Appendix B

Air Quality/Health Risk Assessment/Greenhouse Gas/ Energy Impact Analysis

AIR QUALITY/HEALTH RISK ASSESSMENT/GREENHOUSE GAS/ENERGY IMPACT ANALYSIS

LOCKWOOD DEVELOPMENT 3 PROJECT

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EXECUTIVE SUMMARY

The purpose of this air quality, health risk assessment, greenhouse gas and energy impact analysis is to provide an assessment of the impacts resulting from the proposed Lockwood 3 Development Project (Project) and to identify any measures that may be necessary to reduce potentially significant impacts.

Standard Air Quality, Energy and GHG Regulatory Conditions

The proposed project would be required to comply with the following regulatory conditions from the Ventura County Air Pollution Control District (VCAPCD) and State of California (State):

Ventura County Air Pollution Control District Rules

The following lists the VCAPCD rules that are applicable, but not limited to, the proposed project:

- Rule 50 (Opacity): Controls opacity standards;
- Rule 51 (Nuisance): Controls the emissions of odors and other air contaminants;
- Rule 55 (Fugitive Dust): Controls the emissions of fugitive dust;
- Rule 55.1 (Paved Road and Public Unpaved Roads): Controls the emissions of fugitive dust generators;
- Rule 55.2 (Street Sweeping Equipment): Controls the emissions of PM10-efficient street sweepers; and
- Rule 74.2 (Architectural Coating): Establishes VOC content limits

State of California Rules

The following lists the State of California Code of Regulations (CCR) air quality emission rules that are applicable, but not limited to, the proposed project.

- CCR Title 13, Article 4.8, Chapter 9, Section 2449: In use Off-Road Diesel Vehicles
- CCR Title 13, Section 2025: On-Road Diesel Truck Fleets;
- CCR Title 24 Part 6: California Building Energy Standards; and
- CCR Title 24 Part 11: California Green Building Standards

Construction Source Emissions

The VCAPCD has not recommended a specific numerical criterion for construction, as emissions are considered to be temporary. The VCAPCD recommends construction-related emissions should be mitigated if estimates of VOC and NOx emissions from the heavy-duty construction equipment exceeds the operational threshold of 25 pounds per day. However, construction-related emissions would not exceed 25 pounds per day for VOC and NOx, therefore no further mitigation is required. The Project would be required to comply with the applicable 2030 General Plan goal and policies. Compliance with the above General Plan goals and policies would reduce potential emission of criteria pollutants. Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less than significant.

Operational Source Emissions

Project operational-sourced emissions would not exceed applicable screening thresholds of significance established by the VCAPCD. The project's emissions meet VCAPCD screening thresholds and will not result in a significant cumulative impact. The project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential operational-source odor impacts would not be considered significant.

Health Risk Assessment

To reduce the exposure of the Project's on-site residents to Diesel Particulate Matter (DPM) emissions, Ordinance No. 2999 requires Applicants for new multi-family developments within 500 feet of US 101 or industrially zoned property to install high efficiency Minimum Efficiency Reporting Value (MERV) filters of MERV 14 or better in the intake of residential ventilation systems. Heating, air conditioning and ventilation (HVAC) systems shall be installed with a fan unit power designed to force air through the MERV 14 filter. These filters can remove the very small particles emitted by motor vehicles without emitting ozone, formaldehyde, or other harmful byproducts. MERV 14 or better air filtration systems are capable of removing 75 percent or more of particles between 0.3 and 1.0 microns, and 90 percent or more of particles between 1.0 and 10.0 microns. Installation of MERV filters with a minimum rating of 14 would reduce cancer risk impacts to levels below the significance threshold. Thus, the cancer and chronic risk for residential receptors due would not be considered significant for all residential receptors at the Project site with installation of MERV filters with a minimum rating of 14.

Greenhouse Gases

There are no federal, State, or local quantitative adopted thresholds of significance for addressing a project's GHG emissions. In the absence of any adopted numeric threshold, this analysis evaluates the significance of a project by considering whether the project conflicts with applicable regulations or

requirements adopted to implement a Statewide, regional, or local plan. The Project is committed to meeting the requirements of the CALGreen Code by incorporating strategies such as low-flow toilets, low-flow faucets and other energy and resource conservation measures. The Project would comply with applicable energy, water, and waste efficiency measures specified in the Title 24 Building Energy Efficiency Standards and CALGreen standards.

Energy

For new development such as the proposed project, compliance with California Building Standards Code Title 24 energy efficiency requirements (CALGreen), are considered demonstrable evidence of efficient use of energy. As discussed below, the project would provide for, and promote, energy efficiencies required under other applicable federal and State of California standards and regulations, and in so doing would meet or exceed all California Building Standards Code Title 24 standards. Moreover, energy consumed by the project's operation is calculated to be comparable to, or less than, energy consumed by other commercial uses of similar scale and intensity that are constructed and operating in California.

The demand for electricity during construction would not cause wasteful, inefficient, or unnecessary consumption of electricity. Due to the relatively short duration of the construction process, and the fact that the extent of fuel consumption is inherent to construction projects of this size and nature, fuel consumption impacts would not be considered excessive or substantial with respect to regional fuel supplies. The energy demands during construction would be typical of construction projects of this size and would not necessitate additional energy facilities or distribution infrastructure. The Project will also comply with Sections 2485 in Title 13 of the California Code of Regulations, which requires the idling of all diesel fueled commercial vehicles be limited to five minutes at any location.

On this basis, the project would not result in the inefficient, wasteful, or unnecessary consumption of energy.

PROJECT DESCRIPTION

The Project site is located in the northeast portion of the City on a vacant 225,359 square foot (5.17-acre) lot just north of the newly constructed Lockwood Street, as shown in **Figure 1: Project Site Location**. The proposed development includes open space including a dog park on the northwestern portion of the new building facing the US-101 Ventura Freeway. The Project site is located on a vacant Business Research Park (BRP) zoned parcel adjacent to retail and medical facilities such as Kaiser, St. Johns, and the senior/elderly Health Care Center Oxnard ADHC. The property to the south is undeveloped. Additionally, the developed site to the west is a car dealership and a Medical Office Building further down to the south at Outlet Center Drive.

The Project includes construction of a 5-story approximately 233-unit multi-family residential building, consisting of 24 studios units, 82 one-bedroom units, 103 two-bedroom units and 24 three-bedroom units, as shown in **Figure 2: Site Plan**. Residential uses would be located within the 2nd and 5th floors of the proposed development. As a Project Design Feature (PDF), the northern boundary of the Project site adjacent to the US-101 freeway includes an 8-foot masonry wall with evergreen vine. The outdoor living areas (patios and/or balconies) on the 2nd through 5th floor that are positioned facing towards the US-101 freeway would include a 42-inch solid wall railing. The 2nd floor would include an 8-inch glazing on top of the solid wall railing.

Additionally, as a PDF and pursuant to Zoning Code Sec. 16-420J and adherence to Ordinance No. 2999, the proposed development would install high efficiency MERV filters with a minimum rating of 14 in the intake of residential ventilation systems. HVAC systems would be installed with a fan unit power designed to force air through the MERV 14 filter.

SOURCE: Google Earth - 2023

FIGURE **1**

Meridian Consultants

Project Site Location

363-002-23

SOURCE: Brodersen Associates - June 2, 2023

FIGURE **2**

Meridian Consultants

Site Plan

363-002-23

ENVIRONMENTAL SETTING

AIR QUALITY

Ambient air quality emissions present complex environmental issues that require regulatory attention on both large and small scales. The cumulative nature of project-level and localized emissions contributing to greater regional conditions warrants that regulatory policies be instituted on national, State, and regional levels to address air quality concerns. The following sections outline the applicable regulatory framework that exists at the national, State, and regional levels for air quality.

Background

The United States Environmental Protection Agency (USEPA) is responsible for federal oversight and enforcement of air quality management policies under the 1970 Clean Air Act (CAA). Each individual state is tasked with preparing and adhering to State Implementation Plans[1] (SIPs) for achieving the goals set forth within the CAA. California has some of the most stringent air quality policies in the country and, through the California Air Resources Board (CARB) branch of the California Environmental Protection Agency (CalEPA), has developed its own ambient air quality standards (AAQS). The State is divided into air quality jurisdictions; each jurisdiction is governed by a regional air district that oversees policy implementation, permitting of air pollution emission sources, and enforcement of regulatory requirements. Six criteria air pollutants (CAPs) are monitored at the federal, State, and regional levels. These six CAPs—ozone, particulate matter PM10 and PM2.5, nitrogen dioxide, carbon monoxide, lead, and sulfur dioxide—were identified based on a consensus of decades of research that concluded inhalation of each of the chemicals results in adverse health effects in humans. The six pollutants are identified below in **Table 1: Sources and Health Effects of Criteria Air Pollutants**, along with their common sources and primary health effects from inhalation exposure.

1 A State Implementation Plan is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain National Ambient Air Quality Standards.

TABLE 1
SOURCES AND HEALTH EFFECTS OF CRITERIA AIR POLLUTANTS

Pollutants	Sources	Primary Effects
Ozone (O3)	Formed through chemical reactions between pollutants emitted from vehicles, factories and other industrial sources, fossil fuels, combustion, consumer products, evaporation of paints, and many other sources; VOCs and NOx react in the presence of sunlight	Respiratory symptoms; worsening of lung disease; lung tissue damage; ecosystem damage; damage to rubber and some plastics
Respirable particulate matter (PM10)	Emissions from combustion of gasoline, oil, diesel fuel or wood; dust from construction sites, landfills and agriculture, wildfires and brush/waste burning, industrial sources, wind-blown dust from open lands, pollen, and fragments of bacteria; chemical reactions of gases and certain organic compounds	Premature death and hospitalization; worsening of respiratory disease; reduced visibility; surface soiling
Fine particulate matter (PM2.5)	Emissions from combustion of gasoline, oil, diesel fuel or wood; chemical reactions of gases and certain organic compounds	Premature death; hospitalization; asthma-related emergencies; increased asthma symptoms and inhaler use
Carbon monoxide (CO)	Incomplete combustion of CO-containing fuels such as natural gas, gasoline, or wood; emitted by a wide variety of combustion sources, including motor vehicles, power plants, wildfires, and incinerators	Chest pain in heart disease patients; headaches; light-headedness; reduced mental alertness
Nitrogen dioxide (NO2)	Emitted from combustion sources similar to CO; formed in the atmosphere through reactions between NO and other air pollutants that require the presence of sunlight (photochemical reactions).	Lung irritation; enhanced allergic responses
Lead (Pb)	Present in soils; ore and metals processing; waste incinerators, utilities, and lead-acid battery manufacturers	Impaired mental function; learning disabilities; brain and kidney damage
Sulfur dioxide (SO2)	Emitted when sulfur-containing fuel is burned; industrial processes, such as natural gas and petroleum extraction, oil refining, and metal processing; volcanic activity and from geothermal fields	Worsening of asthma: increased symptoms, increased medication usage, and emergency room visits; acid rain

Source: California Air Resources Board, "Common Air Pollutants," https://ww2.arb.ca.gov/resources/common-air-pollutants. Accessed June 2023.

USEPA is the federal agency responsible for overseeing the country's air quality and setting the NAAQS for the CAPs. The NAAQS were devised based on extensive modeling and monitoring of air pollution across the country; they are designed to protect public health and prevent the formation of atmospheric ozone. Air quality of a region is considered to be in attainment of the NAAQS if the measured ambient air pollutant levels do not exceed the applicable concentration threshold.

As noted previously, CARB is the State agency responsible for setting the CAAQS. Air quality of a region is considered to be in attainment of the CAAQS if the measured ambient air pollutant levels for O3, CO, NO2, SO2, PM10, PM2.5, and Pb are not exceeded, and all other standards are not equaled or exceeded at any time in any consecutive 3-year period. The CAAQS are also presented in **Table 2**.

The nearest air monitoring station VCAPCD operates is located El Rio-Rio Mesa School #2 located at 545 Central Avenue. This station monitors O3, NO2, PM10 and PM2.5. **Table 2: Air Quality Monitoring Summary** summarizes published monitoring data from 2019 through 2021, the most recent 3-year period available. The data shows that during the past few years, the region has exceeded the O3, and PM10, PM2.5 standards.

USEPA and the CARB designate air basins where AAQS are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." Federal nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards.

TABLE 2
AIR QUALITY MONITORING SUMMARY

Air Pollutant	Average Time (Units)	2019	2020	2021
Ozone (O3)	State Max 1 hour (ppm)	0.078	0.104	0.073
	Days > CAAQS threshold (0.09 ppm)	0	2	0
	National Max 8 hour (ppm)	0.070	0.086	0.059
	Days > NAAQS threshold (0.075 ppm)	0	3	0
	State Max 8 hour (ppm)	0.070	0.086	0.059
	Days > CAAQS threshold (0.07 ppm)	0	3	0
Carbon monoxide (CO)		—	—	—
Nitrogen dioxide (NO2)	National Max 1 hour (ppm)	0.041	0.031	0.033
	Days > NAAQS threshold (0.100 ppm)	0	0	0
	State Max 1 hour (ppm)	0.041	0.031	0.033
	Days > CAAQS threshold (0.18 ppm)	0	0	0
Respirable particulate matter (PM10)	National Max (µg/m3)	187.8	200.7	377.8
	National Annual Average (µg/m3)	24.4	25.2	26.4
	Days > NAAQS threshold (150 µg/m3)	0	0	0
	State Max (µg/m3)	192.4	206.0	125.0
	State Annual Average (µg/m3)	—	25.3	24.7
	Days > CAAQS threshold (50 µg/m3)	14	21	12
Fine particulate matter (PM2.5)	National Max (µg/m3)	25.5	58.7	31.7
	National Annual Average (µg/m3)	6.5	7.5	6.8
	Days > NAAQS threshold (35 µg/m3)	0	3	0
	State Max (µg/m3)	25.5	58.7	31.7
	State Annual Average (µg/m3)	—	—	—

Source: CARB, iADAM: Air Quality Data Statistics.
Note: (—) = Data not available.

The current attainment designations for the Ventura County portion of the Basin are shown in **Table 3: Air Basin Attainment Status**. The Basin is currently designated as being in nonattainment at the federal level for O3; and at the State level for O3 and PM10.

TABLE 3 AIR BASIN ATTAINMENT STATUS		
Pollutant	**State Status**	**National Status**
Ozone (O3)	Nonattainment	Nonattainment
Carbon monoxide (CO)	Attainment	Unclassified/Attainment
Nitrogen dioxide (NO2)	Attainment	Unclassified/Attainment
Sulfur dioxide (SO2)	Attainment	Unclassified/Attainment
Respirable particulate matter (PM10)	Nonattainment	Unclassified/Attainment
Fine particulate matter (PM2.5)	Attainment	Unclassified/Attainment

Source: California Air Resources Board (CARB) Area Designation Maps / State and National, https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations. Accessed June 2023.

VCAPCD considers a sensitive receptor to be a person in the population who is particularly susceptible to health effects due to exposure to an air contaminant. Sensitive receptors are identified near sources of air pollution to determine the potential for health hazards. Locations evaluated for exposure to air pollution include but are not limited to residences, schools, hospitals, and convalescent facilities.

As mentioned previously, the Project site is located on vacant land surrounded by properties in the BRP zone and is adjacent to retail and medical facilities such as Kaiser, St. Johns, and the senior/elderly Health Care Center Oxnard ADHC.

Figure 3: Sensitive Receptor Map provides a detailed image of the proximal land uses and identifies the sensitive receptors closest to the Project site. These uses represent the nearest sensitive receptors who may be impacted by emissions of air pollutants due to the Project.

SOURCE: Google Earth - 2022

FIGURE **3**

Meridian Consultants

Sensitive Receptor Map

362-001-22

GREENHOUSE GAS

In 2020, the City completed an inventory of emissions for the year 2010, representing the earlier year for which the necessary data was available, and for the year 2018, representing the most recent year for which data was available. **Table 4: City of Oxnard Community GHG Emissions**, summarizes the results of the 2010 and 2018 community inventory broken down by major sector (i.e., category of emissions that is defined by the end use that causes them, such as transportation), and showing the change from 2010 to 2018.

TABLE 4
CITY OF OXNARD COMMUNITY GHG EMISSIONS

Sector	2010	2018	Absolute Change	Percent Change
On-Road Transportation	428,030	389,079	-38,951	-9%
Electricity	252,511	207,472	-45,039	-18%
Natural Gas	215,922	165,692	-50,230	-23%
Solid Waste	64,564	68,411	3,848	6%
Off-Road Equipment	28,394	37,310	8,916	31%
Wastewater	6,432	4,769	-1,663	-26%
Passenger Rail	2,353	2,137	-217	-9%
Water	1,583	1,271	-312	-10%
Total	**999,788**	**876,140**	**-123,648**	**-12%**

Source: City of Oxnard Climate Action and Adaptation Plan, Table 2-1.

Table 5: City of Oxnard, GHG Emissions from Municipal Operations summarizes the results for the 2010 and 2018 municipal operations inventories, listed by sector and showing the change from 2010 to 2018. Note that municipal operations represent a subset of community emissions, and they are included in the total emissions shown in **Table 4** above. The municipal operations inventory provides a detailed look at the emission sources over which the City has the most control or influence. Overall, annual emissions have dropped by more than 21 percent from 2010 to 2018. The biggest reductions are from electricity use, wastewater treatment, and water treatment and delivery. Emissions from natural gas and solid waste actually increased, though their contributions to overall emissions remained very small.

TABLE 5 CITY OF OXNARD, GHG EMISSIONS FROM MUNICIPAL OPERATIONS				
Sector	**2010**	**2018**	**Absolute Change**	**Percent Change**
On-Road Fleet	6,338	5,491	-847	-13.4%
Electricity	11,409	7,586	-3,824	-33.5%
Natural Gas	901	1,224	323	35.9%
Solid Waste	1,937	2,052	115	6.0%
Off-Road Fleet	999	897	-101	-10.1%
Wastewater Treatment	6,363	4,734	-1,626	-25.6%
Water Treatment & Delivery	1,583	1,271	-312	-19.7%
Employee Commute	540	476	-64	-11.9%
Total	**30,070**	**23,731**	**-6,339**	**-21.1%**

Source: City of Oxnard Climate Action and Adaptation Plan, Table 2-2.

The Business as Usual (BAU) forecast for Oxnard, as shown in **Table 6: City of Oxnard Community GHG Emissions BAU Forecast**, shows that by 2030, annual community GHG emissions would be approximately 948,847 MTCO2e, an increase from the City's 2018 emissions, but representing a 5 percent reduction from 2010. By 2050, annual community GHG emissions are expected to increase to approximately 1,086,277 MTCO2e under BAU conditions, representing a 9 percent increase from 2010.

TABLE 6 CITY OF OXNARD COMMUNITY GHG EMISSIONS BAU FORECASTS				
Sector	**2010**	**2018**	**2030**	**2050**
On-Road Transportation	428,030	389,079	421,902	476,608
Electricity	252,511	207,472	227,193	260,068
Natural Gas	215,922	165,692	183,175	220,400
Solid Waste	64,564	68,411	74,172	83,801
Off-Road Equipment	28,394	37,310	34,264	36,216
Wastewater	6,432	4,769	5,171	5,841
Passenger Rail	2,353	2,1337	1,378	1,556
Water	1,583	1,271	1,581	1,786
Total	**999,788**	**876,140**	**948,847**	**1,086,277**

Source: City of Oxnard Climate Action and Adaptation Plan, Table 2-4.

AIR QUALITY

Federal

The USEPA sets national vehicle and stationary source emission standards; oversees approval of all SIPs; provides research and guidance for air pollution programs; and sets National Ambient Air Quality Standards (NAAQS). The NAAQS for the six CAPs are shown in **Table 7: Ambient Air Quality Standards** and were identified from provisions of the 1970 CAA. The sections of the CAA that are most applicable to the Project include Title I: Nonattainment Provisions and Title II: Mobile Source Provisions.

TABLE 7
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards		Federal Standards		
		Concentration	Method	Primary	Secondary	Method
Ozone (O3)	1 hour	0.09 ppm (180 µg/m^3)	Ultraviolet photometry	—	Same as primary standard	Ultraviolet photometry
	8 hours	0.07 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable particulate matter (PM10)	24 hours	50 µg/m^3	Gravimetric or beta attenuation	150 µg/m^3	Same as primary standard	Inertial separation and gravimetric analysis
	Annual arithmetic mean	20 µg/m^3		—		
Fine particulate matter (PM2.5)	24 hours	No separate State standard		35 µg/m^3	Same as primary standard	Inertial separation and gravimetric analysis
	Annual arithmetic mean	12 µg/m^3	Gravimetric or beta attenuation	15 µg/m^3		
Carbon monoxide (CO)	8 hours	9.0 ppm (10 mg/m^3)	Nondispersive infrared photometry (NDIR)	9 ppm (10 mg/m^3)	None	NDIR
	1 hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
Nitrogen dioxide (NO2)	Annual arithmetic mean	0.03 ppm (57 µg/m^3)	Gas phase chemilumi-nescence	0.053 ppm (100 µg/m^3)	Same as primary standard	Gas phase chemilumi-nescence
	1 hour	0.18 ppm (339 µg/m^3)		0.100 ppm (188 µg/m^3)		

Source: California Air Resources Board website at: http://www.arb.ca.gov/research/aaqs/aaqs.htm. Accessed June 2023.
Note: ppm = parts per million.

