, and 85% of the petroleum consumed in California is used in the transportation sector (14).

[1] Fuel consumptions estimated utilizing information from EMFAC2021.

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3 REGULATORY BACKGROUND

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

3.1 FEDERAL REGULATIONS

3.1.1 INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT OF 1991 (ISTEA)

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

3.1.2 FEDERAL ENERGY INDEPENDENCE AND SECURITY ACT OF 2007 (EISA)

On December 19, 2007 President Bush signed the Energy Independence and Security Act of 2007 (EISA) which reinforces energy reductions put forth in Executive Order 13423 as well as introduces more aggressive requirements. The three enacted provisions are the Corporate Average Fuel Economy Standards, the Renewable Fuel Standard and the Appliance/Lighting Efficiency Standards. Additionally, the EISA aims to move the United States towards greater energy independence and energy security, improving the Federal Governments energy performance, increase the production rate of renewable fuels and efficiency of vehicles, products and buildings, and promote research on greenhouse gas capture and storage options.

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

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

3.2 CALIFORNIA REGULATIONS

3.2.1 INTEGRATED ENERGY POLICY REPORT (IEPR)

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

The 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 (15).

3.2.2 STATE OF CALIFORNIA ENERGY PLAN

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

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

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on 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 will be effective on January 1, 2023[2]. The

[2] The 2022 California Green Building Standard Code will be published July 1, 2022.

Project would be required to comply with the applicable standards in place at the time plan check submittals are made (16).

3.2.4 AB 1493 PAVLEY REGULATIONS AND FUEL EFFICIENCY STANDARDS

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

3.2.5 CALIFORNIA'S RENEWABLE PORTFOLIO STANDARD (RPS)

First established in 2002 under Senate Bill (SB) 1078, California's Renewable Portfolio Standards (RPS) requires retail sellers of electric services to increase procurement from eligible renewable resources to 33% of total retail sales by 2020 (17).

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 25% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the CEC, and local publicly owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States (California Leginfo 2015).

3.2.7 CITY OF LOS ALAMITOS APPLICABLE GENERAL PLAN POLICIES

The City of Los Alamitos General Plan cites Goals and Policies that provide direction and guidance for residents, businesses and organizations. The following goal and policies would be applicable to the Project.

- Goal 4: Air, water, and energy resources that are protected from pollution and overuse.
- Policy 4.4: Low and zero emission vehicles. Support development of private and public parking infrastructure facilitating the use of alternative fuel vehicles.
- Policy 4.5 Energy and water conservation. Encourage new development and substantial rehabilitation projects to exceed energy and water conservation and reduction standards set in the City's zoning ordinance and the California Building Code.

- Policy 4.9 Renewable Energy. Promote the use of renewable energy sources to serve public and private sector development.

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4 PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES

4.1 EVALUATION CRITERIA

In compliance with Appendix F and Appendix G of the *State CEQA Guidelines* (19), 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 *4665 Lampson Avenue Air Quality Impact Analysis* (AQIA) (20) was utilized in this analysis, detailing Project related construction equipment, transportation energy demands, and operational energy demands.

4.2.1 CALEEMOD

In May 2022, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the CalEEMod Version 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 (21). Accordingly, the latest version of CalEEMod has been used to determine the proposed Project's anticipated transportation and operational energy demands. Outputs from the annual model runs are provided in Appendices 4.1 through 4.2.

4.2.2 EMISSION FACTORS MODEL

On May 2, 2022, the EPA approved the 2021 version of the EMissions FACtor model (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 (22). 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 through 2027 analysis years were utilized to determine the average vehicle fuel economy used throughout the duration of the Project. Outputs from the EMFAC2021 model run is provided in Appendix 4.3.

4.3 CONSTRUCTION ENERGY DEMANDS

The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity and fuel consumption during construction of the proposed Project.

4.3.1 CONSTRUCTION POWER COST

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

CONSTRUCTION DURATION

For purposes of analysis, construction of Project is expected to commence in January 2024 and would last through April 2027 (20). 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* (23).

TABLE 4-1: CONSTRUCTION DURATION

Construction Activity	Start Date	End Date	Days
Proposed Project			
Demolition	01/01/2024	01/30/2024	26
Site Preparation	01/31/2024	02/29/2024	26
Grading	03/01/2024	06/13/2024	90
Paving	06/14/2024	07/13/2024	26
Building Construction	07/14/2024	04/16/2027	863
Architectural Coating	07/14/2024	04/16/2027	863
Off-Site Improvements			
Linear, Grubbing, & Land Clearing	04/02/2024	11/11/2024	160
Linear, Paving	11/12/2024	01/06/2025	40

PROJECT CONSTRUCTION POWER COST

The *2023 National Construction Estimator* identifies a typical power cost per 1,000 sf of construction per month of $2.50, which was used to calculate the Project's total construction power cost (24).

As shown on Table 4-2, the total power cost of the on-site electricity usage during the construction of the Project is estimated to be approximately $77,191.92. The total power cost estimates by land use are used to back calculate the electricity usage as shown in Section 4.3.2.

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
Proposed Project				
Single Family Detached	$2.50	136.982	39	$13,355.75
Multifamily Housing	$2.50	184.773	39	$18,015.37
Affordable Housing	$2.50	73.920	39	$7,207.20
Parking Lot	$2.50	51.272	39	$4,998.99
Other Asphalt Surfaces	$2.50	67.842	39	$6,614.62
Off-Site Improvements				
Off-Site Watermain Extension	$2.50	1,200.000	9	$27,000.00
TOTAL CONSTRUCTION POWER COST				***$77,191.92***

4.3.2 CONSTRUCTION ELECTRICITY USAGE

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

PROJECT CONSTRUCTION ELECTRICITY USAGE

The SCE's general service rate schedule was used to determine the Project's electrical usage. As of January 1, 2023, SCE's general service rate is $0.13 per kilowatt hours (kWh) of electricity for commercial services and $0.16 per kWh for residential uses (25). As shown on Table 4-3, the total electricity usage from on-site Project construction related activities is estimated to be approximately 593,784 kWh.

TABLE 4-3: CONSTRUCTION ELECTRICITY USAGE

Land Use	Cost per kWh	Project Construction Electricity Usage (kWh)
Proposed Project		
Single Family Detached	$0.13	102,737
Multifamily Housing	$0.13	138,580
Affordable Housing	$0.13	55,440
Parking Lot	$0.13	38,454
Other Asphalt Surfaces	$0.13	50,882
Off-Site Improvements		
Off-Site Watermain Extension	$0.13	207,692
TOTAL CONSTRUCTION ELECTRICITY USAGE		***593,784***

4.3.3 CONSTRUCTION EQUIPMENT FUEL ESTIMATES

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

CONSTRUCTION EQUIPMENT

Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 4-4 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 City Code.

TABLE 4-4: CONSTRUCTION EQUIPMENT ASSUMPTIONS (1 OF 2)

Construction Activity	Equipment	Amount	Hours Per Day
Proposed Project			
Demolition	Concrete/Industrial Saws	1	8
	Excavators	3	8
	Rubber Tired Dozers	2	8
Site Preparation	Rubber Tired Dozers	3	8
	Crawler Tractors	4	8
Grading	Excavators	2	8
	Graders	1	8
	Rubber Tired Dozers	1	8
	Scrapers	2	8
	Crawler Tractors	2	8
Building Construction	Cranes	1	8
	Forklifts	3	8
	Generator Sets	1	8
	Welders	1	8
	Crawler Tractors	3	8
Architectural Coating	Air Compressors	1	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Off-Site Improvements			
Linear, Grubbing, & Land Clearing	Off-Highway Trucks	2	8
	Tractors/Loaders/Backhoes	1	8
	Excavators	2	8

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

Construction Activity	Equipment	Amount	Hours Per Day
Off-Site Improvements			
Linear, Paving	Excavators	1	8
	Tractors/Loaders/Backhoes	1	8
	Off-Highway Trucks	2	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 (26). For the purposes of this analysis, the calculations are based on all construction equipment being diesel-powered, which is consistent with industry standards.

Diesel fuel would be supplied by existing commercial fuel providers serving the Project area and region[3]. As previously presented in Table 4-5, Project construction activities would consume an estimated 188,030 gallons of diesel fuel. Project construction would represent a "single-event" diesel fuel demand and would not require ongoing or permanent commitment of diesel fuel resources for this purpose.

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

TABLE 4-5: CONSTRUCTION EQUIPMENT FUEL CONSUMPTION ESTIMATES

Construction Activity	Duration (Days)	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption
Proposed Project								
Demolition	26	Concrete/Industrial Saws	33	1	8	0.73	193	271
		Excavators	36	3	8	0.38	328	461
		Rubber Tired Dozers	367	2	8	0.40	2,349	3,301
Site Preparation	26	Rubber Tired Dozers	367	3	8	0.40	3,523	4,952
		Crawler Tractors	87	4	8	0.43	1,197	1,682
Grading	90	Excavators	36	2	8	0.38	219	1,065
		Graders	148	1	8	0.41	485	2,362
		Rubber Tired Dozers	367	1	8	0.40	1,174	5,713
		Scrapers	423	2	8	0.48	3,249	15,804
		Crawler Tractors	87	2	8	0.43	599	2,912
Building Construction	863	Cranes	367	1	8	0.29	851	39,719
		Forklifts	82	3	8	0.20	394	18,361
		Generator Sets	14	1	8	0.74	83	3,866
Architectural Coating	460	Welders	46	1	8	0.45	166	7,725
Off-Site Improvements								
Linear, Grubbing & Land Clearing	160	Off-Highway Trucks	376	2	8	0.38	2,286	19,772
		Tractors/Loaders/Backhoes	84	1	8	0.37	249	2,150
		Excavators	36	2	8	0.38	219	1,893
Linear, Paving	40	Excavators	36	1	8	0.38	109	237
		Tractors/Loaders/Backhoes	84	1	8	0.37	249	538
		Off-Highway Trucks	376	2	8	0.38	2,286	4,943
TOTAL CONSTRUCTION FUEL DEMAND (GALLONS DIESEL FUEL)								***188,030***

4.3.4 CONSTRUCTION TRIPS AND VMT

Construction generates on-road vehicle emissions from vehicle usage for workers, vendors, and haul truck 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.

TABLE 4-6: CONSTRUCTION TRIPS AND VMT

Construction Activity	Worker Trips Per Day	Vendor Trips Per Day	Hauling Trips Per Day
Proposed Project			
Demolition	15	1	90
Site Preparation	18	1	0
Grading	20	3	9
Building Construction	157	22	0
Paving	15	1	0
Architectural Coating	31	0	0
Off-Site Improvements			
Linear, Grubbing & Land Clearing	13	0	0
Linear, Paving	10	0	0

4.3.5 CONSTRUCTION WORKER FUEL ESTIMATES

With respect to estimated VMT for the Project, the construction worker trips (personal vehicles used by workers commuting to the Project from home) would generate an estimated 2,644,871 VMT during the 39 months of construction (20). Based on CalEEMod methodology, it is assumed that 50% of all construction worker trips are from light-duty-auto vehicles (LDA), 25% are from light-duty-trucks (LDT1[4]), and 25% are from light-duty-trucks (LDT2[5]). 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 (22). EMFAC2021 was run for the LDA, LDT1, and LDT2 vehicle class within the California sub-area for the 2024 through 2027 calendar years. Data from EMFAC2021 is shown in Appendix 4.3.

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

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

TABLE 4-7: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES (1 OF 3)

Year	Construction Activity	Duration (Days)	Worker Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Proposed Project							
2024	LDA						
	Demolition	22	8	18.5	3,256	32.75	99
	Site Preparation	22	9	18.5	3,663	32.75	112
	Grading	75	10	18.5	13,875	32.75	424
	Building Construction	122	79	18.5	178,303	32.75	5,444
	Paving	21	8	18.5	3,108	32.75	95
	Architectural Coating	122	16	18.5	36,112	32.75	1,103
	LDT1						
	Demolition	22	4	18.5	1,628	25.26	64
	Site Preparation	22	5	18.5	2,035	25.26	81
	Grading	75	5	18.5	6,938	25.26	275
	Building Construction	122	40	18.5	90,280	25.26	3,575
	Paving	21	4	18.5	1,554	25.26	62
	Architectural Coating	122	8	18.5	18,056	25.26	715
	LDT2						
	Demolition	22	4	18.5	1,628	24.73	66
	Site Preparation	22	5	18.5	2,035	24.73	82
	Grading	75	5	18.5	6,938	24.73	281
	Building Construction	122	40	18.5	90,280	24.73	3,651
	Paving	21	4	18.5	1,554	24.73	63
	Architectural Coating	122	8	18.5	18,056	24.73	730

TABLE 4-7: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES (2 OF 3)

Year	Construction Activity	Duration (Days)	Worker Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2025	LDA						
	Building Construction	261	79	18.5	381,452	33.86	11,265
	Architectural Coating	261	16	18.5	77,256	33.86	2,282
	LDT1						
	Building Construction	261	40	18.5	193,140	25.78	7,493
	Architectural Coating	261	8	18.5	38,628	25.78	1,499
	LDT2						
	Building Construction	261	40	18.5	193,140	25.43	7,596
	Architectural Coating	261	8	18.5	38,628	25.43	1,519
2026	LDA						
	Building Construction	261	79	18.5	381,452	34.81	10,959
	Architectural Coating	261	16	18.5	77,256	34.81	2,220
	LDT1						
	Building Construction	261	40	18.5	193,140	26.28	7,348
	Architectural Coating	261	8	18.5	38,628	26.28	1,470
	LDT2						
	Building Construction	261	40	18.5	193,140	26.07	7,408
	Architectural Coating	261	8	18.5	38,628	26.07	1,482
2027	LDA						
	Building Construction	76	79	18.5	111,074	35.67	3,114
	Architectural Coating	76	16	18.5	22,496	35.67	631

TABLE 4-7: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES (3 OF 3)

Year	Construction Activity	Duration (Days)	Worker Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2027	LDT1						
	Building Construction	76	40	18.5	56,240	26.76	2,101
	Architectural Coating	76	8	18.5	11,248	26.76	420
	LDT2						
	Building Construction	76	40	18.5	56,240	26.65	2,110
	Architectural Coating	76	8	18.5	11,248	26.65	422
Off-Site Improvements							
2024	LDA						
	Linear, Grubbing & Land Clearing	160	7	18.5	20,720	32.75	633
	Linear, Paving	36	5	18.5	3,330	32.75	102
	LDT1						
	Linear, Grubbing & Land Clearing	160	4	18.5	11,840	25.26	469
	Linear, Paving	36	3	18.5	1,998	25.26	79
	LDT2						
	Linear, Grubbing & Land Clearing	160	4	18.5	11,840	24.73	479
	Linear, Paving	36	3	18.5	1,998	24.73	81
2025	LDA						
	Linear, Paving	4	5	18.5	370	33.86	11
	LDT1						
	Linear, Paving	4	3	18.5	222	25.78	9
	LDT2						
	Linear, Paving	4	3	18.5	222	25.43	9
TOTAL CONSTRUCTION WORKER FUEL CONSUMPTION							***90,130***

As previously shown in Table 4-7, the estimated annual fuel consumption resulting from Project construction worker trips is 90,130 gallons during full construction of the Project. It should be noted that construction worker trips would represent a "single-event" fuel demand and would not require ongoing or permanent commitment of fuel resources for this purpose.