The CAA and the promulgated standards have evolved as a living document over time as research into the effects of air pollution has enhanced regulatory understanding of the associated issues. The 1990 amendments to the CAA identify specific emission reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or to meet interim milestones. On the national

level, the USEPA designates regions as achieving "attainment" or suffering from "nonattainment" of the NAAQS based on air quality monitoring data. Regions that are designated as being in nonattainment are responsible for devising localized strategies for reducing emissions of CAPs and achieving regional attainment within a predetermined timeframe set by the USEPA.

The NAAQS were further amended in July 1997 to include an 8-hour standard for ozone and to adopt an NAAQS for PM2.5. The NAAQS were amended again in September 2006 to include an established methodology for calculating PM2.5, as well as to revoke the annual PM10 threshold. Additional revisions to the AAQS may be implemented in the future as the science of air quality progresses.

State

The California Clean Air Act, signed into law in 1988, requires all areas of the State to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practicable date. CARB is responsible for the coordination and administration of both State and federal air pollution control programs within California. In this capacity, CARB conducts research, sets CAAQS, compiles emission inventories, develops suggested control measures, and provides oversight of local programs.

CARB establishes emissions standards for motor vehicles sold in California, consumer products, and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions and the CAAQS currently in effect for each of the criteria pollutants, as well as other pollutants recognized by the State. The CAAQS are provided in **Table 2**. It should be noted that the CAAQS are generally more stringent than the NAAQS, reflecting California's diligent efforts toward reducing air pollution and improving air quality.

Regional

In California, jurisdiction over air quality management, enforcement, and planning divided into 35 geographic regions. Within each region, a local air district is responsible for oversight of air quality monitoring, modeling, permitting, and enforcement to ensure that regulatory violations are avoided wherever possible.

The Project site is located within the 6,700-square-mile Basin and is under the SCAQMD's jurisdiction. The Basin includes the southern two-thirds of Los Angeles County, all of Orange County, and the western urbanized portions of Riverside and San Bernardino Counties.

Ventura County Air Pollution Control District

The Ventura County Air Pollution Control District (VCAPCD) implements rules and regulations for emissions that may be generated by various uses and activities. The rules and regulations detail pollution-reduction measures that must be implemented during construction and operation of projects. Relevant rules and regulations to the project include those listed below.

Rule 50 (Opacity). This rule sets opacity standards on the discharge from sources of air contaminants. This rule would apply during construction of the project.

Rule 51 (Nuisance). This rule prohibits any person from discharging air contaminants or any other material from a source that would cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public or which endangers the comfort, health, safety, or repose to any considerable number of persons or the public. The rule would apply during construction and operational activities.

Rule 55 (Fugitive Dust). This rule requires fugitive dust generators, including construction and demolition projects, to implement control measures limiting the amount of dust from vehicle track-out, earth moving, bulk material handling, and truck hauling activities. The rule would apply during construction and operational activities.

Rule 55.1 (Paved Roads and Public Unpaved Roads). This rule requires fugitive dust generators to begin the removal of visible roadway accumulation within 72 hours of any written notification from the VCAPCD. The use of blowers is expressly prohibited under any circumstances. This rule also requires controls to limit the amount of dust from any construction activity or any earthmoving activity on a public unpaved road. This rule would apply during all construction activities.

Rule 55.2 (Street Sweeping Equipment). This rule requires the use of PM10-efficient street sweepers for routine street sweeping and for removing vehicle track-out pursuant to Rule 55. This rule would apply during construction activities.

Rule 74.2 (Architectural Coatings). This rule sets limits on the volatile organic compound (VOC) content of architectural coatings. Nonflat coatings are limited to 50 grams per liter of VOC content, flat coatings are limited to 50 grams per liter of VOC content and traffic marking coatings are limited to 100 grams per liter of VOC content. The project would be required to comply with this rule during both construction and operation.

The VCAPCD has not recommended a specific numerical criterion for construction, as emissions are considered to be temporary. However, construction-related emissions should be mitigated if estimates of ROC and NOx emissions from the heavy-duty construction equipment exceeds 25 pounds per day. The VCAPCD recommends the following measures to mitigate ozone precursor emissions from construction motor vehicles:

1. Minimize equipment idling time.
2. Maintain equipment engines in good condition and in proper tune as per manufacturers' specifications.
3. Lengthen the construction period during smog season (May through October), to minimize the number of vehicles and equipment operating at the same time.

4. Use alternatively fueled construction equipment, such as compressed natural gas (CNG), liquefied natural gas (LNG), or electric, if feasible.

GREENHOUSE GAS

Greenhouse Gas Reduction Targets

Executive Order S-3-05, signed by Governor Arnold Schwarzenegger and issued in June 2005, proclaimed that California is vulnerable to the impacts of climate change.[2] It declared that increased temperatures could reduce the Sierra snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established the following total GHG emission targets:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

Executive Order B-30-15, signed by Governor Edmund Gerald "Jerry" Brown and issued on April 29, 2015, established a new Statewide policy goal to reduce GHG emissions to 40 percent below their 1990 levels by 2030. Reducing GHG emissions by 40 percent below 1990 levels in 2030, and by 80 percent below 1990 levels by 2050 (consistent with Executive Order S-3-05), aligns with scientifically established levels needed to limit global warming to less than 2 degrees Celsius.[3]

AB 32, the Global Warming Solutions Act of 2006, requires a sharp reduction of GHG emissions to 1990 levels by 2020. To achieve these goals, which are consistent with the California Climate Action Team, which works to coordinate statewide efforts to implement global warming emission reduction programs and the state's Climate Adaptation Strategy after the passing of AB 32, AB 32 mandates that CARB establish a quantified emissions cap and institute a schedule to meet the cap; implement regulations to reduce Statewide GHG emissions from stationary sources consistent with the California Climate Action Team strategies; and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. To reach the reduction targets, AB 32 requires CARB to adopt—in an open, public process—rules and regulations that achieve the maximum technologically feasible and cost-effective GHG reductions.

2022 Scoping Plan Update

Appendix D, Local Actions, of the 2022 Scoping Plan Update includes "recommendations intended to build momentum for local government actions that align with the State's climate goals, with a focus on local GHG reduction strategies (commonly referred to as climate action planning) and approval of new land

2 Executive Department State of California, https://www.library.ca.gov/wp-content/uploads/GovernmentPublications/executive-order-proclamation/5129-5130.pdf. Accessed June 2023.

3 Office of the Governor, Governor Brown Established Most Ambitious Greenhouse Gas Reduction Target in North America (April 29, 2015), https://www.ca.gov/archive/gov39/2015/04/29/news18938/index.html. Accessed June 2023.

use development projects, including through environmental review under the California Environmental Quality Act (CEQA)." (Page 4 of Appendix D.)

The State encourages local governments to adopt a CEQA-qualified CAP addressing the three priority areas (transportation electrification, VMT reduction, and building decarbonization). However, the State recognizes that almost 50% of jurisdictions do not have an adopted CAP, among other reasons because they are costly, requiring technical expertise, staffing, funding. Additionally, CAPs need to be monitored and updated as State targets change and new data is available. Jurisdictions that wish to take meaningful climate action (such as preparing a non-CEQA-qualified CAP or as individual measures) aligned with the State's climate goals in the absence of a CEQA-qualified CAP are advised to look to the three priority areas when developing local climate plans, measures, policies, and actions: (transportation electrification, VMT reduction, and building decarbonization). "By prioritizing climate action in these three priority areas, local governments can address the largest sources of GHGs within their jurisdiction." (Page 9 of Appendix D.)

The State also recognizes in Appendix D, Local Actions, of the Scoping Plan that each community or local area has distinctive situations and local jurisdictions must balance the urgent need for housing[4] while demonstrating that a Project is in alignment with the State's Climate Goals. The State calls for the climate crisis and the housing crisis to be confronted simultaneously. Jurisdictions should avoid creating targets that are impossible to meet as a basis to determine significance. Ultimately, targets that make it more difficult to achieve statewide goals by prohibiting or complicating projects that are needed to support the State's climate goals, like infill development, low-income housing or solar arrays, are not consistent with the State's goals. The State also recognizes the lead agencies' discretion to develop evidence-based approaches for determining whether a project would have a potentially significant impact on GHG emissions.

Executive Order B-30-15

On April 29, 2015, Governor Brown issued Executive Order B-30-15. Therein, the Governor directed the following:

- Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of CO2e.

[4] The State recognizes the need for 2.5 million housing units over the next eight years, with one million being affordable units. See page 20, Appendix D, *2022 Scoping Plan Update, November 2022*

Executive Order B-55-18

Executive Order B-55-18, issued by Governor Brown in September 2018, establishes a new statewide goal to achieve carbon neutrality as soon as possible, but no later than 2045, and achieve and maintain net negative emissions thereafter. Based on this executive order, CARB would work with relevant state agencies to develop a framework for implementation and accounting that tracks progress towards this goal, as well as ensuring future scoping plans identify and recommend measures to achieve the carbon neutrality goal.

In October 2020, CARB released a study which evaluated three scenarios that achieve carbon neutrality in California by 2045. The study was used by CARB in development of the 2022 Scoping Plan update, released May 10, 2022.[5] More ambitious carbon reduction scenarios that achieve carbon neutrality prior to 2045 may be considered as part of future analyses by the State.

The scenarios analyzed to achieve carbon neutrality include a High Carbon Dioxide Removal (CDR) scenario, Zero Carbon Energy scenario, and a Balanced scenario. The High CDR scenario achieve GHG reductions by relying on CO2e removal strategies. The Zero Carbon Energy scenario is based on the assumption of zero-fossil fuel emission by 2045. The Balanced scenario represents a middle point between the High CDR scenario and Zero Carbon Energy scenario. The scenarios would achieve at least an 80-percent reduction in GHGs by 2045, relative to 1990 levels. Remaining CO2 would be reduced to zero by applying carbon dioxide removal strategies, including sinks from natural and working lands and negative emissions technologies like direct air capture.[6,7]

Under each of these scenarios, CARB proposed reduction strategies for various sectors that contribute GHG emissions throughout the State. Although specific details are not yet available for the GHG reduction measures discussed above, implementation of these measures would require regulations to be enforced by the State.

Transportation

Executive Order S-1-07, the Low Carbon Fuel Standard (issued on January 18, 2007), requires a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020.[8] Regulatory proceedings and implementation of the Low Carbon Fuel Standard have been directed to CARB. CARB has identified the Low Carbon Fuel Standard as a discrete early action item in the adopted Scoping Plan. CARB expects the Low Carbon Fuel Standard to achieve the minimum 10 percent reduction goal; however, many of the early action items outlined in the Scoping Plan work in tandem with one another. Other

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5 Energy+Environmental Economics (E3), Achieving Carbon Neutrality in California, PATHWAYS Scenarios Developed for the California Air Resources Board, October 2020

6 Sinks are defined as natural or artificial reservoirs that accumulate and store a carbon-containing chemical compound for an indefinite period.

7 Energy+Environmental Economics (E3), Achieving Carbon Neutrality in California, PATHWAYS Scenarios Developed for the California Air Resources Board, October 2020, p.22.

8 Office of the Governor, Executive Order S-01-07 (January 18, 2007), https://climateactionnetwork.ca/wp-content/uploads/2011/06/eos0107.pdf. Accessed June 2023.

specific emission reduction measures included are the Million Solar Roofs Program[9] and Assembly Bill (AB) 1493 (Pavley I), Vehicle Emissions: Greenhouse Gases, which establishes motor vehicle GHG emissions standards.[10] To avoid the potential for double-counting emission reductions associated with AB 1493, the Scoping Plan has modified the aggregate reduction expected from the Low Carbon Fuel Standard to 9.1 percent. CARB released a draft version of the Low Carbon Fuel Standard in October 2008. The final regulation was approved by the Office of Administrative Law and filed with the Secretary of State on January 12, 2010; the Low Carbon Fuel Standard became effective on the same day.

Additionally, SCAG has prepared and adopted the 2020–2045 RTP/SCS,[11] which includes a Sustainable Communities Strategy that addresses regional development and growth forecasts. The SCAG 2020–2045 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals, with a specific goal of achieving an 8 percent reduction in passenger vehicle GHG emissions on a per capita basis by 2020, 19 percent reduction by 2035, and 21 percent reduction by 2040 compared to the 2005 level.

City of Oxnard Climate Action and Adaptation Plan

The City of Oxnard Climate Action and Adaptation Plan (CAAP)[12] identifies seven areas under which the City can reduce GHG emissions: clean energy, water conservation and reuse, green buildings, waste reduction and recycling, transportation, nature-based solutions, and land use. The CAAP establishes a target—to reduce greenhouse gas (GHG) emissions 40 percent below 1990 levels by 2030, consistent with state law. The CAAP presents an inventory of GHG emissions originating from the City, and sets forth strategies and actions to reduce emissions and help the community adapt to a changing climate.

ENERGY

State Standards

The California Energy Commission (CEC) first adopted the Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the State. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject

9 US Department of Energy, Laying the Foundation for Solar America: The Million Solar Roofs Initiative, https://www.nrel.gov/docs/fy07osti/40483.pdf. Accessed June 2023.

10 The standards enacted in Pavley I are the first GHG standards in the nation for passenger vehicles and took effect for model years starting in 2009 and going through 2016. Pavley I could potentially result in 27.7 million metric tons CO2e reduction in 2020. Pavley II will cover model years 2017 to 2025 and potentially result in an additional reduction of 4.1 million metric tons CO2e.

11 Southern California Association of Governments (SCAG), Connect SoCal: 2020-2045 Regional Transportation Plan/Sustainable Communities Strategies Draft, Chapter 1, https://www.connectsocal.org/Pages/Connect-SoCal-Draft-Plan.aspx. Accessed June 2023.

12 City of Oxnard Climate Action and Adaptation Plan, accessed June 2023, https://www.oxnard.org/wp-content/uploads/2023/01/Oxnard-CAAP_2022-12-07_Adopted.pdf.

to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

Part 11 of the Title 24 Building Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality." The CALGreen Code is mandatory for all new buildings constructed in the State and establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design and overall environmental quality. The CALGreen Code was most recently updated in 2019 to include new mandatory measures for residential as well as nonresidential uses; the new measures took effect on January 1, 2020.

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008, Governor Schwarzenegger signed Executive Order S-14-08, which expands the State's Renewables Portfolio Standard to 33 percent renewable power by 2020. Pursuant to Executive Order S-21-09, CARB was also preparing regulations to supplement the Renewables Portfolio Standard with a Renewable Energy Standard that will result in a total renewable energy requirement for utilities of 33 percent by 2020. But on April 12, 2011, Governor Jerry Brown signed SB X1-2 to increase California's Renewables Portfolio Standard to 33 percent by 2020. SB 350 (Chapter 547, Statues of 2015), signed into law on October 7, 2015, further increased the Renewables Portfolio Standard to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027.

Energy Action Plan

The City of Oxnard adopted an Energy Action Plan (EAP) in April 2013, as required by the 2030 General Plan. The EAP builds upon existing energy conservation efforts and identifies energy conservation and production programs consistent with 2030 General Plan goals and policies, utility company programs, and state and federal legislation and initiatives. The EAP focuses primarily on electricity efficiency and conservation, but also includes natural gas and renewable energy production strategies. The City proposes a reduction target of 10 percent below the 2005 baseline for electricity and natural gas consumption provided by Southern California Edison and SoCal Gas Company.

Project construction is estimated to start March 2025. If, for various site planning, financial, or other reasons, the onset of construction is delayed to a later date than assumed in the modeling analysis, construction and operational emissions would be similar to or less than those analyzed, because a more energy-efficient and cleaner burning construction equipment and vehicle fleet mix would be expected in the future. Therefore, the input values used in this analysis are considered conservative.

AIR QUALITY

Construction

Construction of the Project's new building has the potential to generate temporary criteria pollutant emissions through the use of heavy-duty construction equipment and through vehicle trips generated from workers traveling to and from the Project site. Mobile-source emissions, primarily NOx, would result from the use of construction equipment, such as dozers and loaders. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity, and prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources.

Daily regional emissions during construction are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source and fugitive dust emissions factors. The Project would be required comply with VCAPCD Rule 55, which identifies measures to reduce fugitive dust and is required to be implemented at all construction sites located with the Basin.

The emissions are estimated using the latest version of the California Emissions Estimator Model (CalEEMod) software, an emissions inventory software program recommended by VCAPCD, which takes into account the latest Title 24 building and energy standards. CalEEMod is based on outputs from the CARB off-road emissions model (OFFROAD2017) and the CARB on-road vehicle emissions model (EMFAC2021), which are emissions estimation models developed by CARB and used to calculate emissions from construction activities, including on- and off-road vehicles.

The input values used in this analysis are based on conservative assumptions in CalEEMod, with appropriate, Project-specific adjustments based on equipment types and expected construction activities. These values were then applied to the construction phasing assumptions used in the criteria pollutant analysis to generate criteria pollutant emissions values for each construction activity. Detailed construction equipment lists, construction scheduling, and emissions calculations are provided in **Appendix A**.

Operation

Operation of the Project has the potential to generate criteria pollutant emissions through vehicle trips traveling to and from the Project site. In addition, emissions would result from area sources on site, such as natural gas combustion, landscaping equipment, and use of consumer products.

Area-source emissions are based on natural gas (building heating and water heaters), landscaping equipment, and consumer product (including paint) usage rates provided in CalEEMod. Natural gas usage factors in CalEEMod are based on the California Energy Commission's California Commercial End Use Survey data set, which provides energy demand by building type and climate zone.

Operational emissions were estimated using the CalEEMod software, which was used to forecast the daily regional emissions from area sources that would occur during long-term Project operations. In calculating mobile-source emissions, trip-length values were based on the distances provided in CalEEMod. According to the Traffic and Circulation Study (October 11, 2022), the Project is anticipated to generate a net total of approximately 1,175 average daily trips.

HEALTH RISK ASSESSMENT

Air dispersion modeling was conducted using the American Meteorological Society/Environmental Protection Agency Regulator Model (AERMOD) version 22122. This model is a steady-state, multiple-source, Gaussian dispersion model designed for use with emission sources situated in terrain where ground elevations can exceed the release heights of the emission sources (i.e., complex terrain). AERMOD is the U.S. EPA's regulatory dispersion model specified in the Guideline for Air Quality Methods.[13] AERMOD is recommended for use by the VCAPCD, which has established its own modeling guidance for the model.

GREENHOUSE GASES

The analysis of the Project's GHG emissions consists of a quantitative analysis of the GHG emissions generated by the construction and operation activities and a qualitative analysis of the proposed Project's consistency with adopted GHG-related legislation, plans, and policies. This approach is in accordance with CEQA Guidelines Section 15064.4(a), which affirms the discretion of a lead agency to determine, in the context of a particular project, whether to use quantitative and/or qualitative methodologies to determine the significance of a project's impacts.

Emissions Inventory Modeling

The total GHG emissions from the Project were quantified to determine the level of the Project's estimated annual GHG emissions. As with the Air Quality section calculations, construction emissions were estimated using CalEEMod by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile-source emissions

13 U.S. EPA Code of Federal Regulations, Title 40, Part 51, Appendix W

factors. The modeling used the same input values as previously discussed under the methodology section for air quality.

CalEEMod was also used to estimate operational GHG emissions from electricity, natural gas, solid waste, water and wastewater, and landscaping equipment. CalEEMod calculates energy use from systems covered by Title 24 (e.g., HVAC system, water heating system, and lighting system); energy use from lighting; and energy use from office equipment, appliances, plug-ins, and other sources not covered by Title 24 or lighting. Mobile-source emissions were estimated based on the CARB EMFAC model. For mobile sources, CalEEMod was used to generate the vehicle miles traveled from Project operation based on the Project's traffic analysis.

With regard to energy demand, the consumption of fossil fuels to generate electricity and to provide heating and hot water generates GHG emissions. Energy demand rates were estimated based on square footage as well as predicted water supply needs for this use. Energy demand (off-site electricity generation and on-site natural gas consumption) for the Project was calculated within CalEEMod using the CEC's CEUS data set, which provides energy demand by building type and climate zone.

Emissions of GHGs from solid waste disposal were also calculated using CalEEMod software. The emissions are based on the waste disposal rate for the land uses, the waste diversion rate, and the GHG emission factors for solid waste decomposition. The GHG emission factors, particularly for methane, depend on characteristics of the landfill, such as the presence of a landfill gas capture system and subsequent flaring or energy recovery. The default values, as provided in CalEEMod, for landfill gas capture (e.g., no capture, flaring, energy recovery), which are Statewide averages, were used in this assessment.

Emissions of GHGs from water and wastewater result from the required energy to supply and distribute the water and treat the wastewater. Wastewater also results in emissions of GHGs from wastewater treatment systems. Emissions are calculated using CalEEMod and are based on the water usage rate for the proposed use; the electrical intensity factors for water supply, treatment, and distribution and for wastewater treatment; the GHG emission factors for the electricity utility provider; and the emission factors for the wastewater treatment process.

ENERGY

Information from CalEEMod output (refer to **Appendix C**), utilized for air quality and greenhouse gas analyses of this report, were also utilized for this analysis. The CalEEMod output detail project related construction equipment, transportation energy demands, and facility energy demands.

Construction

Electricity

Construction electricity was estimated for construction equipment that would use electricity as an alternative to diesel fuel, and for water usage from dust control. In addition, electricity from water

conveyance for dust control was also calculated based on the estimated exposed area and water needs to cover the area during construction activity. Default CalEEMod water electricity intensity factors were used to convert the volume of water needed to electricity demand from water conveyance.

Natural Gas

Construction activities, including the construction of new buildings and facilities, typically do not involve the consumption of natural gas. Accordingly, natural gas is not expected to be consumed in large quantity during Project construction. Therefore, natural gas associated with construction activities was not calculated.[14]

Transportation Fuels

Fuel consumption from on-site heavy-duty construction equipment was calculated based on the equipment mix and usage factors provided in the CalEEMod construction output files. The total horsepower was then multiplied by fuel usage estimates per horsepower-hour from CARB's off-road vehicle (OFFROAD) model. Fuel consumption from construction on-road worker, vendor, and delivery/haul trucks was calculated using the trip rates and distances provided in the emissions modeling worksheets and CalEEMod construction output files. Total VMT for these onroad vehicles were then calculated for each type of construction-related trip and divided by the corresponding county-specific miles per gallon factor using CARB's EMFAC model. EMFAC provides the total annual VMT and fuel consumed for each vehicle type. CalEEMod assumed trip lengths were used for worker commutes while vendor, management visits, concrete, and haul truck trips were taken from emissions modeling worksheets that used EMFAC emission factors.

Consistent with CalEEMod, construction worker trips were assumed to include a mix of light duty gasoline automobiles and light duty gasoline trucks. Construction vendor trucks were assumed to be a mix of medium-heavy-duty and heavy-duty diesel trucks and concrete and haul trucks were assumed to be heavy-duty diesel trucks.

The energy usage required for Project construction has been estimated based on the number and type of construction equipment that would be used during Project construction by assuming a conservative estimate of construction activities (i.e., maximum daily equipment usage levels). Energy for construction worker commuting trips has been estimated based on the predicted number of workers for the various phases of construction and the estimated VMT based on the conservative values in the CalEEMod and EMFAC models. The assessment also includes a discussion of the Project's compliance with relevant

[14] In general, natural gas would not be expected to be used and this energy analysis assumes heavy-duty construction equipment is diesel-fueled, as is typically the case. However, natural gas-fueled heavy-duty construction equipment could be used to replace some diesel-fueled heavy-duty construction equipment. If this does occur, diesel fuel demand would be slightly reduced and replaced by a small amount of temporary natural gas demand. This would not substantially affect the energy analysis or conclusions provided herein.

energy-related regulatory requirements that would minimize the amount of energy usage during construction.

The construction equipment and haul trucks would likely be diesel-fueled, while the construction worker commute vehicles would primarily be gasoline-fueled. For the purposes of this assessment, it is conservatively assumed that all heavy-duty construction equipment and haul trucks would be diesel-fueled. The estimated fuel economy for heavy-duty construction equipment is based on fuel consumption factors from the CARB OFFROAD emissions model, which is a State-approved model for estimating emissions from off-road heavy-duty equipment. The estimated fuel economy for haul trucks and worker commute vehicles is based on fuel consumption factors from the CARB EMFAC emissions model, which is a State-approved model for estimating emissions on-road vehicles and trucks. Both OFFROAD and EMFAC are incorporated into CalEEMod. However, fuel consumption for worker, vendor, and concrete/haul trucks were calculated outside of CalEEMod using emission factors from EMFAC to provide a more detailed and accurate account of truck fuel consumption.

Operation

Electricity

The Project's estimated electricity demand was analyzed relative to Southern California Edison (SCE) existing and planned energy supplies in 2028 (i.e., the Project buildout year) to determine if the utility would be able to meet the Project's energy demands. Annual consumption of electricity (including electricity usage associated with the supply and conveyance of water) from Project operation was calculated using demand factors provided in CalEEMod based on Title 24 standards. Energy usage from water demand (e.g., electricity used to supply, convey, treat, and distribute) was estimated based on new buildings and facilities. The assessment also includes a discussion of the Project's compliance with relevant energy-related regulations and its land use transportation characteristics that would minimize the amount of energy usage during operations.

Natural Gas

The Project's estimated natural gas demand was analyzed relative to SoCalGas' existing and planned energy supplies in 2028 (i.e., the Project buildout year) to determine if the utility would be able to meet the Project's energy demands. to determine if the utility would be able to meet the Project's energy demands.

Transportation Fuels

Energy for transportation from Project patrons traveling to and from the Project Site is estimated based on the predicted number of trips to and from the Project Site. The transportation fuel demand associated with trips from the Project was accounted for in the Project's operational transportation fuel demand for the purposes of this energy analysis.

SIGNIFICANCE THRESHOLDS

AIR QUALITY

The determination of a project's significance on air quality shall be made considering the factors provided in the City of Oxnard CEQA Guidelines.[15] Additional guidance in determining the potential significance of air emissions from a project is provided by the VCAPCD Air Quality Assessment Guidelines. Specific numerical criteria applicable to the City of Oxnard planning area and other guidance in determining significance are summarized below.

Ozone and Ozone Precursors

For both Reactive Organic Compounds (ROC) and Nitrogen Oxides (NOx), the VCAPCD recommends use of an operational threshold of 25 pounds per day. The VCAPCD has not recommended a specific numerical criterion for construction, as emissions are considered to be temporary. However, construction-related emissions should be mitigated if estimates of ROC and NOx emissions from the heavy-duty construction equipment exceeds 25 pounds per day. An emissions inventory program (such as the latest version of the California Emissions Estimator Model [CalEEMod]) should be used to estimate the amounts of pollutants that may be associated with a project. As a screening tool, the Air Quality Assessment Guidelines provide a listing of project sizes that are likely to result in emissions above the 25 pounds per day thresholds. The screening limits for land uses and for future years are found in the most recent version of the VCAPCD Air Quality Assessment Guidelines.

Fugitive Dust

The VCAPCD has not recommended a specific numerical criterion for fugitive dust. The qualitative threshold is described in the VCAPCD Air Quality Assessment Guidelines:

A project that may be reasonably expected to generate fugitive dust emissions in such quantities as to cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which may endanger the comfort, repose, health, or safety of any such person or the public, or which may cause, or have a natural tendency to cause, injury or damage to business or property (see California Health and Safety Code, Division 26, §41700) will have a significant adverse air quality impact.

Most of the concern regarding fugitive dust focuses on construction activities, and measures to minimize dust generation from grading and construction.

San Joaquin Valley Fever

From the Air Quality Assessment Guidelines:

[15] City of Oxnard CEQA Guidelines, May 2017, accessed June 2023, https://www.oxnard.org/wp-content/uploads/2017/06/CEQA-Guidelines-Color.pdf

VCAPCD has not recommended a quantitative threshold for a significant San Joaquin Valley Fever impact. However, listed below are factors that may indicate a project's potential to create significant Valley Fever impacts:

- Disturbance of the top soil of undeveloped land (to a depth of about 12 inches)
- Dry, alkaline, sandy soils
- Virgin, undisturbed, non-urban areas
- Windy areas
- Archaeological resources probably or known to exist in the area (Native American midden sites)
- Special events (fairs, concerts) and motorized activities (motorcross track, All Terrain Vehicle activities) on unvegetated soil (non-grass)
- Non-native population (i.e., out-of-area construction workers)

The lead agency should consider the factors above that are applicable to the project or the project site.

Asbestos

The U.S. EPA and the State of California list asbestos as a toxic air contaminant. Potential exposure to asbestos is most likely to occur in conjunction with the demolition of buildings constructed before 1979. Demolition or renovation activities involving asbestos materials are subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations. Rule 62.7 in the VCAPCD Rules and Regulations relates to demolition and renovation activities involving asbestos.

Odors

VCAPCD has not recommended a specific numerical criterion or procedure for odors. The qualitative threshold is described in the VCAPCD Air Quality Assessment Guidelines:

A qualitative assessment indicating that a project may reasonably be expected to generate odorous emissions in such quantities as to cause detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which may endanger the comfort, repose, health, or safety of any such person or the public, or which may cause, or have a natural tendency to cause, injury or damage to business or property (see California Health and Safety Code, Division 26, §41700) will have a significant adverse air quality impact.

The Air Quality Assessment Guidelines provide a definition of significant odor impact in terms of the numbers of complaints received – but this is of no predictive value in assessing new projects. There is a tabulation of "screening distances" in the Air Quality Assessment Guidelines (Table 6-3) for various odorous land uses that may cause an odor impact at receptor locations. The distances are all one or two miles, and they are associated with a wide variety of industrial, agricultural, and waste management facilities.

HEALTH RISK ASSESSMENT

Most projects will not involve a substantial source of TACs. Those that would emit TACs are likely subject to the permit authority of the VCAPCD and the analysis of any TACs and their potential impact should be coordinated with the VCAPCD permit requirements. One source of TACs that is not directly regulated by the VCAPCD is diesel exhaust from heavy trucks. If a project would create a major concentration of heavy truck traffic for a long period of time or involves sensitive receptors that may be exposed to substantial concentrations of truck traffic or other sources of TACs (e.g., within 500 feet of U.S. 101), then the toxic effects of diesel particulate matter may be of concern. If TACs are a concern then a health risk assessment (HRA) may need to be conducted. The HRA involves the use of an air quality dispersion model and procedures and input values approved by the VCAPCD. The following criteria are used to determine the significance of a potential health risk impact:

- For cancer causing contaminants: a lifetime probability of contracting cancer is greater than 10 in one million as identified in the HRA.
- For non-carcinogenic pollutants: a Hazard Index of greater than 1, as identified in the HRA.

GREENHOUSE GASES

According to the City of Oxnard CEQA Guidelines, GHG's should be calculated using CalEEMod or a similar analysis tool. Emissions can be compared to the statewide inventory and/or any of various quantitative thresholds that have been adopted by other air pollution control districts. Another option is to compare "business as usual" (BAU) emissions (emissions that would occur without any GHG reducing measures in place) to emissions that would occur with implementation of state and local measures as well as any project---specific measures to reduce emissions. Using this BAU approach, the project's impact would typically be less than significant if emission reductions were equal to or greater than the emissions reductions mandated in AB 32. However, this method needs to be based on substantial evidence between the project's individual emissions and the statewide Scoping Plan reduction goal.

On April 29, 2015, the governor issued an executive order establishing a statewide mid--term GH reduction target of 40 percent below 1990 levels by 2030. SB 32 codified this interim reduction target on September 8, 2016. According to CARB, reducing GHG emissions by 40 percent below 1990 levels in 2030 ensures that California will continue its efforts to reduce carbon pollution and help to achieve federal health--based air quality standards. Setting clear targets also provides market certainty to foster investment and growth in a wide array of industries throughout the State, including clean technology and clean energy. An updated Scoping Plan is expected to be completed and adopted by CARB in 2017 that would provide State guidance in meeting long-term reduction targets.

Compare project characteristics to applicable state, regional, and local policies aimed at GHG emission reduction. These include, but are not limited to:

- CALGreen Standards
- 2022 Scoping Plan Update

- City of Oxnard Climate Action and Adaptation Plan
- Southern California Association of Governments' (SCAGs) Sustainable Communities Strategy (SCS)

ENERGY

The City of Oxnard CEQA Guidance does not provide approaches to conduct an energy assessment.

This analysis addresses the Project's potential energy usage, including electricity, natural gas, and transportation fuel. Energy consumption during both construction and operation is assessed. Specific analysis methodologies are discussed below. Energy calculations are provided in **Appendix C**, and are based on the same assumptions as are used in the Air Quality and Greenhouse Gas Emissions analysis.

AIR QUALITY

Emissions of air pollutants were estimated for construction and operation of the Project. In California, the California Air Pollution Control Officer's Association recommends the use of CalEEMod to calculate and organize emissions data for new development projects. CalEEMod is a program that relies on project-specific information pertaining to geographic setting, utility service provision, construction scheduling and equipment inventory, and operational design features to generate estimates of air pollutant and GHG emissions. Information needed to parameterize the Project in CalEEMod was obtained from the construction engineer and the Project architect.

Table 8: Project Construction Schedule provides the dates and durations of each of the activities that will take place during construction of the Project, as well as a brief description of the scope of work. Future dates represent approximations based on the general Project timeline and are subject to change pending unpredictable circumstances that may arise.

TABLE 8
PROJECT CONSTRUCTION SCHEDULE

Construction Activity	Approximate Start Date	Approximate End Date	Duration (Days)	Description
Site Preparation	3/1/2025	3/29/2025	20	Loading equipment
Grading	4/1/2025	6/3/2025	46	Approximately 6,366 cubic yards of cut and 7,762 cubic yards of fill, resulting in a net import of 1,396 cubic yards of soil
Building Construction	6/4/2025	8/31/2027	585	Construction of proposed multi-family residential building
Paving	4/1/2027	8/31/2027	109	Paving of asphalt surfaces
Architectural Coating	4/1/2027	8/31/2027	109	Application of architectural coatings to building materials

*Note: Refer to **Appendix A (Proposed)** for CalEEMod Output Sheet.*

Construction

An assessment of air pollutant emissions was prepared utilizing the construction schedule in **Table 8**. **Table 9: Project Construction Diesel Equipment Inventory** displays the construction equipment required for each activity described in **Table 8**. Due to limited construction information available during the preparation of this analysis, default equipment inventory assumptions were utilized. CalEEMod will populate the default equipment list provided below based on proposed land uses. CalEEMod generates defaults for the fuel type, engine tier, number of equipment operating per day, daily operational hours per equipment, and the equipment horsepower and load factor. Under regulatory compliance measures in CalEEMod, construction would be required to adhere to VCAPCD Rule 55 (Fugitive Dust) and Rule 74.2 (Architectural Coatings).

TABLE 9 PROJECT CONSTRUCTION DIESEL EQUIPMENT INVENTORY				
Phase	Off-Road Equipment Type	Amount	Daily Hours	Horsepower [HP] (Load Factor)
Site Preparation	Rubber Tired Dozers	3	8	367 (0.40)
	Tractors/Loaders/Backhoes	4	8	84 (0.37)
Grading	Excavators	1	8	36 (0.38)
	Graders	1	8	148 (0.41)
	Rubber Tired Dozers	1	8	367 (0.40)
	Tractors/Loaders/Backhoes	3	8	84.0 (0.29)
Building Construction	Cranes	1	7	367 (0.29)
	Forklifts	3	8	82 (0.20)
	Generator Sets	1	8	14 (0.74)
	Tractors/Loaders/Backhoes	3	7	84 (0.37)
	Welders	1	8	46 (0.45)
Architectural Coating	Air compressors	1	6	37 (0.48)
Paving	Pavers	2	8	81 (0.36)
	Paving Equipment	2	8	89 (0.38)
	Rollers	2	8	36 (0.48)

*Refer to **Appendix A (Proposed)** for CalEEMod Output Sheets.*

Maximum daily emissions of air pollutants during construction of the Project's were calculated using CalEEMod. Mobile sources (such as diesel-fueled equipment on-site and vehicles traveling to and from the Project site) would primarily generate NOx emissions. The application of architectural coatings would primarily result in the release of VOC emissions. **Table 10: Maximum Construction Emissions** identifies daily emissions that are estimated for peak construction days for each construction year. It is important to note, emissions presented in **Table 10** include regulatory compliance measures such as construction equipment controls (Tier 3 emissions standards with Level 3 DPF per CARB requirements)[16] during the site preparation phase. Including regulatory compliance measures for all the other phases would further reduce emissions provided in the table below. As shown in **Table 10**, construction-related emissions would not exceed 25 pounds per day for VOC and NOx. Thus, no further mitigation would be required.

16 California Air Resources Board, Guide to Off-Road Vehicle & Equipment Regulations, website: https://ww3.arb.ca.gov/msprog/offroadzone/pdfs/offroad_booklet.pdf. Accessed June 2023.

TABLE 10 MAXIMUM CONSTRUCTION EMISSIONS						
Source	VOC	NOx	CO	SOx	PM10	PM2.5
	pounds/day					
2025	1.9	24.1	29.3	<0.1	2.9	1.6
2026	1.8	11.6	23.1	<0.1	2.8	0.9
2027	24.2	18.9	36.2	<0.1	3.7	1.3
Maximum	*24.2*	*24.1*	*36.2*	*<0.1*	*3.7*	*1.6*
VCAPCD Mass Daily Threshold	25	25	--	--	--	--
Threshold exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod.

Notes: CO = carbon monoxide; NOx = nitrogen oxides; PM10 = particulate matter less than 10 microns; PM2.5 = particulate matter less than 2.5 microns; SOx = sulfur oxides; VOC = volatile organic compounds.

*Refer to **Appendix A (Proposed)**, for maximum on-site plus off-site emissions during both the summer and winter seasons.*

Additionally, the Project would be required to comply with the applicable 2030 General Plan goal and policies which include the following:

- **Goal ER-14**: Improved air quality and minimized adverse effects of air pollution on human health and the economy.
  - Policy ER-14.4: Require all construction equipment to be maintained and tuned to meet appropriate EPA, CARB, and VCAPCD emissions requirements and when new emission control devices or operational modifications are found to be effective, such devices or operational modifications are required on construction equipment.
  - Policy ER-14.5: Require that the construction period be lengthened to minimize the number of vehicles and equipment operating at the same time during smog season (May through October).
  - Policy ER-14.6: Continue to require mitigation measures as a condition of obtaining building or use permits to minimize dust and air emissions impacts from construction.
  - Policy ER-14.8: Cooperate with other local, county, regional, and State agencies in implementing air quality plans to achieve State and Federal Ambient Air Quality Standards and in preparing, adopting, and implementing the SCAG Sustainable Communities Strategy (SB 375).
  - Policy ER-14.12: Consult with the VCAPCD during CEQA review for projects that require air quality impact analysis and ensure that the VCAPCD is on the distribution list for all CEQA documents.

Compliance with the above General Plan goals and policies would reduce potential emission of criteria pollutants. Therefore, construction of the Project would not generate any significant environmental impacts associated with air quality compliance.

Operation

As mentioned previously, the proposed multi-family residential building includes approximately 233-units with related on-site amenities. Operational emissions would result primarily from vehicles traveling to and from the Project site. The Project would generate a net total of 1,175 daily trips. The results presented in **Table 11: Maximum Operational Emissions** are compared to the VCAPCD-established operational significance thresholds. As shown in **Table 11**, the operational emissions would not exceed the regional VOC and NOx concentration thresholds. Operation of the Project would not generate any significant environmental impacts associated with air quality compliance.

TABLE 11
MAXIMUM OPERATIONAL EMISSIONS

Source	VOC	NOx	CO	SOx	PM10	PM 2.5
	pounds/day					
Mobile	4.6	3.6	30.7	0.1	7.5	1.9
Area	9.8	0.0	13.3	<0.1	<0.1	<0.1
Energy	<1	0.8	0.3	<0.1	0.1	0.1
Total	*14.4*	*4.4*	*44.3*	*0.1*	*7.6*	*1.9*
VCAPCD Mass Daily Threshold	25	25	--	--	--	--
Threshold exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod.

Notes: Totals in table may not appear to add exactly due to rounding in the computer model calculations.

CO = carbon monoxide; NOx = nitrogen oxides; PM10 = particulate matter less than 10 microns; PM2.5 = particulate matter less than 2.5 microns; SOx = sulfur oxides; VOC = volatile organic compounds.