4.3.6 CONSTRUCTION VENDOR/HAULING FUEL ESTIMATES

With respect to estimated VMT, the construction vendor trips (vehicles that deliver materials to the site during construction) would generate an estimated 446,234 VMT along area roadways for the Project over the duration of construction activity (20). It is assumed that 50% of all vendor trips are from medium-heavy duty trucks (MHD), 50% of all vendor trips are from heavy-heavy duty trucks (HHD), and 100% of all hauling trips are HHDs. These assumptions are consistent with the CalEEMod defaults utilized within the within the AQIA (20). Vehicle fuel efficiencies for MHDs and HHDs were estimated using information generated within EMFAC2021. EMFAC2021 was run for the MHD and HHD vehicle classes within the California sub-area for the 2024 and 2027 calendar years. Data from EMFAC2021 is shown in Appendix 4.3.

Based on Table 4-8, it is estimated that 30,928 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/HAULING FUEL CONSUMPTION ESTIMATES (1 OF 2)

Year	Construction Activity	Duration (Days)	Vendor/Hauling Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Proposed Project							
2024	MHDT						
	Demolition	22	1	10.2	224	7.52	30
	Site Preparation	22	1	10.2	224	7.52	30
	Grading	75	2	10.2	1,530	7.52	204
	Building Construction	122	11	10.2	13,688	7.52	1,821
	Paving	21	1	10.2	214	7.52	29
	HHDT (Vendor)						
	Demolition	22	1	10.2	224	6.00	37
	Site Preparation	22	1	10.2	224	6.00	37
	Grading	75	2	10.2	1,530	6.00	255
	Building Construction	122	11	10.2	13,688	6.00	2,282
	Paving	21	1	10.2	214	6.00	36
	HHDT (Hauling)						
	Demolition	22	90	20	39,600	6.00	6,602
	Grading	75	9	20	13,500	6.00	2,251
2025	MHDT						
	Building Construction	261	11	10.2	29,284	7.63	3,836
	HHDT (Vendor)						
	Building Construction	261	11	10.2	29,284	6.10	4,803

TABLE 4-8: CONSTRUCTION VENDOR/HAULING FUEL CONSUMPTION ESTIMATES (1 OF 2)

Year	Construction Activity	Duration (Days)	Vendor/Hauling Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2026	MHDT						
	Building Construction	261	11	10.2	29,284	7.76	3,775
	HHDT (Vendor)						
	Building Construction	261	11	10.2	29,284	6.20	4,723
2027	MHDT						
	Building Construction	76	11	10.2	8,527	7.91	1,078
	HHDT (Vendor)						
	Building Construction	76	11	10.2	8,527	6.32	1,349
TOTAL CONSTRUCTION VENDOR/HAULING FUEL CONSUMPTION							***30,928***

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). For the reasons mentioned previously, the proposed Project construction equipment would not result in inefficient wasteful, or unnecessary consumption of fuel.

Construction contractors would be required to comply with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with anti-idling and emissions regulations would result in a more efficient use of construction-related energy and the minimization or elimination of wasteful or unnecessary consumption of energy. CARB's Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling program requires idling to be no more than 5 minutes. This requirement allows for increased efficiency because the construction equipment would be required to shut down when not in use, thus not consuming fuel that would otherwise be consumed while idling for long periods of time. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

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

A full life cycle 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, 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, demolished material that could be re-used as base on-site, 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 FUEL DEMANDS

Energy that would be consumed by operational 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 (22). EMFAC2021 was run for the Orange County sub-area for the 2024 and 2027 calendar years. Data from EMFAC2021 is shown in Appendix 4.3.

The estimated transportation energy demands are summarized on Table 4-9As summarized on Table 4-9 the Project would result in 9,655,902 annual VMT and an estimated annual fuel consumption of 353,819 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	35.67	4,776,329	133,917
LDT1	26.76	386,114	14,428
LDT2	26.65	2,278,699	85,512
MDV	21.86	1,402,317	64,155
LHDT1	17.30	268,787	15,534
LHDT2	16.21	70,486	4,349
MHDT	7.91	149,968	18,968
HHDT	6.32	55,686	8,811
OBUS	6.48	5,790	894
UBUS	47.29	3,433	73
MCY	42.49	214,240	5,042
SBUS	6.65	9,330	1,403
MH	47.29	34,722	734
TOTAL (ALL VEHICLES)		***9,655,902***	***353,819***

4.4.2 OPERATIONAL ENERGY DEMANDS

Project building operations activities would result in the consumption of electricity, which would be supplied to the Project by SCE. As summarized on Table 4-10 the Project would result in a net electricity demand of 98,388 kWh/year of electricity after netting out the 1,229,520 kWh/year of electricity generated by the project's photovoltaic solar design feature.

Based on information provided by the Project Applicant, the Project would not use natural gas for the building envelope. As such, natural gas consumption has not been analyzed in this study.

TABLE 4-10: PROJECT ANNUAL OPERATIONAL ENERGY DEMAND SUMMARY

Land Use	Electricity Demand (kWh/year)	Solar Generation (kWh/year)	Net Electricity Demand (kWh/year)
Single Family Detached	379,233		
Multifamily Housing	437,195		
Affordable Housing	282,269		
Parking Lot	32,435		
Other Asphalt Surfaces	0		
TOTAL PROJECT ENERGY DEMAND	***1,131,132***	***1,229,520***	***—98,388***

4.4.3 OPERATIONAL ENERGY EFFICIENCY/CONSERVATION MEASURES

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

ENHANCED VEHICLE FUEL EFFICIENCIES

Project annual fuel consumption estimates presented previously in Table 4-9 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. 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 $77,191.92. Additionally, based on the assumed power cost, it is estimated that the total electricity usage during construction, after full Project buildout, is calculated to be approximately 593,784 kWh.

Construction equipment used by the Project would result in single event consumption of approximately 188,030 gallons of diesel fuel. Construction equipment use of fuel would not be atypical for the type of construction proposed because there are no aspects of the Project's proposed construction process that are unusual or energy-intensive, and Project construction equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies.

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

Construction worker trips for full construction of the Project would result in the estimated fuel consumption of 90,130 gallons of fuel. Additionally, fuel consumption from construction vendor trips (MHDs and HHDs) will total approximately 30,928 gallons. Diesel fuel would be supplied by City and regional commercial vendors. Indirectly, construction energy efficiencies and energy conservation would be achieved using bulk purchases, transport and use of construction materials. The 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 (15). 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 an increased fuel demand of 353,819 gallons of fuel.

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

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

OPERATIONAL ENERGY DEMANDS

Project facility operational energy demands are estimated to be: 171,217 kWh/year of electricity which would be supplied by SCE. Based on information provided by the Project Applicant, the Project would not use natural gas. As such, natural gas consumption has not been analyzed in this study. The Project proposes conventional residential, park, and commercial uses reflecting contemporary energy efficient/energy conserving designs and operational programs. The Project does not propose uses that are inherently energy intensive and the energy demands in total would be comparable to other residential, park, and commercial uses of similar scale and configuration.

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

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5 CONCLUSIONS

5.1 ENERGY IMPACT 1

Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Impact Analysis

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

Construction

Based on CalEEMod estimations within the modeling output files used to estimate GHG emissions associated with future development projects under the Community Plan, construction-related vehicle trips would result in approximately X million VMT, and consume an estimated 188,030 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. Therefore, the construction-related impacts related to electricity and fuel consumption would be less than significant.

Operation

Electricity and Natural Gas

Operation of the proposed project would consume energy as part of building operations and transportation activities. Building operations would involve energy consumption for multiple purposes including, but not limited to, building heating and cooling, refrigeration, lighting, and electronics. Based on CalEEMod energy use estimations, operations for the Project would result in approximately 1,131,132 kWh of electricity annually and would offset the demand through the use of on-site photovoltaic solar power which is expected to generate 1,229,520 kWh of electricity annually – which results in a net electricity demand of 98,388 kWh year. No natural gas will be used as the Project will be all electric.

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. Additionally, the Project will incorporate the Project Design Features as identified in Section ES.3 of this report.

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 287.9 million VMT and consume an estimated 7,910,258 gallons of gasoline and diesel combined, annually (see Appendix C).

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

5.2 ENERGY IMPACT 2

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

Impact Analysis

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

Construction

As discussed in Section 5.1, above, the proposed project would result in energy consumption through the combustion of fossil fuels in construction vehicles, worker commute vehicles, and

construction equipment, and the use of electricity for temporary buildings, lighting, and other sources. California Code of Regulations Title 13, Sections 2449 and 2485, limit idling from both on-road and off-road diesel-powered equipment and are enforced by the ARB. The proposed project would comply with these regulations. There are no policies at the local level applicable to energy conservation specific to the construction phase. Thus, it is anticipated that construction of the proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing energy use or increasing the use of renewable energy. Therefore, construction- related energy efficiency and renewable energy standards consistency impacts would be less than significant.

Operation

California's Renewable Portfolio Standard (RPS) establishes a goal of renewable energy for local providers to be 44 percent by 2040. Similarly, the State is promoting renewable energy targets to meet the 2022 Scoping Plan greenhouse gas emissions reductions. As discussed in Section 5.1, above, the Project would result in approximately 1,131,132 kWh of electricity annually and would offset the demand through the use of on-site photovoltaic solar power which is expected to generate 1,229,520 kWh of electricity annually – which results in a net electricity demand of 98,388 kWh/year of electricity. No natural gas will be used as the Project will be all electric.

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. Additionally, the Project will incorporate the Project Design Features as outlined in Section ES.3 of this report.

City Of Los Alamitos Applicable General Plan Policies

The Project's consistency with the City of Los Alamitos Applicable General Plan Goals and Policies is summarized on Table 5-1.

TABLE 5-1: PROJECT CONSISTENCY WITH THE CITY OF LOS ALAMITOS GENERAL PLAN GOALS AND POLICIES

Policy 4.4 Low and zero emission vehicles. Support development of private and public parking infrastructure facilitating the use of alternative fuel vehicles.	**Consistent.** As discussed in EIR Section 3.0, *Project Description*, the Project would provide EV charging stations shall equal the Tier 2 Residential Voluntary Measures of the California Green Building Standards Code, Section A4.106.8.2.1. Therefore, the Project would not conflict with Policy 4.4.
Policy 4.5 Energy and water conservation. Encourage new development and substantial rehabilitation	**Consistent.** As discussed in EIR Section 4.5, *Energy*, and Section 4.17, *Utilities and Service Systems*, the

projects to exceed energy and water conservation and reduction standards set in the City's zoning ordinance and the California Building Code.	Project would result in a less than significant impact to energy and water supply. The Project would be required to comply with the City's zoning ordinance and the California Building Code in regards to energy and water conservation and reduction standards. Additionally, the Project would exceed energy standards through installation of solar photovoltaic rooftops, use of 100$ electricity, preferential parking of fuel efficient vehicles, and EV charging stations (see PDF GHG -1, -2, -4, and -5. Therefore, the Project would not conflict with Policy 4.5.
Policy 4.9 Renewable Energy. Promote the use of renewable energy sources to serve public and private sector development.	**Consistent**. As discussed in EIR Section 4.8, *Greenhouse Gas Emissions*, the Project would include installation of solar photovoltaic with the capability to generate up to 1,229,520 kWh/annually. Therefore, the Project would not conflict with Policy 4.9.

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

Results of the report indicate that the Project is not anticipated to result in a significant impact during construction or operational activities associated with energy and no mitigation is required.

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7 CERTIFICATIONS

The contents of this energy analysis report represent an accurate depiction of the environmental impacts associated with the proposed 4665 Lampson Avenue. The information contained in this energy analysis report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at hqureshi@urbanxroads.com.

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EDUCATION

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

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

PROFESSIONAL AFFILIATIONS

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

PROFESSIONAL CERTIFICATIONS

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

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APPENDIX 4.1:

CALEEMOD CONSTRUCTION EMISSIONS MODEL OUTPUTS

4665 Lampson Avenue (Construction) Revisions Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	4665 Lampson Avenue (Construction) Revisions
Construction Start Date	1/1/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.30
Precipitation (days)	6.20
Location	33.781911081100944, -118.04925610183602
County	Orange
City	Los Alamitos
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5871
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.12

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
Single Family Housing	55.0	Dwelling Unit	3.63	136,982	21,000	21,000	164	—

Apartments Low Rise	114	Dwelling Unit	4.24	184,773	0.00	0.00	340	—
Apartments Mid Rise	77.0	Dwelling Unit	2.03	73,920	0.00	0.00	229	—
Parking Lot	51.3	1000sqft	0.85	0.00	0.00	0.00	—	—
Other Asphalt Surfaces	67.8	1000sqft	1.56	0.00	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.	1.25	4.02	20.9	37.8	0.07	0.19	3.11	3.31	0.19	1.09	1.28	—	7,702	7,702	0.33	0.21	12.4	7,765
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.25	4.02	20.9	37.6	0.07	0.28	5.91	6.01	0.27	2.74	2.85	—	10,039	10,039	0.65	1.06	0.37	10,371
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.03	3.41	13.6	25.5	0.04	0.14	2.53	2.67	0.13	0.78	0.91	—	5,620	5,620	0.23	0.21	4.21	5,692
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.19	0.62	2.48	4.65	0.01	0.03	0.46	0.49	0.02	0.14	0.17	—	930	930	0.04	0.03	0.70	942

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.25	4.02	20.9	37.8	0.07	0.19	3.11	3.31	0.19	1.09	1.28	—	7,702	7,702	0.33	0.21	12.4	7,765
2025	1.21	3.99	13.0	29.1	0.03	0.14	2.65	2.79	0.13	0.63	0.76	—	6,180	6,180	0.19	0.21	11.4	6,259
2026	1.11	3.95	12.9	28.5	0.03	0.14	2.65	2.79	0.13	0.63	0.76	—	6,121	6,121	0.18	0.21	10.3	6,199
2027	1.08	3.86	12.9	27.8	0.03	0.14	2.65	2.79	0.13	0.63	0.76	—	6,068	6,068	0.18	0.21	9.25	6,143
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.25	4.02	20.9	37.6	0.07	0.28	5.91	6.01	0.27	2.74	2.85	—	10,039	10,039	0.65	1.06	0.37	10,371
2025	1.21	3.99	13.1	27.7	0.03	0.14	2.65	2.79	0.13	0.63	0.76	—	6,060	6,060	0.19	0.21	0.30	6,128
2026	1.10	3.95	13.0	27.1	0.03	0.14	2.65	2.79	0.13	0.63	0.76	—	6,003	6,003	0.19	0.21	0.27	6,071
2027	1.08	3.85	12.9	26.5	0.03	0.14	2.65	2.79	0.13	0.63	0.76	—	5,952	5,952	0.18	0.21	0.24	6,018
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.89	1.97	13.6	25.5	0.04	0.14	2.53	2.67	0.13	0.78	0.91	—	5,620	5,620	0.23	0.21	2.92	5,692
2025	1.03	3.41	11.3	24.1	0.03	0.12	2.26	2.38	0.11	0.54	0.65	—	5,222	5,222	0.17	0.18	4.21	5,284
2026	0.94	3.38	11.2	23.5	0.03	0.12	2.26	2.38	0.11	0.54	0.65	—	5,173	5,173	0.16	0.18	3.81	5,235
2027	0.27	0.96	3.23	6.69	0.01	0.03	0.66	0.69	0.03	0.16	0.19	—	1,489	1,489	0.05	0.05	1.00	1,507
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.16	0.36	2.48	4.65	0.01	0.03	0.46	0.49	0.02	0.14	0.17	—	930	930	0.04	0.03	0.48	942
2025	0.19	0.62	2.05	4.39	0.01	0.02	0.41	0.43	0.02	0.10	0.12	—	865	865	0.03	0.03	0.70	875
2026	0.17	0.62	2.04	4.29	0.01	0.02	0.41	0.43	0.02	0.10	0.12	—	856	856	0.03	0.03	0.63	867
2027	0.05	0.17	0.59	1.22	< 0.005	0.01	0.12	0.13	0.01	0.03	0.03	—	247	247	0.01	0.01	0.16	249

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.41	11.9	18.2	0.03	0.20	—	0.20	0.19	—	0.19	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	2.00	2.00	—	0.30	0.30	—	—	—	—	—	—	—
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	0.03	0.03	0.85	1.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	244	244	0.01	< 0.005	—	245
Demolition	—	—	—	—	—	—	0.14	0.14	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.15	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.4	40.4	< 0.005	< 0.005	—	40.5
Demolition	—	—	—	—	—	—	0.03	0.03	—	< 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	0.06	0.06	0.07	0.78	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	193	193	< 0.005	0.01	0.02	196
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	32.4	32.4	< 0.005	< 0.005	< 0.005	33.8
Hauling	0.64	0.13	8.20	3.48	0.04	0.08	1.63	1.71	0.08	0.46	0.54	—	6,388	6,388	0.51	1.02	0.35	6,704
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.03	14.2
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	2.41
Hauling	0.05	0.01	0.59	0.25	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	455	455	0.04	0.07	0.41	478
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.31	2.31	< 0.005	< 0.005	< 0.005	2.34
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.38	0.38	< 0.005	< 0.005	< 0.005	0.40
Hauling	0.01	< 0.005	0.11	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	75.3	75.3	0.01	0.01	0.07	79.1

3.3. Site Preparation (2024) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	0.68	15.7	30.0	0.05	0.10	—	0.10	0.10	—	0.10	—	5,529	5,529	0.22	0.04	—	5,548
Dust From Material Movement	—	—	—	—	—	—	5.66	5.66	—	2.69	2.69	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	1.12	2.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	394	394	0.02	< 0.005	—	395
Dust From Material Movement	—	—	—	—	—	—	0.40	0.40	—	0.19	0.19	—	—	—	—	—	—	—
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	0.20	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	65.2	65.2	< 0.005	< 0.005	—	65.4
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	0.93	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	232	232	< 0.005	0.01	0.03	235
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	32.4	32.4	< 0.005	< 0.005	< 0.005	33.8
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	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.8	16.8	< 0.005	< 0.005	0.03	17.0
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	2.41
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	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.78	2.78	< 0.005	< 0.005	0.01	2.81
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.38	0.38	< 0.005	< 0.005	< 0.005	0.40
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.82	19.9	36.2	0.06	0.18	—	0.18	0.18	—	0.18	—	6,715	6,715	0.27	0.05	—	6,738
Dust From Material Movement	—	—	—	—	—	—	2.67	2.67	—	0.98	0.98	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.82	19.9	36.2	0.06	0.18	—	0.18	0.18	—	0.18	—	6,715	6,715	0.27	0.05	—	6,738
Dust From Material Movement	—	—	—	—	—	—	2.67	2.67	—	0.98	0.98	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.20	4.91	8.92	0.02	0.05	—	0.05	0.04	—	0.04	—	1,656	1,656	0.07	0.01	—	1,661
Dust From Material Movement	—	—	—	—	—	—	0.66	0.66	—	0.24	0.24	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.90	1.63	< 0.005	0.01	—	0.01	0.01	—	0.01	—	274	274	0.01	< 0.005	—	275
Dust From Material Movement	—	—	—	—	—	—	0.12	0.12	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	1.20	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	271	271	< 0.005	0.01	1.11	275

Vendor	0.01	< 0.005	0.10	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	97.2	97.2	0.01	0.01	0.26	102
Hauling	0.06	0.01	0.77	0.33	< 0.005	0.01	0.16	0.17	0.01	0.04	0.05	—	619	619	0.05	0.10	1.29	651
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.04	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	258	258	< 0.005	0.01	0.03	261
Vendor	0.01	< 0.005	0.11	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	97.2	97.2	0.01	0.01	0.01	101
Hauling	0.06	0.01	0.79	0.34	< 0.005	0.01	0.16	0.17	0.01	0.04	0.05	—	619	619	0.05	0.10	0.03	650
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.27	0.00	0.00	0.06	0.06	0.00	0.02	0.02	—	64.5	64.5	< 0.005	< 0.005	0.12	65.3
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.0	24.0	< 0.005	< 0.005	0.03	25.0
Hauling	0.02	< 0.005	0.20	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	153	153	0.01	0.02	0.14	160
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.02	10.8
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.97	3.97	< 0.005	< 0.005	< 0.005	4.14
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.3	25.3	< 0.005	< 0.005	0.02	26.5

3.7. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.37	10.2	16.9	0.03	0.09	—	0.09	0.09	—	0.09	—	2,805	2,805	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.37	10.2	16.9	0.03	0.09	—	0.09	0.09	—	0.09	—	2,805	2,805	0.11	0.02	—	2,815
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	0.15	0.15	4.10	6.79	0.01	0.04	—	0.04	0.04	—	0.04	—	1,127	1,127	0.05	0.01	—	1,130
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	0.03	0.03	0.75	1.24	< 0.005	0.01	—	0.01	0.01	—	0.01	—	187	187	0.01	< 0.005	—	187
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	0.66	0.58	0.62	9.44	0.00	0.00	2.05	2.05	0.00	0.48	0.48	—	2,128	2,128	0.03	0.07	8.73	2,159
Vendor	0.06	0.02	0.76	0.38	< 0.005	0.01	0.19	0.20	< 0.005	0.05	0.06	—	713	713	0.04	0.10	1.92	745
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	0.66	0.58	0.69	8.14	0.00	0.00	2.05	2.05	0.00	0.48	0.48	—	2,024	2,024	0.03	0.08	0.23	2,049
Vendor	0.06	0.02	0.79	0.39	< 0.005	0.01	0.19	0.20	< 0.005	0.05	0.06	—	713	713	0.04	0.10	0.05	743
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	0.26	0.23	0.28	3.43	0.00	0.00	0.82	0.82	0.00	0.19	0.19	—	824	824	0.01	0.03	1.51	835
Vendor	0.02	0.01	0.32	0.15	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.02	—	286	286	0.02	0.04	0.33	299
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	0.04	0.05	0.63	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	136	136	< 0.005	0.01	0.25	138
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	47.4	47.4	< 0.005	0.01	0.06	49.4
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

3.9. 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	0.37	0.37	10.2	16.9	0.03	0.09	—	0.09	0.09	—	0.09	—	2,805	2,805	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.37	10.2	16.9	0.03	0.09	—	0.09	0.09	—	0.09	—	2,805	2,805	0.11	0.02	—	2,815
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	0.32	0.32	8.75	14.5	0.02	0.08	—	0.08	0.08	—	0.08	—	2,404	2,404	0.10	0.02	—	2,413

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	0.06	0.06	1.60	2.65	< 0.005	0.01	—	0.01	0.01	—	0.01	—	398	398	0.02	< 0.005	—	399
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	0.63	0.56	0.55	8.79	0.00	0.00	2.05	2.05	0.00	0.48	0.48	—	2,084	2,084	0.02	0.07	7.89	2,115
Vendor	0.05	0.02	0.73	0.36	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	701	701	0.04	0.10	1.91	733
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	0.63	0.55	0.62	7.60	0.00	0.00	2.05	2.05	0.00	0.48	0.48	—	1,983	1,983	0.03	0.07	0.21	2,006
Vendor	0.05	0.02	0.76	0.37	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	702	702	0.04	0.10	0.05	732
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	0.53	0.47	0.53	6.81	0.00	0.00	1.75	1.75	0.00	0.41	0.41	—	1,723	1,723	0.02	0.06	2.92	1,746
Vendor	0.05	0.02	0.65	0.31	< 0.005	< 0.005	0.16	0.17	< 0.005	0.04	0.05	—	601	601	0.03	0.08	0.71	628
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	0.10	0.09	0.10	1.24	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	285	285	< 0.005	0.01	0.48	289
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	99.6	99.6	0.01	0.01	0.12	104
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.37	10.2	16.9	0.03	0.09	—	0.09	0.09	—	0.09	—	2,805	2,805	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.37	10.2	16.9	0.03	0.09	—	0.09	0.09	—	0.09	—	2,805	2,805	0.11	0.02	—	2,815
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	0.32	0.32	8.75	14.5	0.02	0.08	—	0.08	0.08	—	0.08	—	2,404	2,404	0.10	0.02	—	2,413
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	0.06	0.06	1.60	2.65	< 0.005	0.01	—	0.01	0.01	—	0.01	—	398	398	0.02	< 0.005	—	399
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	0.54	0.53	0.48	8.27	0.00	0.00	2.05	2.05	0.00	0.48	0.48	—	2,044	2,044	0.02	0.07	7.11	2,074
Vendor	0.05	0.01	0.70	0.35	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	690	690	0.03	0.10	1.78	722
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	0.54	0.53	0.55	7.14	0.00	0.00	2.05	2.05	0.00	0.48	0.48	—	1,946	1,946	0.03	0.07	0.18	1,969
Vendor	0.05	0.01	0.73	0.36	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	690	690	0.03	0.10	0.05	720
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	0.46	0.45	0.47	6.36	0.00	0.00	1.75	1.75	0.00	0.41	0.41	—	1,691	1,691	0.02	0.06	2.63	1,713
Vendor	0.05	0.01	0.63	0.30	< 0.005	< 0.005	0.16	0.17	< 0.005	0.04	0.05	—	592	592	0.03	0.08	0.66	618
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	0.08	0.08	0.09	1.16	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	280	280	< 0.005	0.01	0.44	284
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	97.9	97.9	< 0.005	0.01	0.11	102
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

3.13. Building Construction (2027) - Unmitigated

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

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

Off-Road Equipment	0.37	0.37	10.2	16.9	0.03	0.09	—	0.09	0.09	—	0.09	—	2,806	2,806	0.11	0.02	—	2,816
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.37	10.2	16.9	0.03	0.09	—	0.09	0.09	—	0.09	—	2,806	2,806	0.11	0.02	—	2,816
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.09	2.54	4.21	0.01	0.02	—	0.02	0.02	—	0.02	—	698	698	0.03	0.01	—	701
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.46	0.77	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	116	116	< 0.005	< 0.005	—	116
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	0.52	0.45	0.47	7.76	0.00	0.00	2.05	2.05	0.00	0.48	0.48	—	2,010	2,010	0.02	0.07	6.37	2,039
Vendor	0.05	0.01	0.68	0.34	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	677	677	0.03	0.09	1.62	707
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	0.52	0.44	0.48	6.68	0.00	0.00	2.05	2.05	0.00	0.48	0.48	—	1,913	1,913	0.02	0.07	0.17	1,936