*Refer to **Appendix A (Proposed)** for maximum operational emissions during both the summer and winter seasons.*

Odors

Mandatory compliance with VCAPCD Rule 74.2 would limit the number of VOCs in architectural coatings and solvents. According to VCAPCD, while almost any source may emit objectionable odors, some land uses are more likely to produce odors because of their operation. Land uses more likely to produce odors include agriculture, chemical plants, composting operations, dairies, fiberglass molding manufacturing, landfills, refineries, rendering plants, rail yards, and wastewater treatment plants. The Project does not contain any active manufacturing activities and would not convert current agricultural land to residential land uses. Therefore, objectionable odors would not be emitted by the proposed uses. Any unforeseen odors generated by the Project will be controlled in accordance with VCAPCD Rule 51 and Rule 55. As previously noted, Rule 51 prohibits the discharge of air contaminants that harm, endanger, or annoy individuals or the public; endanger the comfort, health or safety of individuals or the public; or cause injury or damage to business or property. Failure to comply with Rule 51 could subject the offending facility to possible fines and/or operational limitations in an approved odor control or odor abatement plan.

Cumulative

Development of the Project in conjunction with any related projects near the Project would result in an increase in construction and operational emissions in an already urbanized area of the City. However, cumulative air quality impacts from construction, based on VCAPCD guidelines, are not analyzed in a manner similar to project-specific air quality impacts. Instead, VCAPCD recommends that a project's potential contribution to cumulative impacts should be assessed utilizing the same significance criteria as those for project-specific impacts. According to VCAPCD, individual development projects that generate construction or operational emissions that exceed VCAPCD recommended daily regional or localized thresholds for project-specific impacts would also cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment. With the implementation of regulatory compliance measures such as Rule 55 (Fugitive Dust) and Rule 74.2 (Architectural Coating), the Project's construction and operational emissions are not expected to significantly contribute to cumulative emissions. As such, the Project's contribution to cumulative air quality emissions in combination with any related projects would not be cumulatively considerable.

HEALTH RISK ASSESSMENT

Construction

The City of Oxnard relies on methodology established by VCAPCD for preparation of air quality analyses. VCAPCD shares responsibility with the CARB for ensuring that all state and federal ambient air quality standards are achieved and maintained throughout all of Ventura County. Although VCAPCD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate air quality issues associated with new development projects within the Air Basin, such as the Project.

The rational for not requiring a health risk assessment for construction activities is the limited duration of exposure to any short-term emissions generated during construction. Health effects from carcinogenic air toxics are identified and considered in terms of individual cancer risk. Specifically, "Individual Cancer Risk" is the likelihood that a person continuously exposed to concentrations of toxic air contaminants (TACs) over a 70-year lifetime will contract cancer based on the use of standard risk assessment methodology. Given that the greatest potential for diesel particulate emissions would only occur during excavation/grading activities (approximately 46 days) and other construction activities (approximately 2 years) would result in reduced use of heavy-duty diesel construction equipment in comparison to excavation/grading activities, the Project would not result in a long-term (i.e., 70 year) source of toxic air contaminant (TAC) emissions. No residual TAC emissions and corresponding individual cancer risk are anticipated after construction. Because there is such a short-term exposure period (25 out of 840 months of a 70-year lifetime), further evaluation of construction TAC emissions is not warranted. Additionally, the Project would be required to comply with the applicable 2030 General Plan goal and policies, such as Policy ER-14.4 which requires proper maintenance of all construction equipment to be tuned to meet EPA, CARB, and VCAPCD emissions requirements.

Operation

According to CARB's Air Quality and Land Use Handbook, sources that may cause health risks to nearby sensitive receptors include freeways, distribution centers, rail yards, ports, refineries, chrome platers, dry cleaners, and gasoline disposing facilities. The Project would construct a multi-family residential building adjacent to the US-101 freeway. Therefore, a quantitative operational HRA was conducted to assess diesel particulate matter (DPM) from the freeway to the proposed residences.

As shown in **Table 12: Estimated Inhalation Cancer Risk and Chronic Hazards**, for the maximum exposed residential units (MEIR), results of the analysis predicted freeway emissions would result in cancer risks above the significance criterion of 10 per 1 million. The chronic health impact would be less than 1 (0.00315) and would be below the Project-level threshold of 1.

TABLE 12
ESTIMATED INHALATION CANCER RISK AND CHRONIC HAZARDS

Receptor	DPM Concentration at Maximum Exposed Receptor ($\mu g/m^3$)	Cancer Risk at Maximum Exposed Receptor (risk/million)	VCAPCD Cancer Risk Significance Threshold (risk/million)	Exceeds Threshold?	Chronic Non-Cancer Hazard Index	VCAPCD Non-Cancer Hazard Index Significance Threshold?	Exceeds Threshold?
Resident MEIR	1.5E-02	1.36E-05	10	**Yes**	3.15E-03	1.0	No

*Note: See **Appendix B** for AERMOD Output Sheets.*

Applicants for new multifamily or mixed-use developments within 500 feet of US 101 or industrially zoned property shall be required to install high efficiency minimum efficiency reporting value (MERV) filters of MERV 14 or better in the intake of residential ventilation systems. Heating, air conditioning and ventilation (HVAC) systems shall be installed with a fan unit power designed to force air through the MERV 14 filter. To ensure long-term maintenance and replacement of the MERV 14 filters in the individual units, the following shall occur:

(1) The developer, sale, and/or rental representative shall provide notification to all affected tenants/residents of the potential health risk from US 101 and industrial zones for all affected units, per Item (3) below of this section.

(2) For rental units within 500 feet of the US 1010 or any industrially zoned property, the owner/property manager shall maintain and replace MERV 14 filters in accordance with the manufacturer's recommendations. The property owner shall inform renters of increased risk of exposure to diesel particulates from US 101 and industrially zoned properties when windows are opens.

(3) For residential owned units within 500 feet of US 101 or an industrially zoned property, the homeowners' association (HOA) shall incorporate requirements for long-term maintenance in the

covenant conditions and restrictions and inform homeowners of their responsibility to maintain the MERV 14 filter in accordance with the manufacturer's recommendations. The HOA shall inform homeowners of increased risk of exposure to diesel particulates from US 101 when windows are open.

High-efficiency (MERV 14–16 or higher) pleated particle filters for residential uses located near busy roadways would generally be considered the most effective approach to filtration because these filters can remove the very small particles emitted by motor vehicles without emitting ozone, formaldehyde, or other harmful byproducts. Such high-efficiency filtration can reduce indoor PM2.5 and ultrafine particle levels by up to 90 percent (MERV 16) relative to incoming outdoor levels when doors and windows are kept mostly closed. However, only those particles in the airstream actually passing through the filter are removed. Consequently, because most residential occupants of the proposed Project are anticipated to open their windows or doors at least part of the day, any pollutant reduction attained through the use of high-efficiency filters would be compromised based on the amount of time doors and windows are left open. **Table 13: Reduced Estimated Inhalation Cancer Risk**, identified the reduction in risk associated with incorporation of MERV 14 through MERV 16 filters. Limiting particulate infiltration will be accomplished by installing and maintain air filtration systems with efficiencies of MERV 14 or better as defined by the American Society of Heating, Refrigerating and Air-Conditioning Engineers Standard 52.2. These filters are rated to remove a portion of the ultrafine and submicron particles, such as diesel particulate matter emitted from mobile sources. MERV 14 or better air filtration systems are capable of removing 75 percent or more of particles between 0.3 and 1.0 microns, and 90 percent or more of particles between 1.0 and 10.0 microns. As shown in **Table 13,** installation of MERV filters with a minimum rating of 14 would reduce cancer risk impacts to levels below the significance threshold. Thus, the cancer and chronic risk for residential receptors due would not be considered significant for all residential receptors at the Project site with installation of MERV filters with a minimum rating of 14.

TABLE 13
REDUCED ESTIMATED INHALATION CANCER RISK

Receptor	MERV 14	MERV 15	MERV 16
Resident MEIR	5.18E-06	4.65E-06	4.12E-06
Exceeds VCAPCD Cancer Risk Threshold (10 in 1 million)?	**No**	**No**	**No**

*Note: See **Appendix B** for calculations.*

GREENHOUSE GAS EMISSIONS

In light of the lack of a specific GHG threshold or qualified GHG reduction plan recommended or adopted by the City or VCAPCD, project characteristics are compared to applicable state, regional, and local policies aimed at GHG emission reduction. These include the CalGreen Standards, 2022 Scoping Plan Update, City of Oxnard Climate Action and Adaptation Plan; and Connect SoCal (2020 – 2045 Regional Transportation Plan/Sustainable Communities Strategy).

The forecasting of construction-related GHG emissions requires assumptions regarding the timing of construction as the emission factors for some of the Project's construction-related GHG emission sources decline over time. As shown in **Table 14: Construction GHG Emissions**, total construction emissions would be 1,761 metric tons of CO2e (MTCO2e). One-time, short-term emissions are converted to average annual emissions by amortizing them over the service life of a building. For buildings in general, it is reasonable to look at a 30-year time frame because this is a typical interval before a new building requires its first major renovation.[17] As shown in **Table 14**, when amortized over an average 30-year Project lifetime, average annual construction emissions from the Project would be 59 MTCO2e per year.

TABLE 14
CONSTRUCTION GHG EMISSIONS

Construction Phase	MTCO2e/Year
2025	555
2026	731
2027	475
Total Construction Emissions	**1,761**
30-Year Annual Amortized Rate	**59**

*Refer to **Appendix A**, for overall construction emissions.*
Notes: GHG = greenhouse gas; MTCO2e = metric tons of carbon dioxide equivalent.

Operation of the Project has the potential to generate GHG emissions through vehicle trips traveling to and from the Project site. In addition, emissions would result from area sources on site, such as natural gas combustion, landscaping equipment, and use of consumer products. Emissions from mobile and area sources and indirect emissions from energy and water use, wastewater, as well as waste management would occur every year after full development of the uses allowed by the Project. Operational Project emissions from area sources, energy sources, mobile sources, solid waste, and water and wastewater conveyance are shown in **Table 15: Operational GHG Emissions** below. As shown in **Table 15**, annual operational emissions from the Project would be 1,794 MTCO2e per year.

17 International Energy Agency (IEA), Energy Efficiency Requirements in Building Codes, Energy Efficiency Policies for New Buildings, IEA Information Paper (2008).

TABLE 15 OPERATIONAL GHG EMISSIONS	
Source	Unmitigated MTCO2e per year
Construction (amortized)	59
Mobile	1,217
Area	4
Energy	433
Water	27
Waste	54
Total	**1,794**

*Refer to **Appendix A**, for maximum annual operation emissions.*
Abbreviation: MTCO2e = metric tons of carbon dioxide emissions.

Conflict with Applicable Greenhouse Gas Reduction Plans, Policies, or Regulations

There are no federal, State, or local quantitative adopted thresholds of significance for addressing a project's GHG emissions. In the absence of any adopted, numeric threshold, this analysis evaluates the significance of a project by considering whether the project conflicts with applicable regulations or requirements adopted to implement a Statewide, regional, or local plan. The following analysis describes the extent the Project complies with the regulations and policies outlined in the City's CAP.

Consistency with Applicable Plans and Policies

The proposed Project is required to comply with Title 13-Section 2449 of the CCR and the CalRecycle Sustainable (Green) Building Program regulations, which include implementation of standard control measures for equipment emissions. Adherence to these regulations, including the implementation of Best Available Control Measures (BACMs) is a standard requirement for any construction or ground-disturbance activity occurring within the Basin.

BACMs include, but are not limited to, requirements that the project proponent utilize only low sulfur fuel (i.e., having a sulfur content of 15 ppm by weight or less); ensure off-road vehicles (i.e., self-propelled diesel fueled vehicles 25 horsepower and up that were not designed to be driven on road) limit vehicle idling to five minutes or less; register and label vehicles in accordance with the ARB Diesel Off-Road Online Reporting System; restrict the inclusion of older vehicles into fleets; and retire, replace, or repower older engines or install Verified Diesel Emission Control Strategies (i.e. exhaust retrofits). Additionally, the construction contractor will recycle/reuse at least 50 percent of the construction material (including, but not limited to, proposed aggregate base, soil, mulch, vegetation, concrete, lumber, metal, and cardboard) and use "Green Building Materials," such as those materials that are rapidly renewable or resource efficient, and recycled and manufactured in an environmentally friendly way, for at least 10 percent of the project, in accordance with CalRecycle regulations.

Long-term operational emissions typically include emissions from use of consumer products, energy and water usage, vehicles and land use emissions.

The Project is committed to meeting the requirements of the CALGreen Code by incorporating strategies such as low-flow toilets, low-flow faucets and other energy and resource conservation measures. The Project would comply with applicable energy, water, and waste efficiency measures specified in the Title 24 Building Energy Efficiency Standards and CALGreen standards.

2022 Scoping Plan Update

As discussed above, jurisdictions that want to take meaningful climate action (such as preparing a non-CEQA-qualified CAP or as individual measures) aligned with the State's climate goals in the absence of a CEQA-qualified CAP should also look to the three priority areas (transportation electrification, VMT reduction, and building decarbonization). To assist local jurisdictions, the 2022 Scoping Plan Update presents a non-exhaustive list of impactful GHG reduction strategies that can be implemented by local governments within the three priority areas (Priority GHG Reduction Strategies for Local Government Climate Action Priority Areas).[18] A detailed assessment of the applicable goals, plans, policies implemented by the City which would support the GHG reduction strategies in the three priority areas is provided below. In addition, further details are provided regarding the correlation between these reduction strategies and applicable actions included in Table 2-1 (page 72) of the Scoping Plan (Actions for the Scoping Plan Scenario).

Transportation Electrification

The priority GHG reduction strategies for local government climate action related to transportation electrification are discussed below and would support the Scoping Plan action to have 100 percent of all new passenger vehicles to be zero-emission by 2035 (see Table 2-1 of the Scoping Plan).

- **Convert local government fleets to zero emission vehicles (ZEV)**

The CARB approved the Advanced Clean Cars II rule which codifies Executive Order N-79-20 and requires 100 percent of new cars and light trucks sold in California be zero-emission vehicles by 2035. The State has also adopted AB 2127, which requires the CEC to analyze and examine charging needs to support California's EVs in 2030. This report would help decision-makers allocate resources to install new EV chargers where they are needed most.

The City's goals of converting the municipal fleet to zero emissions and installation of EV chargers throughout the City would be consistent with the Scoping Plan goals of the transitioning to EVs. Although this measure mainly applies to City fleet, the Project would be designed to provide approximately 175 EV stalls, over 50 percent of the total parking space provided by the proposed development.

18 Table 1 of Appendix D, 2022 Scoping Plan Update, November 2022.

- **Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as building standards that exceed state building codes, permit streamlining, infrastructure siting, consumer education, preferential parking policies, and ZEV readiness plans**

The State has adopted AB 1236 and AB 970, which require cities to adopt streamline permitting procedures for EV charging stations. This requires most new construction to designate 30 percent of new parking spaces as capable of supporting future electric vehicle supply equipment (EVSE). This would exceed the CALGreen 2022 requirements of 20 percent of new parking spaces as EV capable. The ordinance also requires new construction to install EVSE at 10 percent of total parking spaces. This requirement also exceeds the CALGreen 2022 requirements of installing EVSE for 25 percent of EV capable parking spaces which is approximately five percent of total parking spaces.

Although this measure mainly applies to City fleet, the Project would be designed to provide approximately 175 EV stalls, over 50 percent of the total parking space provided by the proposed development.

- **Increase access to public transit by increasing density of development near transit, improving transit service by increasing service frequency, creating bus priority lanes, reducing or eliminating fares, microtransit, etc.**
- **Increase public access to clean mobility options by planning for and investing in electric shuttles, bike share, car share, and walking**
- **Amend zoning or development codes to enable mixed-use, walkable, transit-oriented, and compact infill development (such as increasing the allowable density of a neighborhood)**
- **Preserve natural and working lands by implementing land use policies that guide development toward infill areas and do not convert "greenfield" land to urban uses (e.g., green belts, strategic conservation easements).**

These reduction strategies are supported through implementation of SB 375 which requires integration of planning processes for transportation, land-use and housing and generally encourages jobs/housing proximity, promote transit-oriented development (TOD), and encourages high-density residential/ commercial development along transit corridors. To implement SB 375 and reduce GHG emissions by correlating land use and transportation planning, SCAG adopted the 2020–2045 RTP/SCS, also referred to as Connect SoCal. The 2020–2045 RTP/SCS' "Core Vision" prioritizes the maintenance and management of the region's transportation network, expanding mobility choices by co-locating housing, jobs, and transit, and increasing investment in transit and complete streets. Please refer below for additional discussion of consistency with the 2020-2045 RTP/SCS.

The Project represents an infill development within an existing urbanized area that would concentrate new development consistent with the overall growth pattern encouraged in the RTP/SCS. The Project's convenient access to public transit and opportunities for walking and biking would result in a reduction of vehicle trips, vehicle miles traveled (VMT), and GHG emissions. Specifically, the Project site is located

within walking distance of existing residential and commercial uses. The Project site is served by the City of Oxnard Bikeway system, with Class II bike lanes located along Gonzales Road, Rose Avenue, Solar Drive, and a portion of Lockwood Street east of the Outlet Center Drive. These Class II bike lanes connect the Project to commercial and employment areas east and west of the Project. The City of Oxnard is also served by the Gold Coast Transit. Within the project vicinity, #4A Route (North Oxnard), #4B Route (North Oxnard), #15 Route (Esplanade-El Rio-St. Johns Medical Center), #17 Route (Esplanade – St. Johns Medical Center – Oxnard College), and #19 Route (OTC – 5th – Gonzales Road) provides fixed route bus service on Gonzales Road. Existing bus stops with benches are located on both sides of Gonzales Road and Rose Avenue, less than 0.5 miles from the Project site. Therefore, the Project would be consistent with these reduction strategies.

City of Oxnard Climate Action and Adaptation Plan

Table 16: Project Consistency with Applicable CAAP Strategies summarize the Project's consistency with applicable GHG reductions from local strategies listed in the CAAP. As shown therein, the Proposed Project would be consistent with the GHG emission reduction strategies contained in the City's CAAP.

TABLE 16
PROJECT CONSISTENCY WITH APPLICABLE CAAP STRATEGIES

Action	Project Consistency
Green Building (B)	
• B2: Electrify Buildings	**Consistent.** The Project would be designed and operated to meet the applicable requirements of CALGreen (Title 24, Part 6) requirements for electrification of new buildings.
Transportation (T)	
• T1: Expand Zero Emission Vehicle (ZEV) Charging and Fueling Infrastructure	**Consistent**. The Project would be designed to provide approximately 175 EV stalls, over 50 percent of the total parking space provided by the proposed development.
Water Conservation and Reuse (W)	
• W1: Increase Water Conservation and Reuse	**Consistent**. The Project would incorporate water conservation features, such as low-flow fixtures, required pursuant to the current California Plumbing Code and CALGreen. Furthermore, current CAlGreen requirements require a 20 percent increase in indoor water use efficiency relative to previous building requirements.
Waste Reduction and Recycling (R)	
• R1: Recycling and Organic Waste Diversion	**Consistent**. The Project would be subject to the requirements of the statewide commercial recycling program, which established a statewide goal of diverting at least 75 percent of solid waste from landfills by 2020. Compliance with existing City and State programs would achieve consistency with this measure.

2020 – 2045 Regional Transportation Plan/Sustainable Communities Strategy

The SCAG's 2020-2045 RTP/SCS is forecast to help California reach its GHG reduction goals. According to the 2020-2045 RTP/SCS, the updated target for the SCAG region is 19 percent below 2005 per capita emissions levels by 2035. The revised 2035 target is higher than the previous CARB target of 13 percent for the SCAG region. The 2020-2045 RTP/SCS includes implementation strategies for focusing growth near destinations and mobility options, promoting diverse housing choices, leveraging technology innovations, supporting implementation of sustainability policies, and promoting a green region. **Table 17: Project Consistency with Applicable SCAG RTP/SCS GHG Emission Reduction Strategies** summarize the Project's consistency with applicable strategies and actions. As shown therein, the Proposed Project would be consistent with the GHG emission reduction strategies contained in the 2020-2045 RTP/SCS.

TABLE 17
PROJECT CONSISTENCY WITH APPLICABLE SCAG RTP/SCS GHG EMISSION REDUCTION STRATEGIES

Action	Project Consistency
Focus Growth Near Destinations & Mobility Options	
• Emphasize land use patterns that facilitate multimodal access to work, educational and other destinations • Focus on a regional jobs/housing balance to reduce commute times and distances and expand job opportunities near transit and along center-focused main street • Plan for growth near transit investments and support implementation of first/last mile strategies • Promote the redevelopment of underperforming retail developments and other outmoded nonresidential uses • Prioritize infill and redevelopment of underutilized land to accommodate new growth, increase amenities and connectivity in existing neighborhoods • Encourage design and transportation options that reduce the reliance on and number of solo car trips (this could include mixed uses or locating and orienting close to existing destinations) • Identify ways to "right size" parking requirements and promote alternative parking strategies (e.g., shared parking or smart parking)	**Consistent.** The Proposed Project is an infill development that would involve construction of a multi-family residential building. The Project site is located within walking distance of existing residential and commercial uses. Additionally, the Project site is served by the City of Oxnard Bikeway system, with Class II bike lanes located along Gonzales Road, Rose Avenue, Solar Drive, and a portion of Lockwood Street east of the Outlet Center Drive. These Class II bike lanes connect the Project to commercial and employment areas east and west of the Project. The City of Oxnard is also served by the Gold Coast Transit. Within the project vicinity, #4A Route (North Oxnard), #4B Route (North Oxnard), #15 Route (Esplanade-El Rio-St. Johns Medical Center), #17 Route (Esplanade – St. Johns Medical Center – Oxnard College), and #19 Route (OTC – 5th – Gonzales Road) provides fixed route bus service on Gonzales Road. Existing bus stops with benches are located on both sides of Gonzales Road and Rose Avenue, less than 0.5 miles from the Project site. Therefore, the Project would focus growth near destinations and mobility options.
Leverage Technology Innovations	
• Promote low emission technologies such as neighborhood electric vehicles, shared rides hailing, car sharing, bike sharing and scooters by providing supporting and safe infrastructure sch as dedicated lanes, charging and parking/drop-off space • Improve access to services through technology – such as telework and telemedicine as well as other incentives such as a "mobility wallet," an app-based system for storing transit and other multi-modal payments • Identify ways to incorporate "micro-power grids" in communities, for example solar energy, hydrogen fuel cell power storage and power generation	**Consistent**. The Project would be designed and operated to meet the applicable requirements of CALGreen and the City's Green Building Code.
Support Implementation of Sustainability Policies	
• Pursue funding opportunities to support local sustainable development implementation projects that reduce GHG emissions • Support statewide legislation that reduces barriers to new construction and that incentivizes	**Consistent**. The Project would be designed and operated to meet the applicable requirements of CALGreen and the City's Green Building Code. The Project's indoor water use would be minimized by 20 percent. Furthermore, energy use would be reduced by implementing the requirements of current Title 24 standards, including energy-efficient lighting and appliances. Therefore, the Project would support implementation of sustainability policies.
Promote a Green Region	

TABLE 17
PROJECT CONSISTENCY WITH APPLICABLE SCAG RTP/SCS GHG EMISSION REDUCTION STRATEGIES

Action	Project Consistency
• Support development of local climate adaptation and hazard mitigation plans, as well as project implementation that improves community resiliency to climate change and natural hazards • Support local policies for renewable energy production, reduction of urban heat islands and carbon sequestration • Integrate local food production into the regional landscape • Promote more resource efficient development focused on conservation, recycling and reclamation • Preserve, enhance and restore regional wildlife connectivity • Reduce consumption of resource areas, including agricultural land • Identify ways to improve access to public park space	**Consistent**. The Project is an infill development that would involve construction of a multi-family residential building. Because the project is an infill development, it would not interfere with regional wildlife connectivity or convert agricultural land. The Project would comply with Title 24, and CALGreen. Therefore, the Project would support development of a green region.

Cumulative Impacts

To achieve Statewide goals, CARB is in the process of establishing and implementing regulations to reduce Statewide GHG emissions. Currently, there is no generally accepted methodology that exists to determine whether GHG emissions associated with a specific project represent new emissions or existing and/or displaced emissions. Therefore, consistent with CEQA Guidelines Section 15064h(3), this analysis has determined that the Project's contribution to cumulative GHG emission and global climate change would be less than significant if the Project is consistent with the applicable regulatory plans and polices to reduce GHG emissions. Accordingly, the analysis above considered the potential for the Project to contribute to the cumulative impact of global climate change. As stated above, with compliance of regulatory measures and implementation of CALGreen Building Standards, the Project would not conflict with applicable plans including the City's General Plan and CAP. As such, cumulative impacts would not be considered significant during construction and operation.

ENERGY

Construction

During construction, energy would be consumed in the form of electricity associated with the conveyance of water used for dust control, and on a limited basis, powering lights, electronic equipment, or other construction activities necessitating electrical power. Construction activities typically do not involve the consumption of natural gas. Construction would also consume energy in the form of petroleum-based fuels associated with the use of off-road construction vehicles and equipment within the Project site, construction worker travel, haul trips, and delivery trips.

As shown in **Table 18: Summary of Energy Use During Construction** and additionally discussed below, a total of approximately 152 kilowatt-hours (kWh) of electricity, 130,034 gallons of diesel fuel, and 54,850 gallons of gasoline is estimated to be consumed during construction.

TABLE 18
SUMMARY OF ENERGY USE DURING CONSTRUCTION

Fuel Type	Quantity
Electricity	
Water Conveyance	151 kWh
Diesel	
Off-Road Construction Equipment	70,005 gallons
On-Road Motor Vehicles	60,029 gallons
Total	**130,034 gallons**
Gasoline	
Off-Road Construction Equipment	0 gallons
On-Road Motor Vehicles	54,850 gallons
Total	**54,850 gallons**

*Refer to **Appendix C** for Energy Calculation Sheets.*

Electricity

Southern California Edison (SCE) provides electricity to the Project area, including residential, commercial, and industrial uses. As shown in **Table 18**, a total of approximately 151 kWh of electricity is anticipated to be consumed during construction. The electricity demand at any given time would vary throughout the construction period based on the construction activities being performed and would cease upon completion of construction. In 2021, the County consumed 5,242 GWh and SCE consumed 81,129 Gigawatt hours (GWh).[19] The Project's increased demand will be adequately served by the existing SCE electrical facilities. Total electricity consumption in SCE's service areas is forecast to increase by approximately 20,000 GWh between 2018 and 2030.[20] The increase in electricity demand from the Project would represent an insignificant percent increase (i.e., less than a fraction of one percent) compared to overall demand in SCE's service area. Additionally, Title 24 requirements would apply to construction lighting if duration were to exceed 120 days, which includes limits on the wattage allowed per specified area for energy conservation. As such, the demand for electricity during construction would not cause wasteful, inefficient, or unnecessary use of electricity. As a result, the Project would not result in inefficient, or unnecessary consumption of electricity during construction. Accordingly, electricity demand during construction would be less than significant.

19 California Energy Commission, *California Energy Consumption Database*, accessed June 2023, https://ecdms.energy.ca.gov/

20 California Energy Commission, *California Energy Demand 2018 – 2030 Revised Forecast – Figure 49: Historical and Projected Baseline Consumption,* SCE Planning Area, accessed June 2023, https://ecdms.energy.ca.gov/

Transportation Energy

Project construction would consume energy in the form of petroleum-based fuels associated with use of off-road construction vehicles and equipment on the Project site, construction worker travel to and from the Project site, and delivery and haul truck trips (e.g., for deliveries of construction supplies and materials).

The petroleum-based fuel use summary provided in **Table 18** represents the amount of transportation energy that could potentially be consumed during construction based on a conservative set of assumptions. As shown, on- and off-road vehicles would consume an estimated 184,884 gallons of petroleum (130,034 gallons of diesel and 54,850 gallons of gasoline fuel) throughout the Project's construction period For purposes of comparison, the Energy Information Administration (EIA) forecasts a national oil supply of 17.8 million barrels (mb) per day in 2025, which is the first year of construction for the Project.[21] This equates to approximately 272,874 million gallons (mg) per year. Construction of the Project would account for less than 0.01 percent of the projected annual oil supply in 2025.

Due to the relatively short duration of the construction process, and the fact that the extent of fuel consumption is inherent to construction projects of this size and nature, fuel consumption impacts would not be considered excessive or substantial with respect to regional fuel supplies. The energy demands during construction would be typical of construction projects of this size and would not necessitate additional energy facilities or distribution infrastructure. The Project will also comply with Sections 2485 in Title 13 of the California Code of Regulations, which requires the idling of all diesel fueled commercial vehicles be limited to five minutes at any location. As a result, the Project would not result in inefficient, or unnecessary consumption of transportation resources during construction. Accordingly, transportation resource demands during construction would be less than significant.

Operation

During operation of the Project, energy would be consumed for multiple purposes associated with the proposed uses, including, but not limited to, heating/ventilating/air conditioning (HVAC); refrigeration; lighting; and the use of electronics, equipment, and machinery. Energy would also be consumed during operation of the Project in the form of water usage, solid waste disposal, and vehicle trips, among others. As shown in **Table 19: Summary of Annual Energy Use During Operation**, the Project's energy demand would be approximately 1,207,193 kWh of electricity per year, 3,204,669 kBTU of natural gas per year, and 147,163 gallons of transportation fuel per year.

21 U.S. Energy Information Administration, Annual Energy Outlook 2020: Table 11. Petroleum and Other Liquids Supply and Disposition, https://www.eia.gov/outlooks/aeo/data/browser/#/?id=11-AEO2020&cases=ref2020&sourcekey=0, accessed June 2023.

TABLE 19 SUMMARY OF ANNUAL ENERGY USE DURING OPERATION		
Source	**Units**	**Quantity**
Electricity		
Apartments Mid Rise	kWh/yr	795,984
Parking Lot	kWh/yr	0
Enclosed Parking with Elevator	kWh/yr	289,408
Water Conveyance	kWh/yr	121,801
Total Electricity	**kWh/yr**	**1,207,193**
Natural Gas		
Apartments Mid Rise	kBTU/yr	3,204,669
Total Natural gas	**kBTU/yr**	**3,204,669**
Transportation Energy		
Diesel	Gallons/yr	20,416
Gasoline	Gallons/yr	126,747
Total Fuel	**Gallons/yr**	**147,163**

Notes: kWh/yr = kilowatt-hours per year; kBtu/yr = thousand British Thermal Units per year.
Electricity and Natural Gas for the Project is total yearly operational usage. Mobile gasoline and diesel usage were calculated using CalEEMod output data
*Refer to **Appendix C** for Energy Calculation Sheets.*

Electricity

As shown in **Table 19**, the Project would result in a demand for electricity totaling 1,207,193 kWh (1.2 GWh) per year. SCE estimates that electricity consumption within its planning area will be approximately 125,000 GWh annually by 2028, when the Project would be fully built out.[22] The Project would account for less than 0.01 percent of the 2028 annual consumption in SCE's planning area. As such, the Project would account for a negligible portion of the projected annual consumption in SCE's planning area.

Natural Gas

Natural gas service would be provided to the Project site by Southern California Gas Company (SoCalGas). As shown in **Table 19** above, buildout of the Project is projected to generate an on-site demand for natural gas totaling 3,204,669 kBTU or 3.2 million cubic feet (MMcf) per year. Based on the 2020 California Gas Report, the California Energy and Electric Utilities estimates natural gas supply within SoCalGas' planning area will be approximately 1,253,775 million cubic feet (MMcf) per year in 2028.[23] The proposed Project would account for less than 0.01 percent of the 2028 annual forecasted supply in SoCalGas' planning area. Accordingly, natural gas demand during operation would be less than significant.

22 CEC, Demand Analysis Office, California Energy Demand 2018-2030 Revised Forecast, https://efiling.energy.ca.gov/getdocument.aspx?tn=223244. Accessed June 2023.

23 California Gas and Electric Utilities, 2022 California Gas Report, https://www.socalgas.com/regulatory/cgr. Accessed June 2023.

Transportation Energy

As shown in **Table 19** above, buildout of the Project is projected to generate a demand of 147,163 gallons of transportation fuel. Based on fuel consumption obtained from CARB's California Emissions Factor Mode, Version 2021 (EMFAC2021), approximately 40.5 million gallons of diesel and approximately 239.1 million gallons of gasoline will be consumed from vehicle trips in Ventura County in 2028.[24] Operation of the Project would account for less than 0.01 percent of the projected annual oil supply in 2028. The Project would not result in inefficient, or unnecessary consumption of energy resources for transportation during operation and the impact of the Project would be less than significant.

Based on the analysis presented above and the calculations provided in this report, the Project would not result in the wasteful, inefficient, or unnecessary consumption of energy and thus would not generate significant impacts with regard to energy use and consumption.

24 California Air Resources Board, Emissions Inventory, https://arb.ca.gov/emfac/emissions-inventory/1c38c7a983b2a1fbc3c255ac07f12367b8554cc9. Accessed June 2023.

CERTIFICATION

The contents of this Air Quality, Health Risk Assessment, Greenhouse Gas, and Energy analysis represent an accurate depiction of the environment and impacts associated with the proposed Lockwood Development 3 Project. The information contained in this noise study is based on the best available information at the time of preparation. If you have any questions, please contact me directly at (818) 415-7274.

Sincerely,

Christ Kirikian, INCE
Principal | Director of Air Quality & Acoustics
CKirikian@meridianconsultantsllc.com

APPENDIX A

CalEEMod Air Quality Emission Output Files

Lockwood Development III Project v2 Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Lockwood Development III Project v2
Construction Start Date	3/1/2025
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.20
Precipitation (days)	21.2
Location	34.22253425337162, -119.14962451486916
County	Ventura
City	Oxnard
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3438
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.14

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

Apartments Mid Rise	234	Dwelling Unit	5.17	224,640	35,961	—	704	—
Parking Lot	165	Space	0.00	0.00	0.00	—	—	—
Enclosed Parking with Elevator	196	Space	0.00	78,400	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.	3.43	32.2	19.5	38.5	0.05	0.73	3.68	4.35	0.67	0.96	1.62	—	8,472	8,472	0.24	0.32	14.2	8,588
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.02	3.38	31.7	31.2	0.05	1.37	2.96	3.41	1.26	0.96	1.62	—	6,138	6,138	0.25	0.30	0.37	6,233
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.60	4.76	8.76	17.2	0.02	0.33	2.08	2.37	0.30	0.50	0.75	—	4,347	4,347	0.13	0.20	3.98	4,415
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.29	0.87	1.60	3.14	< 0.005	0.06	0.38	0.43	0.06	0.09	0.14	—	720	720	0.02	0.03	0.66	731
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Threshol	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	—	—	Yes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshol d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	—	—	Yes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.36	2.02	16.7	26.1	0.03	0.73	2.96	3.41	0.67	0.96	1.62	—	6,257	6,257	0.24	0.30	14.2	6,365
2026	2.25	1.92	12.0	25.2	0.03	0.40	2.96	3.35	0.36	0.71	1.06	—	6,184	6,184	0.15	0.28	12.9	6,285
2027	3.43	32.2	19.5	38.5	0.05	0.67	3.68	4.35	0.61	0.88	1.49	—	8,472	8,472	0.22	0.32	14.1	8,588
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.02	3.38	31.7	31.2	0.05	1.37	2.96	3.41	1.26	0.96	1.62	—	6,138	6,138	0.25	0.30	0.37	6,233
2026	2.24	1.92	12.3	24.1	0.03	0.40	2.96	3.35	0.36	0.71	1.06	—	6,068	6,068	0.16	0.29	0.33	6,158
2027	2.16	1.84	11.7	23.3	0.03	0.35	2.96	3.31	0.32	0.71	1.02	—	6,002	6,002	0.15	0.29	0.30	6,091
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.42	1.20	8.73	14.3	0.02	0.33	1.56	1.89	0.30	0.43	0.73	—	3,305	3,305	0.13	0.14	2.79	3,353
2026	1.60	1.37	8.76	17.2	0.02	0.28	2.08	2.37	0.25	0.50	0.75	—	4,347	4,347	0.11	0.20	3.98	4,415
2027	1.07	4.76	5.93	11.6	0.02	0.19	1.32	1.51	0.17	0.31	0.49	—	2,827	2,827	0.07	0.13	2.24	2,869
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	0.26	0.22	1.59	2.61	< 0.005	0.06	0.28	0.34	0.06	0.08	0.13	—	547	547	0.02	0.02	0.46	555
2026	0.29	0.25	1.60	3.14	< 0.005	0.05	0.38	0.43	0.05	0.09	0.14	—	720	720	0.02	0.03	0.66	731
2027	0.20	0.87	1.08	2.12	< 0.005	0.03	0.24	0.27	0.03	0.06	0.09	—	468	468	0.01	0.02	0.37	475

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.	6.83	11.5	4.21	47.7	0.08	0.13	7.46	7.59	0.13	1.89	2.02	110	10,583	10,693	11.6	0.39	25.7	11,123
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.96	9.76	4.43	30.8	0.08	0.12	7.46	7.58	0.11	1.89	2.01	110	10,268	10,378	11.6	0.41	2.23	10,792
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.58	10.4	4.26	37.0	0.08	0.12	7.09	7.21	0.12	1.80	1.92	110	9,958	10,068	11.6	0.39	11.5	10,484
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.02	1.89	0.78	6.75	0.01	0.02	1.29	1.32	0.02	0.33	0.35	18.2	1,649	1,667	1.92	0.06	1.91	1,736
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	25.0	25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Threshold	—	25.0	25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	4.91	4.58	3.24	30.7	0.08	0.05	7.46	7.51	0.05	1.89	1.94	—	7,832	7,832	0.33	0.33	24.1	7,962
Area	1.83	6.91	0.15	16.7	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	49.5	49.5	< 0.005	< 0.005	—	49.7
Energy	0.09	0.05	0.81	0.34	0.01	0.07	—	0.07	0.07	—	0.07	—	2,609	2,609	0.19	0.01	—	2,618
Water	—	—	—	—	—	—	—	—	—	—	—	17.0	92.4	109	1.75	0.04	—	166
Waste	—	—	—	—	—	—	—	—	—	—	—	93.2	0.00	93.2	9.32	0.00	—	326
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.61	1.61
Total	6.83	11.5	4.21	47.7	0.08	0.13	7.46	7.59	0.13	1.89	2.02	110	10,583	10,693	11.6	0.39	25.7	11,123
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.86	4.52	3.62	30.5	0.07	0.05	7.46	7.51	0.05	1.89	1.94	—	7,566	7,566	0.36	0.35	0.63	7,681
Area	0.00	5.19	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.09	0.05	0.81	0.34	0.01	0.07	—	0.07	0.07	—	0.07	—	2,609	2,609	0.19	0.01	—	2,618
Water	—	—	—	—	—	—	—	—	—	—	—	17.0	92.4	109	1.75	0.04	—	166
Waste	—	—	—	—	—	—	—	—	—	—	—	93.2	0.00	93.2	9.32	0.00	—	326
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.61	1.61
Total	4.96	9.76	4.43	30.8	0.08	0.12	7.46	7.58	0.11	1.89	2.01	110	10,268	10,378	11.6	0.41	2.23	10,792
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	4.58	4.27	3.37	28.4	0.07	0.05	7.09	7.14	0.05	1.80	1.85	—	7,232	7,232	0.33	0.33	9.91	7,348
Area	0.90	6.04	0.08	8.24	< 0.005	< 0.005	—	< 0.005	0.01	—	0.01	0.00	24.4	24.4	< 0.005	< 0.005	—	24.5
Energy	0.09	0.05	0.81	0.34	0.01	0.07	—	0.07	0.07	—	0.07	—	2,609	2,609	0.19	0.01	—	2,618
Water	—	—	—	—	—	—	—	—	—	—	—	17.0	92.4	109	1.75	0.04	—	166
Waste	—	—	—	—	—	—	—	—	—	—	—	93.2	0.00	93.2	9.32	0.00	—	326
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.61	1.61
Total	5.58	10.4	4.26	37.0	0.08	0.12	7.09	7.21	0.12	1.80	1.92	110	9,958	10,068	11.6	0.39	11.5	10,484
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.84	0.78	0.62	5.18	0.01	0.01	1.29	1.30	0.01	0.33	0.34	—	1,197	1,197	0.05	0.05	1.64	1,217
Area	0.16	1.10	0.01	1.50	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	4.04	4.04	< 0.005	< 0.005	—	4.06
Energy	0.02	0.01	0.15	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	432	432	0.03	< 0.005	—	433
Water	—	—	—	—	—	—	—	—	—	—	—	2.81	15.3	18.1	0.29	0.01	—	27.4
Waste	—	—	—	—	—	—	—	—	—	—	—	15.4	0.00	15.4	1.54	0.00	—	54.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.27	0.27
Total	1.02	1.89	0.78	6.75	0.01	0.02	1.29	1.32	0.02	0.33	0.35	18.2	1,649	1,667	1.92	0.06	1.91	1,736