Vendor	0.05	0.01	0.70	0.34	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	678	678	0.03	0.09	0.04	706
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	0.13	0.11	0.13	1.73	0.00	0.00	0.51	0.51	0.00	0.12	0.12	—	483	483	0.01	0.02	0.69	489
Vendor	0.01	< 0.005	0.18	0.08	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	169	169	0.01	0.02	0.17	176
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.32	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	79.9	79.9	< 0.005	< 0.005	0.11	81.0
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.9	27.9	< 0.005	< 0.005	0.03	29.1
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

3.15. Paving (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.23	7.21	10.6	0.01	0.09	—	0.09	0.08	—	0.08	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.51	0.76	< 0.005	0.01	—	0.01	0.01	—	0.01	—	108	108	< 0.005	< 0.005	—	108
Paving	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.09	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.8	17.8	< 0.005	< 0.005	—	17.9
Paving	—	< 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.90	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	203	203	< 0.005	0.01	0.83	206
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	32.4	32.4	< 0.005	< 0.005	0.09	33.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.03	14.2
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	2.41
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	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.31	2.31	< 0.005	< 0.005	< 0.005	2.34
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.38	0.38	< 0.005	< 0.005	< 0.005	0.40
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

3.17. Architectural Coating (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	1.43	1.28	< 0.005	0.04	—	0.04	0.04	—	0.04	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	—	2.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	1.43	1.28	< 0.005	0.04	—	0.04	0.04	—	0.04	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	—	2.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.01	0.01	0.57	0.52	< 0.005	0.02	—	0.02	0.02	—	0.02	—	71.5	71.5	< 0.005	< 0.005	—	71.7
Architectural Coatings	—	1.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.10	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.8	11.8	< 0.005	< 0.005	—	11.9
Architectural Coatings	—	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.11	0.12	1.86	0.00	0.00	0.41	0.41	0.00	0.09	0.09	—	420	420	0.01	0.01	1.72	426
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.11	0.14	1.61	0.00	0.00	0.41	0.41	0.00	0.09	0.09	—	400	400	0.01	0.02	0.04	405
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.68	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	163	163	< 0.005	0.01	0.30	165
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	0.01	0.01	0.01	0.12	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.9	26.9	< 0.005	< 0.005	0.05	27.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.19. Architectural Coating (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	1.43	1.28	< 0.005	0.04	—	0.04	0.04	—	0.04	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	—	2.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	1.43	1.28	< 0.005	0.04	—	0.04	0.04	—	0.04	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	—	2.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.02	1.22	1.10	< 0.005	0.03	—	0.03	0.03	—	0.03	—	153	153	0.01	< 0.005	—	153
Architectural Coatings	—	2.49	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.22	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.3	25.3	< 0.005	< 0.005	—	25.4
Architectural Coatings	—	0.45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.12	0.11	0.11	1.74	0.00	0.00	0.41	0.41	0.00	0.09	0.09	—	412	412	< 0.005	0.01	1.56	418
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.12	1.50	0.00	0.00	0.41	0.41	0.00	0.09	0.09	—	392	392	0.01	0.01	0.04	396
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	0.10	1.34	0.00	0.00	0.35	0.35	0.00	0.08	0.08	—	340	340	< 0.005	0.01	0.58	345
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.25	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	56.3	56.3	< 0.005	< 0.005	0.10	57.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.21. Architectural Coating (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	1.43	1.28	< 0.005	0.04	—	0.04	0.04	—	0.04	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	—	2.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	1.43	1.28	< 0.005	0.04	—	0.04	0.04	—	0.04	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	—	2.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.02	1.22	1.10	< 0.005	0.03	—	0.03	0.03	—	0.03	—	153	153	0.01	< 0.005	—	153
Architectural Coatings	—	2.49	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.22	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.3	25.3	< 0.005	< 0.005	—	25.3
Architectural Coatings	—	0.45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.09	1.63	0.00	0.00	0.41	0.41	0.00	0.09	0.09	—	404	404	< 0.005	0.01	1.40	410
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.11	1.41	0.00	0.00	0.41	0.41	0.00	0.09	0.09	—	384	384	0.01	0.01	0.04	389
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.09	1.26	0.00	0.00	0.35	0.35	0.00	0.08	0.08	—	334	334	< 0.005	0.01	0.52	338
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.23	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	55.3	55.3	< 0.005	< 0.005	0.09	56.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.23. Architectural Coating (2027) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	1.43	1.28	< 0.005	0.04	—	0.04	0.04	—	0.04	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	—	2.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	1.43	1.28	< 0.005	0.04	—	0.04	0.04	—	0.04	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	—	2.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.01	0.01	0.35	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	44.3	44.3	< 0.005	< 0.005	—	44.5
Architectural Coatings	—	0.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.06	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.34	7.34	< 0.005	< 0.005	—	7.36
Architectural Coatings	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.10	0.09	0.09	1.53	0.00	0.00	0.41	0.41	0.00	0.09	0.09	—	397	397	< 0.005	0.01	1.26	403
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	1.32	0.00	0.00	0.41	0.41	0.00	0.09	0.09	—	378	378	< 0.005	0.01	0.03	382
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.34	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.3	95.3	< 0.005	< 0.005	0.14	96.6
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	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.8	15.8	< 0.005	< 0.005	0.02	16.0
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
Demolition	Demolition	1/1/2024	1/30/2024	6.00	26.0	—
Site Preparation	Site Preparation	1/31/2024	2/29/2024	6.00	26.0	—
Grading	Grading	3/1/2024	6/13/2024	6.00	90.0	—
Building Construction	Building Construction	7/14/2024	4/16/2027	6.00	863	—
Paving	Paving	6/14/2024	7/13/2024	6.00	26.0	—
Architectural Coating	Architectural Coating	7/14/2024	4/16/2027	6.00	863	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Interim	1.00	8.00	33.0	0.73

Demolition	Excavators	Diesel	Tier 4 Interim	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Interim	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Site Preparation	Crawler Tractors	Diesel	Tier 4 Interim	4.00	8.00	87.0	0.43
Grading	Excavators	Diesel	Tier 4 Interim	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Interim	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Interim	2.00	8.00	423	0.48
Grading	Crawler Tractors	Diesel	Tier 4 Interim	2.00	8.00	87.0	0.43
Building Construction	Cranes	Diesel	Tier 4 Interim	1.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Interim	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Interim	1.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Tier 4 Interim	1.00	8.00	46.0	0.45
Building Construction	Crawler Tractors	Diesel	Tier 4 Interim	3.00	8.00	87.0	0.43
Paving	Pavers	Diesel	Tier 4 Interim	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Interim	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	1.00	8.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	1.00	10.2	HHDT,MHDT
Demolition	Hauling	90.0	20.0	HHDT

Demolition	Onsite truck	0.00	0.00	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	18.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	1.00	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	0.00	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	3.00	10.2	HHDT,MHDT
Grading	Hauling	8.72	20.0	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	157	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	22.0	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	0.00	0.00	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	1.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	0.00	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	31.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	0.00	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	801,242	267,081	0.00	0.00	6,292

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	9,314	—
Site Preparation	0.00	0.00	91.0	0.00	—
Grading	6,280	0.00	360	0.00	—
Paving	0.00	0.00	0.00	0.00	3.01

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt

Single Family Housing	0.61	0%
Apartments Low Rise	—	0%
Apartments Mid Rise	—	0%
Parking Lot	0.85	100%
Other Asphalt Surfaces	1.56	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	8.25	annual days of extreme heat
Extreme Precipitation	3.60	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.78	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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 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	32.1
AQ-PM	66.5
AQ-DPM	59.8
Drinking Water	66.0
Lead Risk Housing	39.6
Pesticides	0.00
Toxic Releases	93.5
Traffic	70.5
Effect Indicators	—
CleanUp Sites	87.0
Groundwater	95.5
Haz Waste Facilities/Generators	85.6
Impaired Water Bodies	33.2
Solid Waste	72.6
Sensitive Population	—
Asthma	25.6
Cardio-vascular	39.1
Low Birth Weights	12.8
Socioeconomic Factor Indicators	—
Education	12.6
Housing	4.03
Linguistic	18.9
Poverty	7.24

Unemployment	41.8

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	92.73707173
Employed	33.01680996
Median HI	86.92416271
Education	—
Bachelor's or higher	77.86475042
High school enrollment	100
Preschool enrollment	74.72090337
Transportation	—
Auto Access	77.83908636
Active commuting	50.10907224
Social	—
2-parent households	82.86924163
Voting	74.86205569
Neighborhood	—
Alcohol availability	39.80495316
Park access	28.80790453
Retail density	48.36391634
Supermarket access	53.07327088
Tree canopy	40.75452329
Housing	—
Homeownership	93.750802

Housing habitability	78.26254331
Low-inc homeowner severe housing cost burden	74.45143077
Low-inc renter severe housing cost burden	51.18696266
Uncrowded housing	56.30694213
Health Outcomes	—
Insured adults	88.86179905
Arthritis	0.0
Asthma ER Admissions	82.5
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	58.6
Cognitively Disabled	70.6
Physically Disabled	92.6
Heart Attack ER Admissions	76.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	82.1
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0

No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	59.1
Children	87.0
Elderly	17.2
English Speaking	92.8
Foreign-born	4.6
Outdoor Workers	49.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	40.4
Traffic Density	54.9
Traffic Access	60.5
Other Indices	—
Hardship	28.5
Other Decision Support	—
2016 Voting	90.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	29.0
Healthy Places Index Score for Project Location (b)	82.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Total Project area is 12.30 acres
Construction: Off-Road Equipment	Construction equipment based on equipment used for similar projects in the area Equipment rated 50 or less horsepower would meet at least CARB Tier 3 emissions standards, and equipment rated more than 50 horsepower would meet at least CARB Tier 4 Interim emissions standards.
Construction: Architectural Coatings	Rule 1113
Operations: Vehicle Data	Trip characteristics based on information provided in the Traffic analysis
Operations: Hearths	Rule 445
Construction: Construction Phases	Construction schedule based on information provided by the Project Team
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Demolition, Site Preparation, Grading, Building Construction, and Paving

4665 Lampson Avenue (Off-Site Construction) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	4665 Lampson Avenue (Off-Site Construction)
Construction Start Date	4/2/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.30
Precipitation (days)	6.20
Location	33.781911081100944, -118.04925610183602
County	Orange
City	Los Alamitos
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5871
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.12

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
Road Construction	0.23	Mile	12.3	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.	0.44	0.44	9.93	17.9	0.03	0.12	0.17	0.29	0.11	0.04	0.15	—	3,410	3,410	0.13	0.03	0.72	3,424
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.44	0.44	9.93	17.8	0.03	0.12	0.17	0.29	0.11	0.04	0.15	—	3,401	3,401	0.13	0.03	0.02	3,415
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.23	0.23	5.22	9.44	0.02	0.06	0.09	0.15	0.06	0.02	0.08	—	1,807	1,807	0.07	0.02	0.16	1,814
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.04	0.04	0.95	1.72	< 0.005	0.01	0.02	0.03	0.01	< 0.005	0.01	—	299	299	0.01	< 0.005	0.03	300

2.2. Construction Emissions by Year, Unmitigated

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

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

2024	0.44	0.44	9.93	17.9	0.03	0.12	0.17	0.29	0.11	0.04	0.15	—	3,410	3,410	0.13	0.03	0.72	3,424
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.44	0.44	9.93	17.8	0.03	0.12	0.17	0.29	0.11	0.04	0.15	—	3,401	3,401	0.13	0.03	0.02	3,415
2025	0.41	0.40	8.82	16.6	0.03	0.09	0.13	0.22	0.08	0.03	0.12	—	3,222	3,222	0.13	0.03	0.01	3,235
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.23	0.23	5.22	9.44	0.02	0.06	0.09	0.15	0.06	0.02	0.08	—	1,807	1,807	0.07	0.02	0.16	1,814
2025	< 0.005	< 0.005	0.10	0.20	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	37.9	37.9	< 0.005	< 0.005	< 0.005	38.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.04	0.04	0.95	1.72	< 0.005	0.01	0.02	0.03	0.01	< 0.005	0.01	—	299	299	0.01	< 0.005	0.03	300
2025	< 0.005	< 0.005	0.02	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.27	6.27	< 0.005	< 0.005	< 0.005	6.29

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	0.39	9.88	17.1	0.03	0.12	—	0.12	0.11	—	0.11	—	3,234	3,234	0.13	0.03	—	3,245
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	0.39	9.88	17.1	0.03	0.12	—	0.12	0.11	—	0.11	—	3,234	3,234	0.13	0.03	—	3,245
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
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	0.17	0.17	4.33	7.50	0.01	0.05	—	0.05	0.05	—	0.05	—	1,418	1,418	0.06	0.01	—	1,422
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
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	0.03	0.03	0.79	1.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	235	235	0.01	< 0.005	—	235
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
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	0.05	0.05	0.05	0.78	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	176	176	< 0.005	0.01	0.72	179

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.06	0.67	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	168	168	< 0.005	0.01	0.02	170
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.31	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	74.5	74.5	< 0.005	< 0.005	0.14	75.5
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	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.3	12.3	< 0.005	< 0.005	0.02	12.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Linear, Paving (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.37	8.78	16.1	0.03	0.09	—	0.09	0.08	—	0.08	—	3,092	3,092	0.13	0.03	—	3,103

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	0.04	0.04	0.86	1.58	< 0.005	0.01	—	0.01	0.01	—	0.01	—	303	303	0.01	< 0.005	—	304
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	0.16	0.29	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	50.1	50.1	< 0.005	< 0.005	—	50.3
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	0.04	0.04	0.04	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	129	129	< 0.005	< 0.005	0.01	130
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.02	13.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.12	2.12	< 0.005	< 0.005	< 0.005	2.15
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Linear, 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	0.37	0.37	8.78	16.1	0.03	0.09	—	0.09	0.08	—	0.08	—	3,096	3,096	0.13	0.03	—	3,107
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	< 0.005	< 0.005	0.10	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	36.4	36.4	< 0.005	< 0.005	—	36.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.02	6.02	< 0.005	< 0.005	—	6.04
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.04	0.04	0.04	0.48	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	126	126	< 0.005	< 0.005	0.01	128
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.50	1.50	< 0.005	< 0.005	< 0.005	1.52
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	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.25	0.25	< 0.005	< 0.005	< 0.005	0.25
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

Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	4/2/2024	11/11/2024	5.00	160	—
Linear, Paving	Linear, Paving	11/12/2024	1/6/2025	5.00	40.0	—

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
Linear, Grubbing & Land Clearing	Off-Highway Trucks	Diesel	Tier 4 Interim	2.00	8.00	376	0.38
Linear, Grubbing & Land Clearing	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Linear, Grubbing & Land Clearing	Excavators	Diesel	Tier 4 Interim	2.00	8.00	36.0	0.38
Linear, Paving	Excavators	Diesel	Tier 4 Interim	1.00	8.00	36.0	0.38
Linear, Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Linear, Paving	Off-Highway Trucks	Diesel	Tier 4 Interim	2.00	8.00	376	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	13.0	18.5	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	10.2	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	0.00	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	0.00	0.00	HHDT
Linear, Paving	—	—	—	—

Linear, Paving	Worker	10.0	18.5	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	10.2	HHDT,MHDT
Linear, Paving	Hauling	0.00	20.0	HHDT
Linear, Paving	Onsite truck	0.00	0.00	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)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Linear, Grubbing & Land Clearing	0.00	0.00	12.3	0.00	—

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
Road Construction	12.3	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	8.25	annual days of extreme heat
Extreme Precipitation	3.60	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.78	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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 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	32.1
AQ-PM	66.5
AQ-DPM	59.8

Drinking Water	66.0
Lead Risk Housing	39.6
Pesticides	0.00
Toxic Releases	93.5
Traffic	70.5
Effect Indicators	—
CleanUp Sites	87.0
Groundwater	95.5
Haz Waste Facilities/Generators	85.6
Impaired Water Bodies	33.2
Solid Waste	72.6
Sensitive Population	—
Asthma	25.6
Cardio-vascular	39.1
Low Birth Weights	12.8
Socioeconomic Factor Indicators	—
Education	12.6
Housing	4.03
Linguistic	18.9
Poverty	7.24
Unemployment	41.8

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	92.73707173

Employed	33.01680996
Median HI	86.92416271
Education	—
Bachelor's or higher	77.86475042
High school enrollment	100
Preschool enrollment	74.72090337
Transportation	—
Auto Access	77.83908636
Active commuting	50.10907224
Social	—
2-parent households	82.86924163
Voting	74.86205569
Neighborhood	—
Alcohol availability	39.80495316
Park access	28.80790453
Retail density	48.36391634
Supermarket access	53.07327088
Tree canopy	40.75452329
Housing	—
Homeownership	93.750802
Housing habitability	78.26254331
Low-inc homeowner severe housing cost burden	74.45143077
Low-inc renter severe housing cost burden	51.18696266
Uncrowded housing	56.30694213
Health Outcomes	—
Insured adults	88.86179905
Arthritis	0.0

Asthma ER Admissions	82.5
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	58.6
Cognitively Disabled	70.6
Physically Disabled	92.6
Heart Attack ER Admissions	76.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	82.1
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	59.1
Children	87.0
Elderly	17.2
English Speaking	92.8

Foreign-born	4.6
Outdoor Workers	49.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	40.4
Traffic Density	54.9
Traffic Access	60.5
Other Indices	—
Hardship	28.5
Other Decision Support	—
2016 Voting	90.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	29.0
Healthy Places Index Score for Project Location (b)	82.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	160 days for SD and 40 days for median
Construction: Off-Road Equipment	Construction equipment based on information provided by the Applicant Equipment rated 50 or less horsepower would meet at least CARB Tier 3 emissions standards, and equipment rated more than 50 horsepower would meet at least CARB Tier 4 Interim emissions standards.
Construction: Trips and VMT	Trips based on defaults

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APPENDIX 4.2:

CALEEMOD PROJECT OPERATIONAL EMISSIONS MODEL OUTPUTS

4665 Lampson Avenue (Operations) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	4665 Lampson Avenue (Operations)
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.30
Precipitation (days)	6.20
Location	33.781911081100944, -118.04925610183602
County	Orange
City	Los Alamitos
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5871
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.12

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
Single Family Housing	55.0	Dwelling Unit	3.63	136,982	21,000	21,000	164	—

Apartments Low Rise	114	Dwelling Unit	4.24	184,773	0.00	0.00	340	—
Apartments Mid Rise	77.0	Dwelling Unit	2.03	73,920	0.00	0.00	229	—
Parking Lot	51.3	1000sqft	0.85	0.00	0.00	0.00	—	—
Other Asphalt Surfaces	67.8	1000sqft	1.56	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power

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.	8.45	16.6	9.98	72.5	0.22	0.44	7.45	7.89	0.44	1.32	1.76	117	26,331	26,449	12.7	0.78	65.9	27,065
Mit.	8.45	16.6	9.98	72.5	0.22	0.44	7.45	7.89	0.44	1.32	1.76	117	25,289	25,406	12.6	0.77	65.9	26,017
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	4%	4%	1%	2%	—	4%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.40	16.5	10.5	66.6	0.21	0.44	7.45	7.89	0.44	1.32	1.76	117	25,558	25,675	12.8	0.81	4.47	26,241
Mit.	8.40	16.5	10.5	66.6	0.21	0.44	7.45	7.89	0.44	1.32	1.76	117	24,516	24,633	12.7	0.80	4.47	25,193

% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	4%	4%	1%	1%	—	4%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.07	14.6	5.26	51.3	0.15	0.11	5.72	5.83	0.10	1.01	1.12	117	16,414	16,531	12.5	0.63	23.7	17,056
Mit.	6.07	14.6	5.26	51.3	0.15	0.11	5.72	5.83	0.10	1.01	1.12	117	15,372	15,489	12.4	0.62	23.7	16,007
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	6%	6%	1%	2%	—	6%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.11	2.66	0.96	9.36	0.03	0.02	1.04	1.06	0.02	0.18	0.20	19.4	2,718	2,737	2.07	0.10	3.93	2,824
Mit.	1.11	2.66	0.96	9.36	0.03	0.02	1.04	1.06	0.02	0.18	0.20	19.4	2,545	2,564	2.05	0.10	3.93	2,650
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	6%	6%	1%	2%	—	6%

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.97	7.16	5.90	70.8	0.20	0.11	7.45	7.56	0.11	1.32	1.43	—	20,016	20,016	0.78	0.71	63.1	20,311
Area	0.48	9.40	4.08	1.74	0.03	0.33	—	0.33	0.33	—	0.33	0.00	5,180	5,180	0.10	0.01	—	5,185
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,073	1,073	0.10	0.01	—	1,079
Water	—	—	—	—	—	—	—	—	—	—	—	17.7	62.6	80.3	1.82	0.04	—	139
Waste	—	—	—	—	—	—	—	—	—	—	—	99.5	0.00	99.5	9.95	0.00	—	348
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.83	2.83
Total	8.45	16.6	9.98	72.5	0.22	0.44	7.45	7.89	0.44	1.32	1.76	117	26,331	26,449	12.7	0.78	65.9	27,065

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.92	7.10	6.41	64.9	0.19	0.11	7.45	7.56	0.11	1.32	1.43	—	19,243	19,243	0.80	0.75	1.63	19,487
Area	0.48	9.40	4.08	1.74	0.03	0.33	—	0.33	0.33	—	0.33	0.00	5,180	5,180	0.10	0.01	—	5,185
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,073	1,073	0.10	0.01	—	1,079
Water	—	—	—	—	—	—	—	—	—	—	—	17.7	62.6	80.3	1.82	0.04	—	139
Waste	—	—	—	—	—	—	—	—	—	—	—	99.5	0.00	99.5	9.95	0.00	—	348
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.83	2.83
Total	8.40	16.5	10.5	66.6	0.21	0.44	7.45	7.89	0.44	1.32	1.76	117	25,558	25,675	12.8	0.81	4.47	26,241
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.04	5.41	4.98	51.2	0.15	0.09	5.72	5.80	0.08	1.01	1.09	—	14,924	14,924	0.61	0.57	20.9	15,131
Area	0.03	9.18	0.28	0.12	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	355	355	0.01	< 0.005	—	355
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,073	1,073	0.10	0.01	—	1,079
Water	—	—	—	—	—	—	—	—	—	—	—	17.7	62.6	80.3	1.82	0.04	—	139
Waste	—	—	—	—	—	—	—	—	—	—	—	99.5	0.00	99.5	9.95	0.00	—	348
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.83	2.83
Total	6.07	14.6	5.26	51.3	0.15	0.11	5.72	5.83	0.10	1.01	1.12	117	16,414	16,531	12.5	0.63	23.7	17,056
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.10	0.99	0.91	9.34	0.03	0.02	1.04	1.06	0.01	0.18	0.20	—	2,471	2,471	0.10	0.10	3.46	2,505
Area	0.01	1.68	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	58.7	58.7	< 0.005	< 0.005	—	58.8
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	178	178	0.02	< 0.005	—	179
Water	—	—	—	—	—	—	—	—	—	—	—	2.93	10.4	13.3	0.30	0.01	—	23.0
Waste	—	—	—	—	—	—	—	—	—	—	—	16.5	0.00	16.5	1.65	0.00	—	57.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.47	0.47
Total	1.11	2.66	0.96	9.36	0.03	0.02	1.04	1.06	0.02	0.18	0.20	19.4	2,718	2,737	2.07	0.10	3.93	2,824

2.6. Operations Emissions by Sector, Mitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.97	7.16	5.90	70.8	0.20	0.11	7.45	7.56	0.11	1.32	1.43	—	20,016	20,016	0.78	0.71	63.1	20,311
Area	0.48	9.40	4.08	1.74	0.03	0.33	—	0.33	0.33	—	0.33	0.00	5,180	5,180	0.10	0.01	—	5,185
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	30.8	30.8	< 0.005	< 0.005	—	30.9
Water	—	—	—	—	—	—	—	—	—	—	—	17.7	62.6	80.3	1.82	0.04	—	139
Waste	—	—	—	—	—	—	—	—	—	—	—	99.5	0.00	99.5	9.95	0.00	—	348
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.83	2.83
Total	8.45	16.6	9.98	72.5	0.22	0.44	7.45	7.89	0.44	1.32	1.76	117	25,289	25,406	12.6	0.77	65.9	26,017
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.92	7.10	6.41	64.9	0.19	0.11	7.45	7.56	0.11	1.32	1.43	—	19,243	19,243	0.80	0.75	1.63	19,487
Area	0.48	9.40	4.08	1.74	0.03	0.33	—	0.33	0.33	—	0.33	0.00	5,180	5,180	0.10	0.01	—	5,185
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	30.8	30.8	< 0.005	< 0.005	—	30.9
Water	—	—	—	—	—	—	—	—	—	—	—	17.7	62.6	80.3	1.82	0.04	—	139
Waste	—	—	—	—	—	—	—	—	—	—	—	99.5	0.00	99.5	9.95	0.00	—	348
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.83	2.83
Total	8.40	16.5	10.5	66.6	0.21	0.44	7.45	7.89	0.44	1.32	1.76	117	24,516	24,633	12.7	0.80	4.47	25,193
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.04	5.41	4.98	51.2	0.15	0.09	5.72	5.80	0.08	1.01	1.09	—	14,924	14,924	0.61	0.57	20.9	15,131
Area	0.03	9.18	0.28	0.12	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	355	355	0.01	< 0.005	—	355
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	30.8	30.8	< 0.005	< 0.005	—	30.9
Water	—	—	—	—	—	—	—	—	—	—	—	17.7	62.6	80.3	1.82	0.04	—	139

Waste	—	—	—	—	—	—	—	—	—	—	—	99.5	0.00	99.5	9.95	0.00	—	348
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.83	2.83
Total	6.07	14.6	5.26	51.3	0.15	0.11	5.72	5.83	0.10	1.01	1.12	117	15,372	15,489	12.4	0.62	23.7	16,007
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.10	0.99	0.91	9.34	0.03	0.02	1.04	1.06	0.01	0.18	0.20	—	2,471	2,471	0.10	0.10	3.46	2,505
Area	0.01	1.68	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	58.7	58.7	< 0.005	< 0.005	—	58.8
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	5.09	5.09	< 0.005	< 0.005	—	5.12
Water	—	—	—	—	—	—	—	—	—	—	—	2.93	10.4	13.3	0.30	0.01	—	23.0
Waste	—	—	—	—	—	—	—	—	—	—	—	16.5	0.00	16.5	1.65	0.00	—	57.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.47	0.47
Total	1.11	2.66	0.96	9.36	0.03	0.02	1.04	1.06	0.02	0.18	0.20	19.4	2,545	2,564	2.05	0.10	3.93	2,650

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.88	1.69	1.39	16.7	0.05	0.03	1.75	1.78	0.02	0.31	0.34	—	4,715	4,715	0.18	0.17	14.9	4,785
Apartments Low Rise	2.77	2.48	2.05	24.6	0.07	0.04	2.58	2.62	0.04	0.46	0.49	—	6,945	6,945	0.27	0.25	21.9	7,047

Apartments	3.33	2.99	2.46	29.5	0.08	0.05	3.11	3.16	0.04	0.55	0.60	—	8,356	8,356	0.33	0.30	26.3	8,479
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	7.97	7.16	5.90	70.8	0.20	0.11	7.45	7.56	0.11	1.32	1.43	—	20,016	20,016	0.78	0.71	63.1	20,311
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.87	1.67	1.51	15.3	0.04	0.03	1.75	1.78	0.02	0.31	0.34	—	4,533	4,533	0.19	0.18	0.39	4,590
Apartments Low Rise	2.75	2.46	2.22	22.5	0.07	0.04	2.58	2.62	0.04	0.46	0.49	—	6,677	6,677	0.28	0.26	0.57	6,761
Apartments Mid Rise	3.31	2.96	2.68	27.1	0.08	0.05	3.11	3.16	0.04	0.55	0.60	—	8,033	8,033	0.34	0.31	0.68	8,135
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	7.92	7.10	6.41	64.9	0.19	0.11	7.45	7.56	0.11	1.32	1.43	—	19,243	19,243	0.80	0.75	1.63	19,487
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.33	0.30	0.27	2.82	0.01	< 0.005	0.31	0.32	< 0.005	0.06	0.06	—	746	746	0.03	0.03	1.04	756
Apartments Low Rise	0.44	0.40	0.37	3.77	0.01	0.01	0.42	0.43	0.01	0.07	0.08	—	997	997	0.04	0.04	1.40	1,011