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

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

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

Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
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	0.11	0.09	0.87	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
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	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
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	0.09	1.00	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	224	224	0.01	0.01	0.02	226
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	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.17	6.17	< 0.005	< 0.005	0.01	6.26
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	—	1.02	1.02	< 0.005	< 0.005	< 0.005	1.04

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. Grading (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.07	1.74	16.3	17.9	0.03	0.72	—	0.72	0.66	—	0.66	—	2,959	2,959	0.12	0.02	—	2,970
Dust From Material Movement	—	—	—	—	—	—	1.84	1.84	—	0.89	0.89	—	—	—	—	—	—	—
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	2.07	1.74	16.3	17.9	0.03	0.72	—	0.72	0.66	—	0.66	—	2,959	2,959	0.12	0.02	—	2,970
Dust From Material Movement	—	—	—	—	—	—	1.84	1.84	—	0.89	0.89	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.22	2.05	2.26	< 0.005	0.09	—	0.09	0.08	—	0.08	—	373	373	0.02	< 0.005	—	374

Dust From Material Movement	—	—	—	—	—	—	0.23	0.23	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	0.41	< 0.005	0.02	—	0.02	0.02	—	0.02	—	61.7	61.7	< 0.005	< 0.005	—	62.0
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.94	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	201	201	0.01	0.01	0.81	204
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	0.01	0.01	0.35	0.08	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	264	264	0.01	0.04	0.59	277
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.86	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	0.01	0.01	0.02	194
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	0.01	0.01	0.36	0.09	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	264	264	0.01	0.04	0.02	276
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	24.3	24.3	< 0.005	< 0.005	0.04	24.7
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	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	33.2	33.2	< 0.005	0.01	0.03	34.8

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.03	4.03	< 0.005	< 0.005	0.01	4.09
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	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.50	5.50	< 0.005	< 0.005	0.01	5.77

3.5. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
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	0.60	0.50	4.62	5.77	0.01	0.19	—	0.19	0.18	—	0.18	—	1,060	1,060	0.04	0.01	—	1,064
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	0.11	0.09	0.84	1.05	< 0.005	0.03	—	0.03	0.03	—	0.03	—	176	176	0.01	< 0.005	—	176

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	0.96	0.86	0.89	12.7	0.00	0.00	2.63	2.63	0.00	0.62	0.62	—	2,692	2,692	0.12	0.10	10.9	2,736
Vendor	0.06	0.03	1.46	0.45	0.01	0.02	0.32	0.34	0.02	0.09	0.11	—	1,167	1,167	0.02	0.18	3.30	1,224
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	0.95	0.84	1.08	11.5	0.00	0.00	2.63	2.63	0.00	0.62	0.62	—	2,573	2,573	0.13	0.10	0.28	2,606
Vendor	0.06	0.03	1.51	0.47	0.01	0.02	0.32	0.34	0.02	0.09	0.11	—	1,168	1,168	0.02	0.18	0.09	1,221
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	0.42	0.37	0.47	5.08	0.00	0.00	1.15	1.15	0.00	0.27	0.27	—	1,146	1,146	0.06	0.04	2.07	1,163
Vendor	0.03	0.01	0.67	0.20	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	516	516	0.01	0.08	0.63	540
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	0.07	0.09	0.93	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	190	190	0.01	0.01	0.34	193
Vendor	< 0.005	< 0.005	0.12	0.04	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	85.5	85.5	< 0.005	0.01	0.10	89.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. 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	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
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	0.91	0.77	7.04	9.26	0.02	0.27	—	0.27	0.25	—	0.25	—	1,712	1,712	0.07	0.01	—	1,718
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	0.17	0.14	1.28	1.69	< 0.005	0.05	—	0.05	0.05	—	0.05	—	283	283	0.01	< 0.005	—	284
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	0.92	0.82	0.79	11.8	0.00	0.00	2.63	2.63	0.00	0.62	0.62	—	2,639	2,639	0.04	0.10	9.90	2,679
Vendor	0.05	0.03	1.38	0.43	0.01	0.02	0.32	0.34	0.01	0.09	0.10	—	1,147	1,147	0.01	0.17	2.98	1,201
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	0.92	0.81	0.99	10.7	0.00	0.00	2.63	2.63	0.00	0.62	0.62	—	2,523	2,523	0.04	0.10	0.26	2,554
Vendor	0.05	0.03	1.44	0.45	0.01	0.02	0.32	0.34	0.01	0.09	0.10	—	1,148	1,148	0.01	0.17	0.08	1,198
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	0.65	0.58	0.70	7.64	0.00	0.00	1.85	1.85	0.00	0.43	0.43	—	1,815	1,815	0.03	0.07	3.05	1,840
Vendor	0.03	0.02	1.02	0.31	0.01	0.01	0.23	0.24	0.01	0.06	0.07	—	820	820	0.01	0.12	0.92	857
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	0.12	0.11	0.13	1.39	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	301	301	< 0.005	0.01	0.51	305
Vendor	0.01	< 0.005	0.19	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	< 0.005	0.02	0.15	142
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 (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	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.43	3.93	5.42	0.01	0.14	—	0.14	0.13	—	0.13	—	1,004	1,004	0.04	0.01	—	1,007
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.72	0.99	< 0.005	0.03	—	0.03	0.02	—	0.02	—	166	166	0.01	< 0.005	—	167
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	0.89	0.79	0.79	11.1	0.00	0.00	2.63	2.63	0.00	0.62	0.62	—	2,594	2,594	0.04	0.10	8.99	2,632
Vendor	0.05	0.03	1.32	0.42	0.01	0.02	0.32	0.34	0.01	0.09	0.10	—	1,125	1,125	0.01	0.17	2.62	1,178
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.89	0.79	0.89	9.98	0.00	0.00	2.63	2.63	0.00	0.62	0.62	—	2,479	2,479	0.04	0.10	0.23	2,510
Vendor	0.05	0.02	1.37	0.43	0.01	0.02	0.32	0.34	0.01	0.09	0.10	—	1,126	1,126	0.01	0.17	0.07	1,176
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.37	0.33	0.37	4.19	0.00	0.00	1.09	1.09	0.00	0.25	0.25	—	1,046	1,046	0.02	0.04	1.62	1,060
Vendor	0.02	0.01	0.57	0.18	< 0.005	0.01	0.13	0.14	< 0.005	0.04	0.04	—	471	471	0.01	0.07	0.47	493

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	0.07	0.06	0.07	0.77	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	173	173	< 0.005	0.01	0.27	176
Vendor	< 0.005	< 0.005	0.10	0.03	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	78.0	78.0	< 0.005	0.01	0.08	81.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (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	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.91	1.31	< 0.005	0.04	—	0.04	0.04	—	0.04	—	199	199	0.01	< 0.005	—	199
Paving	—	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	0.02	0.02	0.17	0.24	< 0.005	0.01	—	0.01	0.01	—	0.01	—	32.9	32.9	< 0.005	< 0.005	—	33.0

Paving	—	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	0.07	0.06	0.06	0.82	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	193	193	< 0.005	0.01	0.67	196
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	24.5	24.5	< 0.005	< 0.005	0.04	24.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.05	4.05	< 0.005	< 0.005	0.01	4.11
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

3.13. 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	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	29.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.11	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.6	17.6	< 0.005	< 0.005	—	17.6
Architectural Coatings	—	3.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	2.91	2.91	< 0.005	< 0.005	—	2.92
Architectural Coatings	—	0.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.16	0.16	2.21	0.00	0.00	0.53	0.53	0.00	0.12	0.12	—	519	519	0.01	0.02	1.80	526
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.26	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	65.7	65.7	< 0.005	< 0.005	0.10	66.6
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	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.9	10.9	< 0.005	< 0.005	0.02	11.0
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

4.1. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	4.91	4.58	3.24	30.7	0.08	0.05	7.46	7.51	0.05	1.89	1.94	—	7,832	7,832	0.33	0.33	24.1	7,962
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

Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	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	4.91	4.58	3.24	30.7	0.08	0.05	7.46	7.51	0.05	1.89	1.94	—	7,832	7,832	0.33	0.33	24.1	7,962
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	4.86	4.52	3.62	30.5	0.07	0.05	7.46	7.51	0.05	1.89	1.94	—	7,566	7,566	0.36	0.35	0.63	7,681
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
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	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	4.86	4.52	3.62	30.5	0.07	0.05	7.46	7.51	0.05	1.89	1.94	—	7,566	7,566	0.36	0.35	0.63	7,681
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.84	0.78	0.62	5.18	0.01	0.01	1.29	1.30	0.01	0.33	0.34	—	1,197	1,197	0.05	0.05	1.64	1,217
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
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	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	0.84	0.78	0.62	5.18	0.01	0.01	1.29	1.30	0.01	0.33	0.34	—	1,197	1,197	0.05	0.05	1.64	1,217

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,160	1,160	0.07	0.01	—	1,165
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	422	422	0.03	< 0.005	—	423
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,582	1,582	0.10	0.01	—	1,588
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,160	1,160	0.07	0.01	—	1,165
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	422	422	0.03	< 0.005	—	423
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,582	1,582	0.10	0.01	—	1,588
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	192	192	0.01	< 0.005	—	193
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	69.8	69.8	< 0.005	< 0.005	—	70.1
Total	—	—	—	—	—	—	—	—	—	—	—	—	262	262	0.02	< 0.005	—	263

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.09	0.05	0.81	0.34	0.01	0.07	—	0.07	0.07	—	0.07	—	1,027	1,027	0.09	< 0.005	—	1,030
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
Enclosed Parking with Elevator	0.00	0.00	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	0.09	0.05	0.81	0.34	0.01	0.07	—	0.07	0.07	—	0.07	—	1,027	1,027	0.09	< 0.005	—	1,030
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.09	0.05	0.81	0.34	0.01	0.07	—	0.07	0.07	—	0.07	—	1,027	1,027	0.09	< 0.005	—	1,030
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
Enclosed Parking with Elevator	0.00	0.00	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	0.09	0.05	0.81	0.34	0.01	0.07	—	0.07	0.07	—	0.07	—	1,027	1,027	0.09	< 0.005	—	1,030
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.02	0.01	0.15	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	170	170	0.02	< 0.005	—	171
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
Enclosed Parking with Elevator	0.00	0.00	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	0.02	0.01	0.15	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	170	170	0.02	< 0.005	—	171

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	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	4.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.83	1.72	0.15	16.7	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.5	49.5	< 0.005	< 0.005	—	49.7
Total	1.83	6.91	0.15	16.7	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	49.5	49.5	< 0.005	< 0.005	—	49.7

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	4.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	5.19	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	0.88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.16	0.15	0.01	1.50	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.04	4.04	< 0.005	< 0.005	—	4.06
Total	0.16	1.10	0.01	1.50	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	4.04	4.04	< 0.005	< 0.005	—	4.06

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	17.0	92.4	109	1.75	0.04	—	166
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	17.0	92.4	109	1.75	0.04	—	166
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	17.0	92.4	109	1.75	0.04	—	166
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	17.0	92.4	109	1.75	0.04	—	166
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	2.81	15.3	18.1	0.29	0.01	—	27.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	2.81	15.3	18.1	0.29	0.01	—	27.4

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	93.2	0.00	93.2	9.32	0.00	—	326
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	93.2	0.00	93.2	9.32	0.00	—	326
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	93.2	0.00	93.2	9.32	0.00	—	326
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	93.2	0.00	93.2	9.32	0.00	—	326

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	15.4	0.00	15.4	1.54	0.00	—	54.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	15.4	0.00	15.4	1.54	0.00	—	54.0

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.61	1.61
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.61	1.61
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.61	1.61
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.61	1.61
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartment Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.27	0.27
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.27	0.27

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. 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)

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	3/1/2025	3/14/2025	5.00	10.0	—
Grading	Grading	3/15/2025	5/19/2025	5.00	46.0	—
Building Construction	Building Construction	5/20/2025	8/2/2027	5.00	575	—
Paving	Paving	5/27/2027	8/2/2027	5.00	48.0	—
Architectural Coating	Architectural Coating	5/27/2027	8/2/2027	5.00	48.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29

Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	3.80	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	201	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	37.9	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	40.3	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

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	454,896	151,632	0.00	0.00	—

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)
Grading	—	1,396	46.0	0.00	—
Paving	0.00	0.00	0.00	0.00	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
Apartments Mid Rise	—	0%
Parking Lot	0.00	100%
Enclosed Parking with Elevator	0.00	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

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

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
Apartments Mid Rise	1,175	1,061	883	407,702	10,560	9,532	7,940	3,664,270
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enclosed Parking with Elevator	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)
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	234
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)
454896	151,632	0.00	0.00	—

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	795,984	532	0.0330	0.0040	3,204,669
Parking Lot	0.00	532	0.0330	0.0040	0.00
Enclosed Parking with Elevator	289,408	532	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)
Apartments Mid Rise	8,869,401	568,196
Parking Lot	0.00	0.00
Enclosed Parking with Elevator	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	173	—

Parking Lot	0.00	—
Enclosed Parking with Elevator	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
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

5.16. 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. 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)

8. User Changes to Default Data

Screen	Justification
Land Use	Project would include podium, tuck under and uncovered parking.
Construction: Construction Phases	Based on estimated construction schedule between March 2025 through August 2027. Project site is currently vacant.
Construction: Dust From Material Movement	Approximately 6,366 cubic yards of cut and 7,762 cubic yards of fill. This results in a net import of 1,396 cubic yards of soil.
Operations: Vehicle Data	Trip rates calculated based on Traffic and Circulation Study.

APPENDIX B

AERMOD Output Sheets

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.2.0
** Lakes Environmental Software Inc.
** Date: 6/22/2023
** File:
C:\Users\ckirikian\Documents\Lockwood\HRA\Lockwood3\Lockwood3.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE
C:\Users\ckirikian\Documents\Lockwood\HRA\Lockwood3\Lockwood3.isc
   MODELOPT DFAULT CONC
   AVERTIME 1 PERIOD
   URBANOPT 201879
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL Lockwood3.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ------------------------------------------------------------------
--
** Line Source Represented by Separated Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC 101 South
** PREFIX
** Length of Side = 21.04
** Configuration = Separated
** Emission Rate = 0.00035
** Vertical Dimension = 4.52
** SZINIT = 2.10
** Nodes = 8
** 301179.144, 3789212.371, 20.02, 2.26, 19.18
** 301302.896, 3789163.891, 20.74, 2.26, 19.18
** 301529.987, 3789089.895, 22.40, 2.26, 19.18
```

```
** 301693.289, 3789042.691, 23.00, 2.26, 19.18
** 301897.416, 3789010.796, 22.00, 2.26, 19.18
** 302148.747, 3788975.074, 22.00, 2.26, 19.18
** 302338.840, 3788948.282, 21.09, 2.26, 19.18
** 302647.582, 3788906.181, 21.00, 2.26, 19.18
** ----------------------------------------------------------------
--
   LOCATION L0000258     VOLUME   301188.941 3789208.533 20.00
   LOCATION L0000259     VOLUME   301227.342 3789193.490 20.38
   LOCATION L0000260     VOLUME   301265.743 3789178.446 20.65
   LOCATION L0000261     VOLUME   301304.170 3789163.476 20.74
   LOCATION L0000262     VOLUME   301343.383 3789150.699 20.99
   LOCATION L0000263     VOLUME   301382.596 3789137.921 21.50
   LOCATION L0000264     VOLUME   301421.810 3789125.144 22.00
   LOCATION L0000265     VOLUME   301461.023 3789112.367 22.00
   LOCATION L0000266     VOLUME   301500.236 3789099.589 22.04
   LOCATION L0000267     VOLUME   301539.548 3789087.132 22.41
   LOCATION L0000268     VOLUME   301579.168 3789075.679 22.66
   LOCATION L0000269     VOLUME   301618.788 3789064.226 22.80
   LOCATION L0000270     VOLUME   301658.409 3789052.773 23.00
   LOCATION L0000271     VOLUME   301698.164 3789041.929 23.00
   LOCATION L0000272     VOLUME   301738.912 3789035.562 22.87
   LOCATION L0000273     VOLUME   301779.660 3789029.195 22.42
   LOCATION L0000274     VOLUME   301820.408 3789022.828 22.11
   LOCATION L0000275     VOLUME   301861.156 3789016.461 22.05
   LOCATION L0000276     VOLUME   301901.913 3789010.157 22.00
   LOCATION L0000277     VOLUME   301942.745 3789004.353 22.00
   LOCATION L0000278     VOLUME   301983.577 3788998.550 22.00
   LOCATION L0000279     VOLUME   302024.409 3788992.746 22.00
   LOCATION L0000280     VOLUME   302065.242 3788986.942 22.00
   LOCATION L0000281     VOLUME   302106.074 3788981.139 22.00
   LOCATION L0000282     VOLUME   302146.906 3788975.335 22.00
   LOCATION L0000283     VOLUME   302187.744 3788969.577 21.99
   LOCATION L0000284     VOLUME   302228.583 3788963.822 21.76
   LOCATION L0000285     VOLUME   302269.422 3788958.066 21.47
   LOCATION L0000286     VOLUME   302310.261 3788952.310 21.17
   LOCATION L0000287     VOLUME   302351.107 3788946.609 20.91
   LOCATION L0000288     VOLUME   302391.971 3788941.037 20.55
   LOCATION L0000289     VOLUME   302432.836 3788935.464 20.31
   LOCATION L0000290     VOLUME   302473.700 3788929.892 20.26
   LOCATION L0000291     VOLUME   302514.564 3788924.320 20.21
   LOCATION L0000292     VOLUME   302555.428 3788918.747 20.15
   LOCATION L0000293     VOLUME   302596.293 3788913.175 20.43
   LOCATION L0000294     VOLUME   302637.157 3788907.602 20.90
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** ----------------------------------------------------------------
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** Line Source Represented by Separated Volume Sources
** LINE VOLUME Source ID = SLINE2
** DESCRSRC 101 North
** PREFIX
** Length of Side = 21.04
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** Nodes = 12
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** 302484.651, 3788945.949, 20.39, 2.26, 19.23
** 302300.929, 3788971.466, 21.34, 2.26, 19.23
** 302133.793, 3788994.431, 22.00, 2.26, 19.23
** 301904.141, 3789030.155, 22.18, 2.26, 19.23
** 301714.040, 3789058.224, 22.95, 2.26, 19.23
** 301626.007, 3789078.637, 22.88, 2.26, 19.23
** 301549.456, 3789102.878, 22.79, 2.26, 19.23
** 301465.250, 3789129.671, 22.10, 2.26, 19.23
** 301364.458, 3789164.119, 21.32, 2.26, 19.23
** 301264.942, 3789199.842, 20.99, 2.26, 19.23
** 301178.185, 3789230.463, 20.08, 2.26, 19.23
** ------------------------------------------------------------------
--
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   LOCATION L0000222     VOLUME   302599.086 3788930.985 20.57
   LOCATION L0000223     VOLUME   302558.094 3788936.345 20.35
   LOCATION L0000224     VOLUME   302517.101 3788941.706 20.39
   LOCATION L0000225     VOLUME   302476.118 3788947.134 20.44
   LOCATION L0000226     VOLUME   302435.170 3788952.821 20.50
   LOCATION L0000227     VOLUME   302394.222 3788958.509 20.67
   LOCATION L0000228     VOLUME   302353.274 3788964.196 20.93
   LOCATION L0000229     VOLUME   302312.326 3788969.883 21.23
   LOCATION L0000230     VOLUME   302271.372 3788975.527 21.62
   LOCATION L0000231     VOLUME   302230.416 3788981.155 21.86
   LOCATION L0000232     VOLUME   302189.460 3788986.782 21.99
   LOCATION L0000233     VOLUME   302148.503 3788992.410 22.00
   LOCATION L0000234     VOLUME   302107.615 3788998.503 22.00
   LOCATION L0000235     VOLUME   302066.765 3789004.858 22.00
   LOCATION L0000236     VOLUME   302025.916 3789011.212 22.03
   LOCATION L0000237     VOLUME   301985.066 3789017.567 22.09
   LOCATION L0000238     VOLUME   301944.216 3789023.921 22.15
   LOCATION L0000239     VOLUME   301903.365 3789030.269 22.21
   LOCATION L0000240     VOLUME   301862.467 3789036.308 22.27
   LOCATION L0000241     VOLUME   301821.570 3789042.347 22.32
   LOCATION L0000242     VOLUME   301780.672 3789048.385 22.56
   LOCATION L0000243     VOLUME   301739.774 3789054.424 22.90
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   LOCATION L0000245     VOLUME   301658.836 3789071.024 23.00
   LOCATION L0000246     VOLUME   301618.722 3789080.944 22.87
   LOCATION L0000247     VOLUME   301579.310 3789093.424 22.83
   LOCATION L0000248     VOLUME   301539.902 3789105.918 22.53
   LOCATION L0000249     VOLUME   301500.507 3789118.453 22.11
   LOCATION L0000250     VOLUME   301461.141 3789131.075 22.10
   LOCATION L0000251     VOLUME   301422.021 3789144.445 22.00
   LOCATION L0000252     VOLUME   301382.902 3789157.815 21.50
   LOCATION L0000253     VOLUME   301343.893 3789171.501 20.99
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```
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   LOCATION L0000255     VOLUME   301266.073 3789199.436 20.86
   LOCATION L0000256     VOLUME   301227.091 3789213.202 20.47
   LOCATION L0000257     VOLUME   301188.107 3789226.961 20.16
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** Source Parameters **
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   SRCPARAM L0000260     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000261     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000262     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000263     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000264     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000265     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000266     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000267     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000268     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000269     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000270     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000271     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000272     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000273     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000274     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000275     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000276     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000277     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000278     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000279     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000280     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000281     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000282     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000283     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000284     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000285     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000286     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000287     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000288     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000289     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000290     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000291     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000292     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000293     0.000009459      2.26     19.18      2.10
   SRCPARAM L0000294     0.000009459      2.26     19.18      2.10
** ------------------------------------------------------------------
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** LINE VOLUME Source ID = SLINE2
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   SRCPARAM L0000223     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000224     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000225     0.000009459      2.26     19.23      2.10
```

```
   SRCPARAM L0000226     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000227     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000228     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000229     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000230     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000231     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000232     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000233     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000234     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000235     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000236     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000237     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000238     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000239     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000240     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000241     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000242     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000243     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000244     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000245     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000246     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000247     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000248     0.000009459      2.26     19.23      2.10
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   SRCPARAM L0000250     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000251     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000252     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000253     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000254     0.000009459      2.26     19.23      2.10
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   SRCPARAM L0000256     0.000009459      2.26     19.23      2.10
   SRCPARAM L0000257     0.000009459      2.26     19.23      2.10
** ------------------------------------------------------------------
--
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
****************************************
** AERMOD Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED Lockwood3.rou
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
```

```
ME STARTING
   SURFFILE "..\El-Rio-2015-2019\El Rio 2015-2019\2015-2019 El
Rio.SFC"
   PROFFILE "..\El-Rio-2015-2019\El Rio 2015-2019\2015-2019 El
Rio.PFL"
   SURFDATA 23136 2015
   UAIRDATA 93214 2015
   SITEDATA 56436 2015
   PROFBASE 120.0 FEET
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST Lockwood3.AD\01H1GALL.PLT 31
   PLOTFILE PERIOD ALL Lockwood3.AD\PE00GALL.PLT 32
   SUMMFILE Lockwood3.sum
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            1 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 MX W403     260       PFLCNV: Turbulence data is being used w/o
ADJ_U* option       SigA Data

 **********************************
 *** SETUP Finishes Successfully ***
 **********************************
```

```
 *** AERMOD - VERSION 22112  ***   ***
C:\Users\ckirikian\Documents\Lockwood\HRA\Lockwood3\Lockwood3.isc
***        06/22/23
 *** AERMET - VERSION  21112 ***   ***
***        14:09:38

PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  SigA Data

                                            ***     MODEL SETUP
OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration
Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses URBAN Dispersion Algorithm for the SBL for    74
Source(s),
        for Total of    1 Urban Area(s):
   Urban Population =    201879.0 ;  Urban Roughness Length =  1.000 m
      * Urban Roughness Length of 1.0 Meter Used.
      * CCVR_Sub - Meteorological data includes CCVR substitutions
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Assumes No FLAGPOLE Receptor Heights.
      * The User Specified a Pollutant Type of: DPM

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates PERIOD Averages

 **This Run Includes:     74 Source(s);       1 Source Group(s); and
131 Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     74 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of
0 line(s)
```

and: 0 SWPOINT source(s)

**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 21112

**Output Options Selected:
Model Outputs Tables of PERIOD Averages by Receptor
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 36.58 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC
; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.5 MB of RAM.

**Input Runstream File: aermod.inp
**Output Print File: aermod.out

**Detailed Error/Message File: Lockwood3.err
**File for Summary of Results: Lockwood3.sum

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. SOURCE CATS.	EMISSION RATE (GRAMS/SEC) SCALAR VARY BY	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE
L0000258	0	0.94590E-05	301188.9	3789208.5	20.0	2.26	19.18	2.10	YES
L0000259	0	0.94590E-05	301227.3	3789193.5	20.4	2.26	19.18	2.10	YES
L0000260	0	0.94590E-05	301265.7	3789178.4	20.7	2.26	19.18	2.10	YES
L0000261	0	0.94590E-05	301304.2	3789163.5	20.7	2.26	19.18	2.10	YES
L0000262	0	0.94590E-05	301343.4	3789150.7	21.0	2.26	19.18	2.10	YES
L0000263	0	0.94590E-05	301382.6	3789137.9	21.5	2.26	19.18	2.10	YES
L0000264	0	0.94590E-05	301421.8	3789125.1	22.0	2.26	19.18	2.10	YES
L0000265	0	0.94590E-05	301461.0	3789112.4	22.0	2.26	19.18	2.10	YES
L0000266	0	0.94590E-05	301500.2	3789099.6	22.0	2.26	19.18	2.10	YES
L0000267	0	0.94590E-05	301539.5	3789087.1	22.4	2.26	19.18	2.10	YES
L0000268	0	0.94590E-05	301579.2	3789075.7	22.7	2.26	19.18	2.10	YES
L0000269	0	0.94590E-05	301618.8	3789064.2	22.8	2.26	19.18	2.10	YES
L0000270	0	0.94590E-05	301658.4	3789052.8	23.0	2.26	19.18	2.10	YES
L0000271	0	0.94590E-05	301698.2	3789041.9	23.0	2.26	19.18	2.10	YES
L0000272	0	0.94590E-05	301738.9	3789035.6	22.9	2.26	19.18	2.10	YES

L0000273		0	0.94590E-05	301779.7	3789029.2	22.4	2.26	
19.18	2.10	YES						
L0000274		0	0.94590E-05	301820.4	3789022.8	22.1	2.26	
19.18	2.10	YES						
L0000275		0	0.94590E-05	301861.2	3789016.5	22.1	2.26	
19.18	2.10	YES						
L0000276		0	0.94590E-05	301901.9	3789010.2	22.0	2.26	
19.18	2.10	YES						
L0000277		0	0.94590E-05	301942.7	3789004.4	22.0	2.26	
19.18	2.10	YES						
L0000278		0	0.94590E-05	301983.6	3788998.5	22.0	2.26	
19.18	2.10	YES						
L0000279		0	0.94590E-05	302024.4	3788992.7	22.0	2.26	
19.18	2.10	YES						
L0000280		0	0.94590E-05	302065.2	3788986.9	22.0	2.26	
19.18	2.10	YES						
L0000281		0	0.94590E-05	302106.1	3788981.1	22.0	2.26	
19.18	2.10	YES						
L0000282		0	0.94590E-05	302146.9	3788975.3	22.0	2.26	
19.18	2.10	YES						
L0000283		0	0.94590E-05	302187.7	3788969.6	22.0	2.26	
19.18	2.10	YES						
L0000284		0	0.94590E-05	302228.6	3788963.8	21.8	2.26	
19.18	2.10	YES						
L0000285		0	0.94590E-05	302269.4	3788958.1	21.5	2.26	
19.18	2.10	YES						
L0000286		0	0.94590E-05	302310.3	3788952.3	21.2	2.26	
19.18	2.10	YES						
L0000287		0	0.94590E-05	302351.1	3788946.6	20.9	2.26	
19.18	2.10	YES						
L0000288		0	0.94590E-05	302392.0	3788941.0	20.6	2.26	
19.18	2.10	YES						
L0000289		0	0.94590E-05	302432.8	3788935.5	20.3	2.26	
19.18	2.10	YES						
L0000290		0	0.94590E-05	302473.7	3788929.9	20.3	2.26	
19.18	2.10	YES						
L0000291		0	0.94590E-05	302514.6	3788924.3	20.2	2.26	
19.18	2.10	YES						
L0000292		0	0.94590E-05	302555.4	3788918.7	20.2	2.26	
19.18	2.10	YES						
L0000293		0	0.94590E-05	302596.3	3788913.2	20.4	2.26	
19.18	2.10	YES						
L0000294		0	0.94590E-05	302637.2	3788907.6	20.9	2.26	
19.18	2.10	YES						
L0000221		0	0.94590E-05	302640.1	3788925.6	20.9	2.26	
19.23	2.10	YES						
L0000222		0	0.94590E-05	302599.1	3788931.0	20.6	2.26	
19.23	2.10	YES						
L0000223		0	0.94590E-05	302558.1	3788936.3	20.4	2.26	
19.23	2.10	YES						

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. SOURCE CATS.	EMISSION RATE (GRAMS/SEC) SCALAR VARY BY	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE
L0000224	0	0.94590E-05	302517.1	3788941.7	20.4	2.26	19.23	2.10	YES
L0000225	0	0.94590E-05	302476.1	3788947.1	20.4	2.26	19.23	2.10	YES
L0000226	0	0.94590E-05	302435.2	3788952.8	20.5	2.26	19.23	2.10	YES
L0000227	0	0.94590E-05	302394.2	3788958.5	20.7	2.26	19.23	2.10	YES
L0000228	0	0.94590E-05	302353.3	3788964.2	20.9	2.26	19.23	2.10	YES
L0000229	0	0.94590E-05	302312.3	3788969.9	21.2	2.26	19.23	2.10	YES
L0000230	0	0.94590E-05	302271.4	3788975.5	21.6	2.26	19.23	2.10	YES
L0000231	0	0.94590E-05	302230.4	3788981.2	21.9	2.26	19.23	2.10	YES
L0000232	0	0.94590E-05	302189.5	3788986.8	22.0	2.26	19.23	2.10	YES
L0000233	0	0.94590E-05	302148.5	3788992.4	22.0	2.26	19.23	2.10	YES
L0000234	0	0.94590E-05	302107.6	3788998.5	22.0	2.26	19.23	2.10	YES
L0000235	0	0.94590E-05	302066.8	3789004.9	22.0	2.26	19.23	2.10	YES
L0000236	0	0.94590E-05	302025.9	3789011.2	22.0	2.26	19.23	2.10	YES
L0000237	0	0.94590E-05	301985.1	3789017.6	22.1	2.26	19.23	2.10	YES
L0000238	0	0.94590E-05	301944.2	3789023.9	22.2	2.26	19.23	2.10	YES

L0000239		0	0.94590E-05	301903.4	3789030.3	22.2	2.26	
19.23	2.10	YES						
L0000240		0	0.94590E-05	301862.5	3789036.3	22.3	2.26	
19.23	2.10	YES						
L0000241		0	0.94590E-05	301821.6	3789042.3	22.3	2.26	
19.23	2.10	YES						
L0000242		0	0.94590E-05	301780.7	3789048.4	22.6	2.26	
19.23	2.10	YES						
L0000243		0	0.94590E-05	301739.8	3789054.4	22.9	2.26	
19.23	2.10	YES						
L0000244		0	0.94590E-05	301699.1	3789061.7	23.0	2.26	
19.23	2.10	YES						
L0000245		0	0.94590E-05	301658.8	3789071.0	23.0	2.26	
19.23	2.10	YES						
L0000246		0	0.94590E-05	301618.7	3789080.9	22.9	2.26	
19.23	2.10	YES						
L0000247		0	0.94590E-05	301579.3	3789093.4	22.8	2.26	
19.23	2.10	YES						
L0000248		0	0.94590E-05	301539.9	3789105.9	22.5	2.26	
19.23	2.10	YES						
L0000249		0	0.94590E-05	301500.5	3789118.5	22.1	2.26	
19.23	2.10	YES						
L0000250		0	0.94590E-05	301461.1	3789131.1	22.1	2.26	
19.23	2.10	YES						
L0000251		0	0.94590E-05	301422.0	3789144.4	22.0	2.26	
19.23	2.10	YES						
L0000252		0	0.94590E-05	301382.9	3789157.8	21.5	2.26	
19.23	2.10	YES						
L0000253		0	0.94590E-05	301343.9	3789171.5	21.0	2.26	
19.23	2.10	YES						
L0000254		0	0.94590E-05	301305.0	3789185.5	20.9	2.26	
19.23	2.10	YES						
L0000255		0	0.94590E-05	301266.1	3789199.4	20.9	2.26	
19.23	2.10	YES						
L0000256		0	0.94590E-05	301227.1	3789213.2	20.5	2.26	
19.23	2.10	YES						
L0000257		0	0.94590E-05	301188.1	3789227.0	20.2	2.26	
19.23	2.10	YES						

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	L0000258 , L0000259 , L0000260 , L0000261 , L0000262 , L0000263 , L0000264 , L0000265 ,
	L0000266 , L0000267 , L0000268 , L0000269 , L0000270 , L0000271 , L0000272 , L0000273 ,
	L0000274 , L0000275 , L0000276 , L0000277 , L0000278 , L0000279 , L0000280 , L0000281 ,
	L0000282 , L0000283 , L0000284 , L0000285 , L0000286 , L0000287 , L0000288 , L0000289 ,
	L0000290 , L0000291 , L0000292 , L0000293 , L0000294 , L0000221 , L0000222 , L0000223 ,
	L0000224 , L0000225 , L0000226 , L0000227 , L0000228 , L0000229 , L0000230 , L0000231 ,
	L0000232 , L0000233 , L0000234 , L0000235 , L0000236 , L0000237 , L0000238 , L0000239 ,
	L0000240 , L0000241 , L0000242 , L0000243 , L0000244 , L0000245 , L0000246 , L0000247 ,
	L0000248 , L0000249 , L0000250 , L0000251 , L0000252 , L0000253 , L0000254 , L0000255 ,
	L0000256 , L0000257 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
	201879.	L0000258 , L0000259 , L0000260 , L0000261 , L0000262 , L0000263 , L0000264 , L0000265 ,
		L0000266 , L0000267 , L0000268 , L0000269 , L0000270 , L0000271 , L0000272 , L0000273 ,
		L0000274 , L0000275 , L0000276 , L0000277 , L0000278 , L0000279 , L0000280 , L0000281 ,
		L0000282 , L0000283 , L0000284 , L0000285 , L0000286 , L0000287 , L0000288 , L0000289 ,
		L0000290 , L0000291 , L0000292 , L0000293 , L0000294 , L0000221 , L0000222 , L0000223 ,
		L0000224 , L0000225 , L0000226 , L0000227 , L0000228 , L0000229 , L0000230 , L0000231 ,
		L0000232 , L0000233 , L0000234 , L0000235 , L0000236 , L0000237 , L0000238 , L0000239 ,
		L0000240 , L0000241 , L0000242 , L0000243 , L0000244 , L0000245 , L0000246 , L0000247 ,
		L0000248 , L0000249 , L0000250 , L0000251 , L0000252 , L0000253 , L0000254 , L0000255 ,
		L0000256 , L0000257 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(301943.6, 3788856.1, 21.3, 21.3, 0.0);
(301953.6, 3788856.1, 21.3, 21.3, 0.0);
(301963.6, 3788856.1, 21.3, 21.3, 0.0);
(301973.6, 3788856.1, 21.3, 21.3, 0.0);
(301983.6, 3788856.1, 21.4, 21.4, 0.0);
(301993.6, 3788856.1, 21.4, 21.4, 0.0);
(302003.6, 3788856.1, 21.4, 21.4, 0.0);
(302013.6, 3788856.1, 21.4, 21.4, 0.0);
(302023.6, 3788856.1, 21.4, 21.4, 0.0);
(302033.6, 3788856.1, 21.4, 21.4, 0.0);
(301923.6, 3788866.1, 21.4, 21.4, 0.0);
(301933.6, 3788866.1, 21.4, 21.4, 0.0);
(301943.6, 3788866.1, 21.4, 21.4, 0.0);
(301953.6, 3788866.1, 21.4, 21.4, 0.0);
(301963.6, 3788866.1, 21.4, 21.4, 0.0);
(301973.6, 3788866.1, 21.4, 21.4, 0.0);
(301983.6, 3788866.1, 21.4, 21.4, 0.0);
(301993.6, 3788866.1, 21.5, 21.5, 0.0);
(302003.6, 3788866.1, 21.5, 21.5, 0.0);
(302013.6, 3788866.1, 21.5, 21.5, 0.0);
(302023.6, 3788866.1, 21.5, 21.5, 0.0);
(302033.6, 3788866.1, 21.5, 21.5, 0.0);
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(301943.6, 3788876.1, 21.6, 21.6, 0.0);
(301953.6, 3788876.1, 21.6, 21.6, 0.0);
(301963.6, 3788876.1, 21.6, 21.6, 0.0);
(301973.6, 3788876.1, 21.6, 21.6, 0.0);
(301983.6, 3788876.1, 21.6, 21.6, 0.0);
(301993.6, 3788876.1, 21.6, 21.6, 0.0);
(302003.6, 3788876.1, 21.6, 21.6, 0.0);
(302013.6, 3788876.1, 21.6, 21.6, 0.0);
(302023.6, 3788876.1, 21.6, 21.6, 0.0);
(302033.6, 3788876.1, 21.6, 21.6, 0.0);
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(301943.6, 3788886.1, 21.7, 21.7, 0.0);
(301953.6, 3788886.1, 21.7, 21.7, 0.0);

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( 301973.6, 3788886.1,      21.7,      21.7,       0.0);
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( 301963.6, 3788896.1,      21.8,      21.8,       0.0);
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( 302003.6, 3788896.1,      21.8,      21.8,       0.0);
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( 301993.6, 3788906.1,      21.9,      21.9,       0.0);
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( 302013.6, 3788906.1,      21.9,      21.9,       0.0);
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     ( 301993.6, 3788916.1,      22.0,      22.0,       0.0);
( 302003.6, 3788916.1,      22.0,      22.0,       0.0);
     ( 302013.6, 3788916.1,      22.0,      22.0,       0.0);
( 302023.6, 3788916.1,      22.0,      22.0,       0.0);
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( 301973.6, 3788926.1,      22.0,      22.0,       0.0);
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( 302013.6, 3788926.1,      22.0,      22.0,       0.0);
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( 302033.6, 3788926.1,      22.0,      22.0,       0.0);
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( 301943.6, 3788936.1,      22.0,      22.0,       0.0);
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

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(301973.6, 3788936.1, 22.0, 22.0, 0.0);
(301983.6, 3788936.1, 22.0, 22.0, 0.0);
(301993.6, 3788936.1, 22.0, 22.0, 0.0);
(302003.6, 3788936.1, 22.0, 22.0, 0.0);
(302013.6, 3788936.1, 22.0, 22.0, 0.0);
(302023.6, 3788936.1, 22.0, 22.0, 0.0);
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(301933.6, 3788946.1, 22.0, 22.0, 0.0);
(301943.6, 3788946.1, 22.0, 22.0, 0.0);
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(301963.6, 3788946.1, 22.0, 22.0, 0.0);
(301973.6, 3788946.1, 22.0, 22.0, 0.0);
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(301993.6, 3788946.1, 22.0, 22.0, 0.0);
(302003.6, 3788946.1, 22.0, 22.0, 0.0);
(302013.6, 3788946.1, 22.0, 22.0, 0.0);
(302023.6, 3788946.1, 22.0, 22.0, 0.0);
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(301943.6, 3788956.1, 22.0, 22.0, 0.0);
(301953.6, 3788956.1, 22.0, 22.0, 0.0);
(301963.6, 3788956.1, 22.0, 22.0, 0.0);
(301973.6, 3788956.1, 22.0, 22.0, 0.0);
(301983.6, 3788956.1, 22.0, 22.0, 0.0);
(301993.6, 3788956.1, 22.0, 22.0, 0.0);
(302003.6, 3788956.1, 22.0, 22.0, 0.0);
(302013.6, 3788956.1, 22.0, 22.0, 0.0);
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(301943.6, 3788966.1, 22.0, 22.0, 0.0);
(301953.6, 3788966.1, 22.0, 22.0, 0.0);
(301963.6, 3788966.1, 22.0, 22.0, 0.0);
(301973.6, 3788966.1, 22.0, 22.0, 0.0);

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( 301993.6, 3788966.1,      22.0,      22.0,       0.0);
     ( 302003.6, 3788966.1,      22.0,      22.0,       0.0);
( 302013.6, 3788966.1,      22.0,      22.0,       0.0);
     ( 302023.6, 3788966.1,      22.0,      22.0,       0.0);
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* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT BE PERFORMED *
LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR FASTAREA/FASTALL

SOURCE ID	- - RECEPTOR LOCATION - XR (METERS)	YR	DISTANCE (METERS)	(METERS)
L0000277	301933.6		3788966.1	-1.90
L0000277	301943.6		3788966.1	-2.97
L0000277	301953.6		3788966.1	-1.48
L0000278	301963.6		3788966.1	-3.13
L0000278	301973.6		3788966.1	-7.28
L0000278	301983.6		3788966.1	-8.79
L0000278	301993.6		3788966.1	-7.28
L0000278	302003.6		3788966.1	-3.11
L0000279	302003.6		3788956.1	0.91
L0000279	302013.6		3788956.1	-3.03
L0000279	302023.6		3788956.1	-4.58
L0000279	302033.6		3788956.1	-3.46
L0000279	301993.6		3788966.1	-0.50
L0000279	302003.6		3788966.1	-7.42
L0000279	302013.6		3788966.1	-12.48

	L0000279	302023.6	
3788966.1	-14.58		

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: ..\El-Rio-2015-2019\El Rio 2015-2019\2015-2019 El Rio.SFC Met Version: 21112
Profile file: ..\El-Rio-2015-2019\El Rio 2015-2019\2015-2019 El Rio.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 23136 Upper air station no.: 93214
Name: UNKNOWN Name: UNKNOWN
Year: 2015 Year: 2015

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
15	01	01	1	01	-35.8	0.309	-9.000	-9.000	-999.	413.	74.7	0.13	0.85	1.00	3.90	16.	10.0	275.6	10.0
15	01	01	1	02	-44.3	0.382	-9.000	-9.000	-999.	567.	114.1	0.13	0.85	1.00	4.60	13.	10.0	275.5	10.0
15	01	01	1	03	-52.4	0.452	-9.000	-9.000	-999.	729.	159.4	0.13	0.85	1.00	5.30	15.	10.0	275.1	10.0
15	01	01	1	04	-55.8	0.482	-9.000	-9.000	-999.	802.	180.9	0.13	0.85	1.00	5.60	17.	10.0	275.2	10.0
15	01	01	1	05	-51.4	0.442	-9.000	-9.000	-999.	708.	152.3	0.13	0.85	1.00	5.20	21.	10.0	274.8	10.0
15	01	01	1	06	-53.7	0.462	-9.000	-9.000	-999.	753.	166.1	0.13	0.85	1.00	5.40	12.	10.0	274.6	10.0
15	01	01	1	07	-45.6	0.392	-9.000	-9.000	-999.	594.	119.9	0.13	0.85	1.00	4.70	11.	10.0	274.9	10.0
15	01	01	1	08	-41.0	0.408	-9.000	-9.000	-999.	625.	149.9	0.13	0.85	0.58	4.80	6.	10.0	275.2	10.0
15	01	01	1	09	16.6	0.518	0.281	0.009	48.	894.	-756.1	0.13	0.85	0.33	5.60	14.	10.0	276.4	10.0
15	01	01	1	10	62.0	0.419	0.509	0.008	77.	658.	-107.3	0.13	0.85	0.24	4.30	9.	10.0	279.4	10.0
15	01	01	1	11	94.6	0.402	1.190	0.008	646.	611.	-62.1	0.13	0.85	0.21	4.00	15.	10.0	282.9	10.0