Apartments Mid Rise	0.32	0.29	0.27	2.75	0.01	< 0.005	0.31	0.31	< 0.005	0.05	0.06	—	728	728	0.03	0.03	1.02	738
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.10	0.99	0.91	9.34	0.03	0.02	1.04	1.06	0.01	0.18	0.20	—	2,471	2,471	0.10	0.10	3.46	2,505

4.1.2. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.88	1.69	1.39	16.7	0.05	0.03	1.75	1.78	0.02	0.31	0.34	—	4,715	4,715	0.18	0.17	14.9	4,785
Apartments Low Rise	2.77	2.48	2.05	24.6	0.07	0.04	2.58	2.62	0.04	0.46	0.49	—	6,945	6,945	0.27	0.25	21.9	7,047
Apartments Mid Rise	3.33	2.99	2.46	29.5	0.08	0.05	3.11	3.16	0.04	0.55	0.60	—	8,356	8,356	0.33	0.30	26.3	8,479
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	7.97	7.16	5.90	70.8	0.20	0.11	7.45	7.56	0.11	1.32	1.43	—	20,016	20,016	0.78	0.71	63.1	20,311

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.87	1.67	1.51	15.3	0.04	0.03	1.75	1.78	0.02	0.31	0.34	—	4,533	4,533	0.19	0.18	0.39	4,590
Apartments Low Rise	2.75	2.46	2.22	22.5	0.07	0.04	2.58	2.62	0.04	0.46	0.49	—	6,677	6,677	0.28	0.26	0.57	6,761
Apartments Mid Rise	3.31	2.96	2.68	27.1	0.08	0.05	3.11	3.16	0.04	0.55	0.60	—	8,033	8,033	0.34	0.31	0.68	8,135
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	7.92	7.10	6.41	64.9	0.19	0.11	7.45	7.56	0.11	1.32	1.43	—	19,243	19,243	0.80	0.75	1.63	19,487
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.33	0.30	0.27	2.82	0.01	< 0.005	0.31	0.32	< 0.005	0.06	0.06	—	746	746	0.03	0.03	1.04	756
Apartments Low Rise	0.44	0.40	0.37	3.77	0.01	0.01	0.42	0.43	0.01	0.07	0.08	—	997	997	0.04	0.04	1.40	1,011
Apartments Mid Rise	0.32	0.29	0.27	2.75	0.01	< 0.005	0.31	0.31	< 0.005	0.05	0.06	—	728	728	0.03	0.03	1.02	738
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.10	0.99	0.91	9.34	0.03	0.02	1.04	1.06	0.01	0.18	0.20	—	2,471	2,471	0.10	0.10	3.46	2,505

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	360	360	0.03	< 0.005	—	362
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	415	415	0.04	< 0.005	—	417
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	268	268	0.03	< 0.005	—	269
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	30.8	30.8	< 0.005	< 0.005	—	30.9
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,073	1,073	0.10	0.01	—	1,079
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	360	360	0.03	< 0.005	—	362
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	415	415	0.04	< 0.005	—	417

Apartments	—	—	—	—	—	—	—	—	—	—	—	—	268	268	0.03	< 0.005	—	269
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	30.8	30.8	< 0.005	< 0.005	—	30.9
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,073	1,073	0.10	0.01	—	1,079
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	59.6	59.6	0.01	< 0.005	—	59.9
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	68.7	68.7	0.01	< 0.005	—	69.1
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	44.3	44.3	< 0.005	< 0.005	—	44.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	5.09	5.09	< 0.005	< 0.005	—	5.12
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	178	178	0.02	< 0.005	—	179

4.2.2. Electricity Emissions By Land Use - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	30.8	30.8	< 0.005	< 0.005	—	30.9
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	30.8	30.8	< 0.005	< 0.005	—	30.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	30.8	30.8	< 0.005	< 0.005	—	30.9
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	30.8	30.8	< 0.005	< 0.005	—	30.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	5.09	5.09	< 0.005	< 0.005	—	5.12
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	5.09	5.09	< 0.005	< 0.005	—	5.12

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Mid Rise	0.00	0.00	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

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Mid Rise	0.00	0.00	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
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Mid Rise	0.00	0.00	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

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Mid Rise	0.00	0.00	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
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Apartments	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Mid Rise	0.00	0.00	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
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Mid Rise	0.00	0.00	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
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.48	0.24	4.08	1.74	0.03	0.33	—	0.33	0.33	—	0.33	0.00	5,180	5,180	0.10	0.01	—	5,185
Consumer Products	—	8.48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.48	9.40	4.08	1.74	0.03	0.33	—	0.33	0.33	—	0.33	0.00	5,180	5,180	0.10	0.01	—	5,185
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.48	0.24	4.08	1.74	0.03	0.33	—	0.33	0.33	—	0.33	0.00	5,180	5,180	0.10	0.01	—	5,185
Consumer Products	—	8.48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.48	9.40	4.08	1.74	0.03	0.33	—	0.33	0.33	—	0.33	0.00	5,180	5,180	0.10	0.01	—	5,185
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	58.7	58.7	< 0.005	< 0.005	—	58.8
Consumer Products	—	1.55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.01	1.68	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	58.7	58.7	< 0.005	< 0.005	—	58.8

4.3.1. Mitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.48	0.24	4.08	1.74	0.03	0.33	—	0.33	0.33	—	0.33	0.00	5,180	5,180	0.10	0.01	—	5,185
Consumer Products	—	8.48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.48	9.40	4.08	1.74	0.03	0.33	—	0.33	0.33	—	0.33	0.00	5,180	5,180	0.10	0.01	—	5,185
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.48	0.24	4.08	1.74	0.03	0.33	—	0.33	0.33	—	0.33	0.00	5,180	5,180	0.10	0.01	—	5,185
Consumer Products	—	8.48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.48	9.40	4.08	1.74	0.03	0.33	—	0.33	0.33	—	0.33	0.00	5,180	5,180	0.10	0.01	—	5,185
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	58.7	58.7	< 0.005	< 0.005	—	58.8
Consumer Products	—	1.55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.01	1.68	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	58.7	58.7	< 0.005	< 0.005	—	58.8

4.4. Water Emissions by Land Use

4.4.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.95	16.4	20.3	0.41	0.01	—	33.4
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	8.20	27.6	35.8	0.84	0.02	—	62.9
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	5.54	18.7	24.2	0.57	0.01	—	42.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	17.7	62.6	80.3	1.82	0.04	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.95	16.4	20.3	0.41	0.01	—	33.4
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	8.20	27.6	35.8	0.84	0.02	—	62.9

Apartments	—	—	—	—	—	—	—	—	—	—	—	5.54	18.7	24.2	0.57	0.01	—	42.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	17.7	62.6	80.3	1.82	0.04	—	139
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.65	2.71	3.37	0.07	< 0.005	—	5.53
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1.36	4.57	5.93	0.14	< 0.005	—	10.4
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	0.92	3.09	4.01	0.09	< 0.005	—	7.04
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.93	10.4	13.3	0.30	0.01	—	23.0

4.4.1. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.95	16.4	20.3	0.41	0.01	—	33.4
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	8.20	27.6	35.8	0.84	0.02	—	62.9
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	5.54	18.7	24.2	0.57	0.01	—	42.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	17.7	62.6	80.3	1.82	0.04	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.95	16.4	20.3	0.41	0.01	—	33.4
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	8.20	27.6	35.8	0.84	0.02	—	62.9
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	5.54	18.7	24.2	0.57	0.01	—	42.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	17.7	62.6	80.3	1.82	0.04	—	139
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.65	2.71	3.37	0.07	< 0.005	—	5.53
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1.36	4.57	5.93	0.14	< 0.005	—	10.4
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	0.92	3.09	4.01	0.09	< 0.005	—	7.04
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.93	10.4	13.3	0.30	0.01	—	23.0

4.5. Waste Emissions by Land Use

4.5.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	23.4	0.00	23.4	2.34	0.00	—	82.0
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	45.5	0.00	45.5	4.54	0.00	—	159
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	30.6	0.00	30.6	3.06	0.00	—	107

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	99.5	0.00	99.5	9.95	0.00	—	348
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	23.4	0.00	23.4	2.34	0.00	—	82.0
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	45.5	0.00	45.5	4.54	0.00	—	159
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	30.6	0.00	30.6	3.06	0.00	—	107
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	99.5	0.00	99.5	9.95	0.00	—	348
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.88	0.00	3.88	0.39	0.00	—	13.6
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	7.53	0.00	7.53	0.75	0.00	—	26.3
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	5.07	0.00	5.07	0.51	0.00	—	17.7

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	16.5	0.00	16.5	1.65	0.00	—	57.7

4.5.1. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	23.4	0.00	23.4	2.34	0.00	—	82.0
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	45.5	0.00	45.5	4.54	0.00	—	159
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	30.6	0.00	30.6	3.06	0.00	—	107
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	99.5	0.00	99.5	9.95	0.00	—	348
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	23.4	0.00	23.4	2.34	0.00	—	82.0
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	45.5	0.00	45.5	4.54	0.00	—	159
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	30.6	0.00	30.6	3.06	0.00	—	107
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	99.5	0.00	99.5	9.95	0.00	—	348
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.88	0.00	3.88	0.39	0.00	—	13.6
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	7.53	0.00	7.53	0.75	0.00	—	26.3
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	5.07	0.00	5.07	0.51	0.00	—	17.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	16.5	0.00	16.5	1.65	0.00	—	57.7

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.98	0.98
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.32	1.32
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.83	2.83
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.98	0.98
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.32	1.32
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.83	2.83
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.16	0.16

Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.47	0.47

4.6.2. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.98	0.98
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.32	1.32
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.83	2.83
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.98	0.98
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.32	1.32

Apartments	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.83	2.83
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.16	0.16
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.47	0.47

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. 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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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
Single Family Housing	520	521	466	187,077	6,318	6,335	5,667	2,272,992
Apartments Low Rise	768	519	440	250,219	9,331	6,302	5,346	3,040,158
Apartments Mid Rise	370	924	727	182,546	4,496	11,227	8,832	2,217,934
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year

Single Family Housing	520	521	466	187,077	6,318	6,335	5,667	2,272,992
Apartments Low Rise	768	519	440	250,219	9,331	6,302	5,346	3,040,158
Apartments Mid Rise	370	924	727	182,546	4,496	11,227	8,832	2,217,934
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	55
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	114
Propane Fireplaces	0

Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	77
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	55
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0

Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	114
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	77
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

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)
801241.875	267,081	0.00	0.00	6,292

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	379,233	346	0.0330	0.0040	0.00
Apartments Low Rise	437,195	346	0.0330	0.0040	0.00
Apartments Mid Rise	282,269	346	0.0330	0.0040	0.00
Parking Lot	32,435	346	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	346	0.0330	0.0040	0.00

5.11.2. Mitigated

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)
Single Family Housing	0.00	346	0.0330	0.0040	0.00
Apartments Low Rise	0.00	346	0.0330	0.0040	0.00

Apartments Mid Rise	0.00	346	0.0330	0.0040	0.00
Parking Lot	32,435	346	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	346	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)
Single Family Housing	2,063,911	604,817
Apartments Low Rise	4,277,924	0.00
Apartments Mid Rise	2,889,475	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	2,063,911	604,817
Apartments Low Rise	4,277,924	0.00
Apartments Mid Rise	2,889,475	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	43.5	—

Apartments Low Rise	84.4	—
Apartments Mid Rise	56.8	—
Parking Lot	0.00	—
Other Asphalt Surfaces	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	43.5	—
Apartments Low Rise	84.4	—
Apartments Mid Rise	56.8	—
Parking Lot	0.00	—
Other Asphalt Surfaces	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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0

Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

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

5.15.2. Mitigated

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

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	8.25	annual days of extreme heat
Extreme Precipitation	3.60	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.78	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	N/A	N/A	N/A	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 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	32.1
AQ-PM	66.5
AQ-DPM	59.8
Drinking Water	66.0
Lead Risk Housing	39.6
Pesticides	0.00
Toxic Releases	93.5
Traffic	70.5
Effect Indicators	—
CleanUp Sites	87.0
Groundwater	95.5
Haz Waste Facilities/Generators	85.6
Impaired Water Bodies	33.2
Solid Waste	72.6

Sensitive Population	—
Asthma	25.6
Cardio-vascular	39.1
Low Birth Weights	12.8
Socioeconomic Factor Indicators	—
Education	12.6
Housing	4.03
Linguistic	18.9
Poverty	7.24
Unemployment	41.8

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	92.73707173
Employed	33.01680996
Median HI	86.92416271
Education	—
Bachelor's or higher	77.86475042
High school enrollment	100
Preschool enrollment	74.72090337
Transportation	—
Auto Access	77.83908636
Active commuting	50.10907224
Social	—
2-parent households	82.86924163

Voting	74.86205569
Neighborhood	—
Alcohol availability	39.80495316
Park access	28.80790453
Retail density	48.36391634
Supermarket access	53.07327088
Tree canopy	40.75452329
Housing	—
Homeownership	93.750802
Housing habitability	78.26254331
Low-inc homeowner severe housing cost burden	74.45143077
Low-inc renter severe housing cost burden	51.18696266
Uncrowded housing	56.30694213
Health Outcomes	—
Insured adults	88.86179905
Arthritis	0.0
Asthma ER Admissions	82.5
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	58.6
Cognitively Disabled	70.6
Physically Disabled	92.6
Heart Attack ER Admissions	76.2

Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	82.1
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	59.1
Children	87.0
Elderly	17.2
English Speaking	92.8
Foreign-born	4.6
Outdoor Workers	49.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	40.4
Traffic Density	54.9
Traffic Access	60.5
Other Indices	—
Hardship	28.5
Other Decision Support	—
2016 Voting	90.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	29.0
Healthy Places Index Score for Project Location (b)	82.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Total Project area is 12.30 acres
Construction: Off-Road Equipment	Construction equipment based on equipment used for similar projects in the area
Construction: Architectural Coatings	Rule 1113
Operations: Vehicle Data	Trip characteristics based on information provided in the Traffic analysis, trip length based on OCTAM
Operations: Hearths	Rule 445
Construction: Construction Phases	Construction schedule based on information provided by the Project Team
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Demolition, Site Preparation, Grading, Building Construction, and Paving

Operations: Energy Use	Project will not use natural gas.

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APPENDIX 4.3:

EMFAC2021

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

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon
Orange	2024	HHDT	Aggregate	Aggregate	Gasoline	7.623311802	192964.0836	45.90357676	45903.57676	70409556.47	192964.0836	422323184.9	6.00
Orange	2024	HHDT	Aggregate	Aggregate	Diesel	11093.50859	394730257.9	65921.70473	65921704.73		394730257.9		
Orange	2024	HHDT	Aggregate	Aggregate	Electricity	35.69370556	1078895.034	0	0		1078895.034		
Orange	2024	HHDT	Aggregate	Aggregate	Natural Gas	1322.866094	26321067.95	4441.948167	4441948.167		26321067.95		
Orange	2024	LDA	Aggregate	Aggregate	Gasoline	1065891.765	14673028987	488726.4955	488726495.5	498157662.7	14673028987	16315060667	32.75
Orange	2024	LDA	Aggregate	Aggregate	Diesel	3266.416655	34177468.18	798.9493074	798949.3074		34177468.18		
Orange	2024	LDA	Aggregate	Aggregate	Electricity	67229.20858	1101686062	0	0		1101686062		
Orange	2024	LDA	Aggregate	Aggregate	Plug-in Hybrid	31196.5885	506168150.4	8632.217934	8632217.934		506168150.4		
Orange	2024	LDT1	Aggregate	Aggregate	Gasoline	97776.1357	1212949037	48225.54354	48225543.54	48273224.26	1212949037	1219216434	25.26
Orange	2024	LDT1	Aggregate	Aggregate	Diesel	31.55516109	167911.1209	7.035115184	7035.115184		167911.1209		
Orange	2024	LDT1	Aggregate	Aggregate	Electricity	234.5800758	3476847.271	0	0		3476847.271		
Orange	2024	LDT1	Aggregate	Aggregate	Plug-in Hybrid	142.9646924	2622637.94	40.64560344	40645.60344		2622637.94		
Orange	2024	LDT2	Aggregate	Aggregate	Gasoline	523220.8345	7398448578	302883.5842	302883584.2	305010211	7398448578	7542473631	24.73
Orange	2024	LDT2	Aggregate	Aggregate	Diesel	2063.415332	30179542.34	938.8766016	938876.6016		30179542.34		
Orange	2024	LDT2	Aggregate	Aggregate	Electricity	3182.504872	40628602.66	0	0		40628602.66		
Orange	2024	LDT2	Aggregate	Aggregate	Plug-in Hybrid	4167.835855	73216907.8	1187.75022	1187750.22		73216907.8		
Orange	2024	LHDT1	Aggregate	Aggregate	Gasoline	41326.42062	543435399.8	38686.79938	38686799.38	53243669.35	543435399.8	848832365.4	15.94
Orange	2024	LHDT1	Aggregate	Aggregate	Diesel	21602.56979	301545935.2	14556.86997	14556869.97		301545935.2		
Orange	2024	LHDT1	Aggregate	Aggregate	Electricity	155.3882898	3851030.396	0	0		3851030.396		
Orange	2024	LHDT2	Aggregate	Aggregate	Gasoline	6721.102951	82760962.9	6736.398638	6736398.638	14071487	82760962.9	211734930.7	15.05
Orange	2024	LHDT2	Aggregate	Aggregate	Diesel	9173.234432	128029558.9	7335.088364	7335088.364		128029558.9		
Orange	2024	LHDT2	Aggregate	Aggregate	Electricity	40.21934854	944408.9055	0	0		944408.9055		
Orange	2024	MCY	Aggregate	Aggregate	Gasoline	50238.99817	111587063.4	2645.142646	2645142.646	2645142.646	111587063.4	111587063.4	42.19
Orange	2024	MDV	Aggregate	Aggregate	Gasoline	324536.5237	4379308435	220479.329	220479329	223836477.7	4379308435	4529051424	20.23
Orange	2024	MDV	Aggregate	Aggregate	Diesel	4623.453247	63646682.5	2645.932576	2645932.576		63646682.5		
Orange	2024	MDV	Aggregate	Aggregate	Electricity	3450.063477	44094450.81	0	0		44094450.81		
Orange	2024	MDV	Aggregate	Aggregate	Plug-in Hybrid	2619.629178	42001855.74	711.2160908	711216.0908		42001855.74		
Orange	2024	MH	Aggregate	Aggregate	Gasoline	6023.474387	19128048.04	3912.895425	3912895.425	4870630.89	19128048.04	28860204.56	5.93
Orange	2024	MH	Aggregate	Aggregate	Diesel	2969.063612	9732156.515	957.7354645	957735.4645		9732156.515		
Orange	2024	MHDT	Aggregate	Aggregate	Gasoline	7429.609302	130056540.2	25180.11526	25180115.26	65971783.65	130056540.2	495819689.3	7.52
Orange	2024	MHDT	Aggregate	Aggregate	Diesel	27477.47253	360643511.9	40331.46866	40331468.66		360643511.9		
Orange	2024	MHDT	Aggregate	Aggregate	Electricity	75.7223849	1219392.536	0	0		1219392.536		
Orange	2024	MHDT	Aggregate	Aggregate	Natural Gas	260.262888	3900244.613	460.1997296	460199.7296		3900244.613		
Orange	2024	OBUS	Aggregate	Aggregate	Gasoline	859.2545526	11755727.79	2270.979312	2270979.312	3931717.278	11755727.79	23996233.23	6.10
Orange	2024	OBUS	Aggregate	Aggregate	Diesel	470.1282933	10651905.51	1489.545626	1489545.626		10651905.51		
Orange	2024	OBUS	Aggregate	Aggregate	Electricity	2.385794078	60323.61703	0	0		60323.61703		
Orange	2024	OBUS	Aggregate	Aggregate	Natural Gas	85.0569544	1528276.306	171.1923405	171192.3405		1528276.306		
Orange	2024	SBUS	Aggregate	Aggregate	Gasoline	669.6299914	9893927.628	1111.299608	1111299.608	3292052.704	9893927.628	21609438.64	6.56
Orange	2024	SBUS	Aggregate	Aggregate	Diesel	821.2477494	5491315.988	744.4520695	744452.0695		5491315.988		
Orange	2024	SBUS	Aggregate	Aggregate	Electricity	5.553480404	53019.52837	0	0		53019.52837		
Orange	2024	SBUS	Aggregate	Aggregate	Natural Gas	748.1584339	6171175.493	1436.301026	1436301.026		6171175.493		
Orange	2024	UBUS	Aggregate	Aggregate	Gasoline	255.8303759	13800724.35	1129.977377	1129977.377	1129977.377	13800724.35	50063715.17	44.31
Orange	2024	UBUS	Aggregate	Aggregate	Electricity	4.037405551	25414.45858	0			25414.45858		
Orange	2024	UBUS	Aggregate	Aggregate	Natural Gas	576.5236337	36237576.36	12220.36942			36237576.36		

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

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon
Orange	2025	HHDT	Aggregate	Aggregate	Gasoline	6.722292417	187211.8249	43.47263428	43472.63428	70478631.58	187211.8249	429677816.6	6.10
Orange	2025	HHDT	Aggregate	Aggregate	Diesel	11420.65028	399674472.9	65906.134	65906134		399674472.9		
Orange	2025	HHDT	Aggregate	Aggregate	Electricity	83.08829312	2610319.399	0	0		2610319.399		
Orange	2025	HHDT	Aggregate	Aggregate	Natural Gas	1387.681315	27205812.46	4529.024941	4529024.941		27205812.46		
Orange	2025	LDA	Aggregate	Aggregate	Gasoline	1056312.531	14534305570	473572.1317	473572131.7	483311897.7	14534305570	16365334376	33.86
Orange	2025	LDA	Aggregate	Aggregate	Diesel	3018.286484	30930917.53	716.2312664	716231.2664		30930917.53		
Orange	2025	LDA	Aggregate	Aggregate	Electricity	74944.83017	1257487800	0	0		1257487800		
Orange	2025	LDA	Aggregate	Aggregate	Plug-in Hybrid	33699.13897	542610088.6	9023.534744	9023534.744		542610088.6		
Orange	2025	LDT1	Aggregate	Aggregate	Gasoline	96356.97279	1194865048	46625.02559	46625025.59	46687335.51	1194865048	1203383871	25.78
Orange	2025	LDT1	Aggregate	Aggregate	Diesel	28.50822088	148646.4777	6.219657773	6219.657773		148646.4777		
Orange	2025	LDT1	Aggregate	Aggregate	Electricity	292.0687492	4643810.615	0	0		4643810.615		
Orange	2025	LDT1	Aggregate	Aggregate	Plug-in Hybrid	205.3971672	3726366	56.09025826	56090.25826		3726366		
Orange	2025	LDT2	Aggregate	Aggregate	Gasoline	529834.4659	7484135199	298757.1671	298757167.1	301045799.7	7484135199	7654119518	25.43
Orange	2025	LDT2	Aggregate	Aggregate	Diesel	2111.525403	30517603.96	930.9055577	930905.5577		30517603.96		
Orange	2025	LDT2	Aggregate	Aggregate	Electricity	4251.506284	53582168.77	0	0		53582168.77		
Orange	2025	LDT2	Aggregate	Aggregate	Plug-in Hybrid	4967.68538	85884545.9	1357.727071	1357727.071		85884545.9		
Orange	2025	LHDT1	Aggregate	Aggregate	Gasoline	41223.98689	542979042.4	37806.15523	37806155.23	52728434.93	542979042.4	863967636.1	16.39
Orange	2025	LHDT1	Aggregate	Aggregate	Diesel	22344.74546	311138854.5	14922.2797	14922279.7		311138854.5		
Orange	2025	LHDT1	Aggregate	Aggregate	Electricity	428.3107595	9849739.22	0	0		9849739.22		
Orange	2025	LHDT2	Aggregate	Aggregate	Gasoline	6668.437484	81865387.67	6538.733519	6538733.519	14110965.07	81865387.67	217654093.2	15.42
Orange	2025	LHDT2	Aggregate	Aggregate	Diesel	9609.574779	133372438.5	7572.231555	7572231.555		133372438.5		
Orange	2025	LHDT2	Aggregate	Aggregate	Electricity	110.6168929	2416266.968	0	0		2416266.968		
Orange	2025	MCY	Aggregate	Aggregate	Gasoline	51011.4251	113090178.1	2670.803515	2670803.515	2670803.515	113090178.1	113090178.1	42.34
Orange	2025	MDV	Aggregate	Aggregate	Gasoline	325579.9564	4393105851	215941.9231	215941923.1	219329281.6	4393105851	4564006163	20.81
Orange	2025	MDV	Aggregate	Aggregate	Diesel	4600.640767	62636095.42	2560.709825	2560709.825		62636095.42		
Orange	2025	MDV	Aggregate	Aggregate	Electricity	4586.98934	57809096.36	0	0		57809096.36		
Orange	2025	MDV	Aggregate	Aggregate	Plug-in Hybrid	3164.448377	50455120.41	826.6486853	826648.6853		50455120.41		
Orange	2025	MH	Aggregate	Aggregate	Gasoline	5833.176957	18620734.7	3808.503156	3808503.156	4761249.565	18620734.7	28298942.54	5.94
Orange	2025	MH	Aggregate	Aggregate	Diesel	2988.17924	9678207.841	952.7464096	952746.4096		9678207.841		
Orange	2025	MHDT	Aggregate	Aggregate	Gasoline	7268.413445	124187027.5	23898.25776	23898257.76	64710379.97	124187027.5	493957266.7	7.63
Orange	2025	MHDT	Aggregate	Aggregate	Diesel	28028.87695	362113035.2	40334.46322	40334463.22		362113035.2		
Orange	2025	MHDT	Aggregate	Aggregate	Electricity	222.6169852	3604599.599	0	0		3604599.599		
Orange	2025	MHDT	Aggregate	Aggregate	Natural Gas	276.7734983	4052604.383	477.6589834	477658.9834		4052604.383		
Orange	2025	OBUS	Aggregate	Aggregate	Gasoline	835.2077651	11353030.69	2167.479519	2167479.519	3820128.487	11353030.69	23743846.23	6.22
Orange	2025	OBUS	Aggregate	Aggregate	Diesel	483.633336	10680448.22	1479.414342	1479414.342		10680448.22		
Orange	2025	OBUS	Aggregate	Aggregate	Electricity	5.857415532	145234.659	0	0		145234.659		
Orange	2025	OBUS	Aggregate	Aggregate	Natural Gas	89.06555643	1565132.662	173.2346267	173234.6267		1565132.662		
Orange	2025	SBUS	Aggregate	Aggregate	Gasoline	678.7674095	10025036.68	1122.109613	1122109.613	3305157.85	10025036.68	21763349.91	6.58
Orange	2025	SBUS	Aggregate	Aggregate	Diesel	788.6124051	5255881.951	709.8347329	709834.7329		5255881.951		
Orange	2025	SBUS	Aggregate	Aggregate	Electricity	11.85785342	118054.8077	0	0		118054.8077		
Orange	2025	SBUS	Aggregate	Aggregate	Natural Gas	779.1807775	6364376.471	1473.213504	1473213.504		6364376.471		
Orange	2025	UBUS	Aggregate	Aggregate	Gasoline	256.3483478	13828658.34	1132.165713	1132165.713	1132165.713	13828658.34	50160723.72	44.31
Orange	2025	UBUS	Aggregate	Aggregate	Electricity	4.037405551	25414.45858	0			25414.45858		
Orange	2025	UBUS	Aggregate	Aggregate	Natural Gas	577.6938563	36306650.92	12193.20514			36306650.92		

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

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon
Orange	2026	HHDT	Aggregate	Aggregate	Gasoline	5.642094151	180736.7049	40.83151741	40831.51741	70503709.12	180736.7049	437137129.3	6.20
Orange	2026	HHDT	Aggregate	Aggregate	Diesel	11688.1985	404345567.2	65859.40937	65859409.37		404345567.2		
Orange	2026	HHDT	Aggregate	Aggregate	Electricity	144.7973925	4565346.475	0	0		4565346.475		
Orange	2026	HHDT	Aggregate	Aggregate	Natural Gas	1447.890886	28045478.92	4603.468231	4603468.231		28045478.92		
Orange	2026	LDA	Aggregate	Aggregate	Gasoline	1049515.92	14427540707	460205.4939	460205493.9	470085975.8	14427540707	16362022710	34.81
Orange	2026	LDA	Aggregate	Aggregate	Diesel	2742.173139	27885673.79	639.5560923	639556.0923		27885673.79		
Orange	2026	LDA	Aggregate	Aggregate	Electricity	81098.87481	1340199042	0	0		1340199042		
Orange	2026	LDA	Aggregate	Aggregate	Plug-in Hybrid	35696.79687	566397286.5	9240.925739	9240925.739		566397286.5		
Orange	2026	LDT1	Aggregate	Aggregate	Gasoline	95040.06341	1177116103	45120.45791	45120457.91	45197280.94	1177116103	1187953479	26.28
Orange	2026	LDT1	Aggregate	Aggregate	Diesel	24.49979621	125912.9941	5.257047435	5257.047435		125912.9941		
Orange	2026	LDT1	Aggregate	Aggregate	Electricity	361.8710153	5882191.174	0	0		5882191.174		
Orange	2026	LDT1	Aggregate	Aggregate	Plug-in Hybrid	270.687928	4829272.119	71.56598243	71565.98243		4829272.119		
Orange	2026	LDT2	Aggregate	Aggregate	Gasoline	536812.5168	7559102644	294891.677	294891677	297315447.9	7559102644	7751835028	26.07
Orange	2026	LDT2	Aggregate	Aggregate	Diesel	2150.46559	30698067.92	920.2352206	920235.2206		30698067.92		
Orange	2026	LDT2	Aggregate	Aggregate	Electricity	5257.386579	65323861.38	0	0		65323861.38		
Orange	2026	LDT2	Aggregate	Aggregate	Plug-in Hybrid	5706.320321	96710455.56	1503.535682	1503535.682		96710455.56		
Orange	2026	LHDT1	Aggregate	Aggregate	Gasoline	41098.7832	541968311.9	37057.75938	37057759.38	52307866.85	541968311.9	879241032.5	16.81
Orange	2026	LHDT1	Aggregate	Aggregate	Diesel	23010.07791	319326618.4	15250.10747	15250107.47		319326618.4		
Orange	2026	LHDT1	Aggregate	Aggregate	Electricity	815.1958673	17946102.16	0	0		17946102.16		
Orange	2026	LHDT2	Aggregate	Aggregate	Gasoline	6615.094062	80997974.67	6368.807747	6368807.747	14158056.26	80997974.67	223491989.5	15.79
Orange	2026	LHDT2	Aggregate	Aggregate	Diesel	10012.14742	138075351.1	7789.248518	7789248.518		138075351.1		
Orange	2026	LHDT2	Aggregate	Aggregate	Electricity	211.0818991	4418663.747	0	0		4418663.747		
Orange	2026	MCY	Aggregate	Aggregate	Gasoline	51778.70958	114576754.6	2699.165187	2699165.187	2699165.187	114576754.6	114576754.6	42.45
Orange	2026	MDV	Aggregate	Aggregate	Gasoline	326894.2358	4404505018	211684.7702	211684770.2	215083753	4404505018	4593591594	21.36
Orange	2026	MDV	Aggregate	Aggregate	Diesel	4570.655518	61507656.69	2476.477766	2476477.766		61507656.69		
Orange	2026	MDV	Aggregate	Aggregate	Electricity	5641.41152	70050394.64	0	0		70050394.64		
Orange	2026	MDV	Aggregate	Aggregate	Plug-in Hybrid	3648.256691	57528524.71	922.5050569	922505.0569		57528524.71		
Orange	2026	MH	Aggregate	Aggregate	Gasoline	5656.411647	18202469.21	3725.150697	3725150.697	4674511.636	18202469.21	27838958.42	5.96
Orange	2026	MH	Aggregate	Aggregate	Diesel	3003.794796	9636489.216	949.3609386	949360.9386		9636489.216		
Orange	2026	MHDT	Aggregate	Aggregate	Gasoline	7090.881325	118350128.8	22649.98553	22649985.53	63445365.02	118350128.8	492230991	7.76
Orange	2026	MHDT	Aggregate	Aggregate	Diesel	28484.43632	363024343	40301.72863	40301728.63		363024343		
Orange	2026	MHDT	Aggregate	Aggregate	Electricity	416.2854567	6665407.367	0	0		6665407.367		
Orange	2026	MHDT	Aggregate	Aggregate	Natural Gas	292.2448194	4191111.92	493.6508571	493650.8571		4191111.92		
Orange	2026	OBUS	Aggregate	Aggregate	Gasoline	819.5446697	11023612.01	2081.091226	2081091.226	3725856.725	11023612.01	23579209.01	6.33
Orange	2026	OBUS	Aggregate	Aggregate	Diesel	495.7657654	10714021.15	1469.472549	1469472.549		10714021.15		
Orange	2026	OBUS	Aggregate	Aggregate	Electricity	9.821208849	239625.8909	0	0		239625.8909		
Orange	2026	OBUS	Aggregate	Aggregate	Natural Gas	92.91719861	1601949.96	175.2929507	175292.9507		1601949.96		
Orange	2026	SBUS	Aggregate	Aggregate	Gasoline	688.5633033	10173769.38	1135.020524	1135020.524	3318338.175	10173769.38	21939322.59	6.61
Orange	2026	SBUS	Aggregate	Aggregate	Diesel	756.2070806	5029135.279	676.6054259	676605.4259		5029135.279		
Orange	2026	SBUS	Aggregate	Aggregate	Electricity	19.66639619	195898.6058	0	0		195898.6058		
Orange	2026	SBUS	Aggregate	Aggregate	Natural Gas	808.8277787	6540519.327	1506.712226	1506712.226		6540519.327		
Orange	2026	UBUS	Aggregate	Aggregate	Gasoline	256.8740368	13856970.44	1135.993315	1135993.315	1135993.315	13856970.44	50260632.86	44.24
Orange	2026	UBUS	Aggregate	Aggregate	Electricity	4.037405551	25414.45858	0			25414.45858		
Orange	2026	UBUS	Aggregate	Aggregate	Natural Gas	578.8563618	36378247.96	12216.1306			36378247.96		

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Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon
Orange	2027	HHDT	Aggregate	Aggregate	Gasoline	5.373929496	179118.8411	39.81623999	39816.23999	70367147.17	179118.8411	444718421.9	6.32
Orange	2027	HHDT	Aggregate	Aggregate	Diesel	11908.96955	408437320.1	65681.78424	65681784.24		408437320.1		
Orange	2027	HHDT	Aggregate	Aggregate	Electricity	233.8771255	7368297.488	0	0		7368297.488		
Orange	2027	HHDT	Aggregate	Aggregate	Natural Gas	1499.6845	28733685.44	4645.546691	4645546.691		28733685.44		
Orange	2027	LDA	Aggregate	Aggregate	Gasoline	1043775.809	14366554455	449765.6728	449765672.8	459772935.6	14366554455	16398392110	35.67
Orange	2027	LDA	Aggregate	Aggregate	Diesel	2455.862765	25096507.07	569.8945405	569894.5405		25096507.07		
Orange	2027	LDA	Aggregate	Aggregate	Electricity	86904.1211	1419031069	0	0		1419031069		
Orange	2027	LDA	Aggregate	Aggregate	Plug-in Hybrid	37476.38962	587710079.4	9437.368291	9437368.291		587710079.4		
Orange	2027	LDT1	Aggregate	Aggregate	Gasoline	93827.3378	1163063801	43873.13762	43873137.62	43965075.48	1163063801	1176595396	26.76
Orange	2027	LDT1	Aggregate	Aggregate	Diesel	11.77289151	62874.22025	2.531551723	2531.551723		62874.22025		
Orange	2027	LDT1	Aggregate	Aggregate	Electricity	446.5153511	7377675.194	0	0		7377675.194		
Orange	2027	LDT1	Aggregate	Aggregate	Plug-in Hybrid	345.6382808	6091045.589	89.40630797	89406.30797		6091045.589		
Orange	2027	LDT2	Aggregate	Aggregate	Gasoline	543469.3082	7640990252	292305.4074	292305407.4	294876245	7640990252	7857821071	26.65
Orange	2027	LDT2	Aggregate	Aggregate	Diesel	2178.395085	30849624.48	910.6360006	910636.0006		30849624.48		
Orange	2027	LDT2	Aggregate	Aggregate	Electricity	6350.417939	77875470.37	0	0		77875470.37		
Orange	2027	LDT2	Aggregate	Aggregate	Plug-in Hybrid	6479.43822	108105723.9	1660.201601	1660201.601		108105723.9		
Orange	2027	LHDT1	Aggregate	Aggregate	Gasoline	40902.86203	538777359.5	36189.25551	36189255.51	51663019.19	538777359.5	893922359.9	17.30
Orange	2027	LHDT1	Aggregate	Aggregate	Diesel	23584.12171	325381918.6	15473.76368	15473763.68		325381918.6		
Orange	2027	LHDT1	Aggregate	Aggregate	Electricity	1389.11065	29763081.76	0	0		29763081.76		
Orange	2027	LHDT2	Aggregate	Aggregate	Gasoline	6543.090594	79860820.09	6177.798241	6177798.241	14127831.55	79860820.09	229001133.3	16.21
Orange	2027	LHDT2	Aggregate	Aggregate	Diesel	10371.194	141785670.3	7950.033304	7950033.304		141785670.3		
Orange	2027	LHDT2	Aggregate	Aggregate	Electricity	360.8389761	7354642.935	0	0		7354642.935		
Orange	2027	MCY	Aggregate	Aggregate	Gasoline	52507.36673	115951351.2	2728.982541	2728982.541	2728982.541	115951351.2	115951351.2	42.49
Orange	2027	MDV	Aggregate	Aggregate	Gasoline	328296.2492	4424771562	208501.4282	208501428.2	211924062.1	4424771562	4632281488	21.86
Orange	2027	MDV	Aggregate	Aggregate	Diesel	4528.513812	60488859.41	2401.269504	2401269.504		60488859.41		
Orange	2027	MDV	Aggregate	Aggregate	Electricity	6724.905683	82318049.16	0	0		82318049.16		
Orange	2027	MDV	Aggregate	Aggregate	Plug-in Hybrid	4138.74125	64703018.28	1021.364342	1021364.342		64703018.28		
Orange	2027	MH	Aggregate	Aggregate	Gasoline	5494.773608	17832406.03	3652.927793	3652927.793	4597820.686	17832406.03	27425878.7	5.96
Orange	2027	MH	Aggregate	Aggregate	Diesel	3015.208329	9593472.674	944.8928934	944892.8934		9593472.674		
Orange	2027	MHDT	Aggregate	Aggregate	Gasoline	6899.471297	112449723.8	21407.12697	21407126.97	62066322.45	112449723.8	490732557.6	7.91
Orange	2027	MHDT	Aggregate	Aggregate	Diesel	28843.00512	362788382	40151.9878	40151987.8		362788382		
Orange	2027	MHDT	Aggregate	Aggregate	Electricity	705.0961221	11173514.01	0	0		11173514.01		
Orange	2027	MHDT	Aggregate	Aggregate	Natural Gas	307.5844694	4320937.743	507.2076739	507207.6739		4320937.743		
Orange	2027	OBUS	Aggregate	Aggregate	Gasoline	799.5744215	10671989.18	1986.027209	1986027.209	3618122.083	10671989.18	23433998	6.48
Orange	2027	OBUS	Aggregate	Aggregate	Diesel	507.6740734	10757245.33	1455.904179	1455904.179		10757245.33		
Orange	2027	OBUS	Aggregate	Aggregate	Electricity	15.63862172	377509.5672	0	0		377509.5672		
Orange	2027	OBUS	Aggregate	Aggregate	Natural Gas	96.22385011	1627253.922	176.1906952	176190.6952		1627253.922		
Orange	2027	SBUS	Aggregate	Aggregate	Gasoline	695.8799126	10284257.45	1143.661126	1143661.126	3322523.321	10284257.45	22092333.13	6.65
Orange	2027	SBUS	Aggregate	Aggregate	Diesel	723.187469	4805004.883	643.8868326	643886.8326		4805004.883		
Orange	2027	SBUS	Aggregate	Aggregate	Electricity	31.29977754	312644.8282	0	0		312644.8282		
Orange	2027	SBUS	Aggregate	Aggregate	Natural Gas	836.1689696	6690425.97	1534.975363	1534975.363		6690425.97		
Orange	2027	UBUS	Aggregate	Aggregate	Gasoline	257.3894016	13884827.24	1064.851026	1064851.026	1064851.026	13884827.24	50361672.36	47.29
Orange	2027	UBUS	Aggregate	Aggregate	Electricity	4.076617891	26232.20717	0			26232.20717		
Orange	2027	UBUS	Aggregate	Aggregate	Natural Gas	579.9899791	36450612.92	12216.1306			36450612.92		

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