```
 15 01 01   1 12  111.7  0.222  1.400  0.009  890.  277.     -8.9
0.13   0.85   0.20    1.80    2.   10.0  286.1   10.0
 15 01 01   1 13  112.0  0.219  1.414  0.008  915.  246.     -8.5
0.14   0.85   0.20    1.70  239.   10.0  287.2   10.0
 15 01 01   1 14   95.9  0.239  1.353  0.007  936.  281.    -13.0
0.14   0.85   0.21    2.00  199.   10.0  287.6   10.0
 15 01 01   1 15   63.9  0.301  1.188  0.007  949.  397.    -38.8
0.14   0.85   0.24    2.80  225.   10.0  287.4   10.0
 15 01 01   1 16   18.8  0.261  0.792  0.007  953.  322.    -85.9
0.14   0.85   0.33    2.60  203.   10.0  286.9   10.0
 15 01 01   1 17   -9.0  0.102 -9.000 -9.000 -999.  103.     10.7
0.13   0.85   0.58    2.20  245.   10.0  285.6   10.0
 15 01 01   1 18   -0.9  0.031 -9.000 -9.000 -999.   23.      2.9
0.11   0.85   1.00    0.70  277.   10.0  284.0   10.0
 15 01 01   1 19   -6.7  0.084 -9.000 -9.000 -999.   59.      8.1
0.14   0.85   1.00    1.80   33.   10.0  281.0   10.0
 15 01 01   1 20   -6.5  0.082 -9.000 -9.000 -999.   57.      7.8
0.13   0.85   1.00    1.80   19.   10.0  278.8   10.0
 15 01 01   1 21  -21.6  0.188 -9.000 -9.000 -999.  196.     27.9
0.13   0.85   1.00    2.90   19.   10.0  278.1   10.0
 15 01 01   1 22  -29.2  0.254 -9.000 -9.000 -999.  307.     50.6
0.13   0.85   1.00    3.40   12.   10.0  277.9   10.0
 15 01 01   1 23  -23.3  0.203 -9.000 -9.000 -999.  220.     32.3
0.13   0.85   1.00    3.00   11.   10.0  277.5   10.0
 15 01 01   1 24  -33.2  0.288 -9.000 -9.000 -999.  371.     65.1
0.13   0.85   1.00    3.70   13.   10.0  277.5   10.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 15 01 01 01   10.0 1   16.    3.90   275.7   11.2  -99.00    0.75

 F indicates top of profile (=1) or below (=0)
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000258 , L0000259 , L0000260 , L0000261 , L0000262 , L0000263 , L0000264 , L0000265 , L0000266 , L0000267 , L0000268 , L0000269 , L0000270 , L0000271 , L0000272 , L0000273 , L0000274 , L0000275 , L0000276 , L0000277 , L0000278 , L0000279 , L0000280 , L0000281 , L0000282 , L0000283 , L0000284 , L0000285 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
301943.59	3788856.10	0.00956	301953.59	3788856.10	0.00964
301963.59	3788856.10	0.00972	301973.59	3788856.10	0.00980
301983.59	3788856.10	0.00988	301993.59	3788856.10	0.00997
302003.59	3788856.10	0.01005	302013.59	3788856.10	0.01013
302023.59	3788856.10	0.01022	302033.59	3788856.10	0.01030
301923.59	3788866.10	0.00997	301933.59	3788866.10	0.01006
301943.59	3788866.10	0.01015	301953.59	3788866.10	0.01024
301963.59	3788866.10	0.01033	301973.59	3788866.10	0.01042
301983.59	3788866.10	0.01051	301993.59	3788866.10	0.01060
302003.59	3788866.10	0.01070	302013.59	3788866.10	0.01079
302023.59	3788866.10	0.01089	302033.59	3788866.10	0.01099

```
         301933.59    3788876.10        0.01071
301943.59    3788876.10        0.01081
         301953.59    3788876.10        0.01091
301963.59    3788876.10        0.01101
         301973.59    3788876.10        0.01112
301983.59    3788876.10        0.01122
         301993.59    3788876.10        0.01133
302003.59    3788876.10        0.01144
         302013.59    3788876.10        0.01155
302023.59    3788876.10        0.01166
         302033.59    3788876.10        0.01177
301933.59    3788886.10        0.01144
         301943.59    3788886.10        0.01156
301953.59    3788886.10        0.01167
         301963.59    3788886.10        0.01179
301973.59    3788886.10        0.01191
         301983.59    3788886.10        0.01204
301993.59    3788886.10        0.01216
         302003.59    3788886.10        0.01229
302013.59    3788886.10        0.01241
         302023.59    3788886.10        0.01255
302033.59    3788886.10        0.01268
         301933.59    3788896.10        0.01229
301943.59    3788896.10        0.01242
         301953.59    3788896.10        0.01256
301963.59    3788896.10        0.01269
         301973.59    3788896.10        0.01283
301983.59    3788896.10        0.01298
         301993.59    3788896.10        0.01312
302003.59    3788896.10        0.01327
         302013.59    3788896.10        0.01342
302023.59    3788896.10        0.01358
         302033.59    3788896.10        0.01373
301933.59    3788906.10        0.01327
         301943.59    3788906.10        0.01342
301953.59    3788906.10        0.01358
         301963.59    3788906.10        0.01375
301973.59    3788906.10        0.01391
         301983.59    3788906.10        0.01408
301993.59    3788906.10        0.01425
         302003.59    3788906.10        0.01443
302013.59    3788906.10        0.01461
         302023.59    3788906.10        0.01480
302033.59    3788906.10        0.01499
         301933.59    3788916.10        0.01442
301943.59    3788916.10        0.01461
         301953.59    3788916.10        0.01480
301963.59    3788916.10        0.01499
         301973.59    3788916.10        0.01519
301983.59    3788916.10        0.01540
         301993.59    3788916.10        0.01561
302003.59    3788916.10        0.01582
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         302013.59    3788916.10        0.01604
302023.59    3788916.10        0.01627
         302033.59    3788916.10        0.01650
301933.59    3788926.10        0.01579
         301943.59    3788926.10        0.01602
301953.59    3788926.10        0.01625
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000258 , L0000259 , L0000260 , L0000261 , L0000262 , L0000263 , L0000264 , L0000265 , L0000266 , L0000267 , L0000268 , L0000269 , L0000270 , L0000271 , L0000272 , L0000273 , L0000274 , L0000275 , L0000276 , L0000277 , L0000278 , L0000279 , L0000280 , L0000281 , L0000282 , L0000283 , L0000284 , L0000285 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
301963.59	3788926.10	0.01649	301973.59	3788926.10	0.01673
301983.59	3788926.10	0.01698	301993.59	3788926.10	0.01724
302003.59	3788926.10	0.01751	302013.59	3788926.10	0.01778
302023.59	3788926.10	0.01807	302033.59	3788926.10	0.01836
301933.59	3788936.10	0.01747	301943.59	3788936.10	0.01775
301953.59	3788936.10	0.01803	301963.59	3788936.10	0.01833
301973.59	3788936.10	0.01864	301983.59	3788936.10	0.01896
301993.59	3788936.10	0.01928	302003.59	3788936.10	0.01962
302013.59	3788936.10	0.01998	302023.59	3788936.10	0.02034
302033.59	3788936.10	0.02072	301933.59	3788946.10	0.01957
301943.59	3788946.10	0.01993	301953.59	3788946.10	0.02029

```
         301963.59    3788946.10        0.02068
301973.59    3788946.10        0.02109
         301983.59    3788946.10        0.02150
301993.59    3788946.10        0.02192
         302003.59    3788946.10        0.02238
302013.59    3788946.10        0.02288
         302023.59    3788946.10        0.02336
302033.59    3788946.10        0.02385
         301933.59    3788956.10        0.02232
301943.59    3788956.10        0.02278
         301953.59    3788956.10        0.02326
301963.59    3788956.10        0.02381
         301973.59    3788956.10        0.02439
301983.59    3788956.10        0.02493
         301993.59    3788956.10        0.02548
302003.59    3788956.10        0.02167
         302013.59    3788956.10        0.02166
302023.59    3788956.10        0.02211
         302033.59    3788956.10        0.02317
301933.59    3788966.10        0.02109
         301943.59    3788966.10        0.02163
301953.59    3788966.10        0.02274
         301963.59    3788966.10        0.02300
301973.59    3788966.10        0.02290
         301983.59    3788966.10        0.02338
301993.59    3788966.10        0.02015
         302003.59    3788966.10        0.02054
302013.59    3788966.10        0.02511
         302023.59    3788966.10        0.02543
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000258 , L0000259 , L0000260 , L0000261 , L0000262 , L0000263 , L0000264 , L0000265 , L0000266 , L0000267 , L0000268 , L0000269 , L0000270 , L0000271 , L0000272 , L0000273 , L0000274 , L0000275 , L0000276 , L0000277 , L0000278 , L0000279 , L0000280 , L0000281 , L0000282 , L0000283 , L0000284 , L0000285 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
301943.59	3788856.10	0.04851	(19040503)	301953.59	3788856.10	0.04881	(19040503)
301963.59	3788856.10	0.04901	(19040503)	301973.59	3788856.10	0.04912	(19040503)
301983.59	3788856.10	0.04915	(19040503)	301993.59	3788856.10	0.04912	(19040503)
302003.59	3788856.10	0.04904	(19040503)	302013.59	3788856.10	0.04892	(19040503)
302023.59	3788856.10	0.04878	(19040503)	302033.59	3788856.10	0.04862	(19040503)
301923.59	3788866.10	0.05021	(19040503)	301933.59	3788866.10	0.05057	(19040503)
301943.59	3788866.10	0.05083	(19040503)	301953.59	3788866.10	0.05098	(19040503)
301963.59	3788866.10	0.05105	(19040503)	301973.59	3788866.10	0.05105	(19040503)
301983.59	3788866.10	0.05098	(19040503)	301993.59	3788866.10	0.05087	(19040503)
302003.59	3788866.10	0.05073	(19040503)	302013.59	3788866.10	0.05057	(19040503)
302023.59	3788866.10	0.05041	(19040503)	302033.59	3788866.10	0.05182	(18050724)

```
        301933.59   3788876.10         0.05299  (19040503)
301943.59   3788876.10         0.05310  (19040503)
        301953.59   3788876.10         0.05313  (19040503)
301963.59   3788876.10         0.05309  (19040503)
        301973.59   3788876.10         0.05300  (19040503)
301983.59   3788876.10         0.05286  (19040503)
        301993.59   3788876.10         0.05271  (19040503)
302003.59   3788876.10         0.05284  (18050724)
        302013.59   3788876.10         0.05459  (18050724)
302023.59   3788876.10         0.05625  (18050724)
        302033.59   3788876.10         0.05780  (18050724)
301933.59   3788886.10         0.05540  (19040503)
        301943.59   3788886.10         0.05539  (19040503)
301953.59   3788886.10         0.05532  (19040503)
        301963.59   3788886.10         0.05520  (19040503)
301973.59   3788886.10         0.05505  (19040503)
        301983.59   3788886.10         0.05578  (18050724)
301993.59   3788886.10         0.05765  (18050724)
        302003.59   3788886.10         0.05940  (18050724)
302013.59   3788886.10         0.06104  (18050724)
        302023.59   3788886.10         0.06255  (18050724)
302033.59   3788886.10         0.06396  (18050724)
        301933.59   3788896.10         0.05787  (19040503)
301943.59   3788896.10         0.05777  (19040503)
        301953.59   3788896.10         0.05763  (19040503)
301963.59   3788896.10         0.05903  (18050724)
        301973.59   3788896.10         0.06102  (18050724)
301983.59   3788896.10         0.06289  (18050724)
        301993.59   3788896.10         0.06462  (18050724)
302003.59   3788896.10         0.06622  (18050724)
        302013.59   3788896.10         0.06770  (18050724)
302023.59   3788896.10         0.06905  (18050724)
        302033.59   3788896.10         0.07029  (18050724)
301933.59   3788906.10         0.06050  (19040503)
        301943.59   3788906.10         0.06265  (18050724)
301953.59   3788906.10         0.06478  (18050724)
        301963.59   3788906.10         0.06677  (18050724)
301973.59   3788906.10         0.06862  (18050724)
        301983.59   3788906.10         0.07032  (18050724)
301993.59   3788906.10         0.07188  (18050724)
        302003.59   3788906.10         0.07331  (18050724)
302013.59   3788906.10         0.07470  (18031101)
        302023.59   3788906.10         0.07631  (18031101)
302033.59   3788906.10         0.07778  (18031101)
        301933.59   3788916.10         0.06900  (18050724)
301943.59   3788916.10         0.07113  (18050724)
        301953.59   3788916.10         0.07311  (18050724)
301963.59   3788916.10         0.07493  (18050724)
        301973.59   3788916.10         0.07660  (18050724)
301983.59   3788916.10         0.07812  (18050724)
        301993.59   3788916.10         0.07992  (18031101)
302003.59   3788916.10         0.08162  (18031101)
```

```
        302013.59   3788916.10        0.08319  (18031101)
302023.59   3788916.10        0.08463  (18031101)
        302033.59   3788916.10        0.08595  (18031101)
301933.59   3788926.10        0.07818  (18050724)
        301943.59   3788926.10        0.08013  (18050724)
301953.59   3788926.10        0.08192  (18050724)
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000258 , L0000259 , L0000260 , L0000261 , L0000262 , L0000263 , L0000264 , L0000265 , L0000266 , L0000267 , L0000268 , L0000269 , L0000270 , L0000271 , L0000272 , L0000273 , L0000274 , L0000275 , L0000276 , L0000277 , L0000278 , L0000279 , L0000280 , L0000281 , L0000282 , L0000283 , L0000284 , L0000285 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
301963.59	3788926.10	0.08387	(18031101)
301973.59	3788926.10	0.08585	(18031101)
301983.59	3788926.10	0.08767	(18031101)
301993.59	3788926.10	0.08933	(18031101)
302003.59	3788926.10	0.09091	(18031101)
302013.59	3788926.10	0.09234	(18031101)
302023.59	3788926.10	0.09368	(18031101)
302033.59	3788926.10	0.09491	(18031101)
301933.59	3788936.10	0.08825	(18031101)
301943.59	3788936.10	0.09056	(18031101)
301953.59	3788936.10	0.09268	(18031101)
301963.59	3788936.10	0.09471	(18031101)
301973.59	3788936.10	0.09654	(18031101)
301983.59	3788936.10	0.09822	(18031101)
301993.59	3788936.10	0.09975	(18031101)
302003.59	3788936.10	0.10138	(18031101)
302013.59	3788936.10	0.10280	(18031101)
302023.59	3788936.10	0.10414	(18031101)
302033.59	3788936.10	0.10536	(18031101)
301933.59	3788946.10	0.10082	(18031101)
301943.59	3788946.10	0.10297	(18031101)
301953.59	3788946.10	0.10489	(18031101)

```
        301963.59   3788946.10        0.10705  (18031101)
301973.59   3788946.10        0.10884  (18031101)
        301983.59   3788946.10        0.11047  (18031101)
301993.59   3788946.10        0.11189  (18031101)
        302003.59   3788946.10        0.11308  (18031101)
302013.59   3788946.10        0.11563  (18031101)
        302023.59   3788946.10        0.11709  (18031101)
302033.59   3788946.10        0.11828  (18031101)
        301933.59   3788956.10        0.11540  (18031101)
301943.59   3788956.10        0.11742  (18031101)
        301953.59   3788956.10        0.11906  (18031101)
301963.59   3788956.10        0.12034  (18031101)
        301973.59   3788956.10        0.12389  (18031101)
301983.59   3788956.10        0.12552  (18031101)
        301993.59   3788956.10        0.12662  (18031101)
302003.59   3788956.10        0.12574  (18031101)
        302013.59   3788956.10        0.12627  (18062102)
302023.59   3788956.10        0.12644  (18062102)
        302033.59   3788956.10        0.12604  (18062102)
301933.59   3788966.10        0.12713  (18031101)
        301943.59   3788966.10        0.12681  (18031101)
301953.59   3788966.10        0.12579  (18031101)
        301963.59   3788966.10        0.13416  (18031101)
301973.59   3788966.10        0.13404  (18062102)
        301983.59   3788966.10        0.13355  (18062102)
301993.59   3788966.10        0.13090  (18062102)
        302003.59   3788966.10        0.12871  (18062102)
302013.59   3788966.10        0.14388  (19091221)
        302023.59   3788966.10        0.14243  (19091221)
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** THE SUMMARY OF MAXIMUM PERIOD (43824 HRS) RESULTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

NETWORK GROUP ID	AVERAGE CONC OF TYPE	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	GRID-ID
ALL	1ST HIGHEST VALUE IS	0.02548 AT (301993.59, 3788956.10, 22.00, 22.00, 0.00)	DC
	2ND HIGHEST VALUE IS	0.02543 AT (302023.59, 3788966.10, 22.00, 22.00, 0.00)	DC
	3RD HIGHEST VALUE IS	0.02511 AT (302013.59, 3788966.10, 22.00, 22.00, 0.00)	DC
	4TH HIGHEST VALUE IS	0.02493 AT (301983.59, 3788956.10, 22.00, 22.00, 0.00)	DC
	5TH HIGHEST VALUE IS	0.02439 AT (301973.59, 3788956.10, 22.00, 22.00, 0.00)	DC
	6TH HIGHEST VALUE IS	0.02385 AT (302033.59, 3788946.10, 22.00, 22.00, 0.00)	DC
	7TH HIGHEST VALUE IS	0.02381 AT (301963.59, 3788956.10, 22.00, 22.00, 0.00)	DC
	8TH HIGHEST VALUE IS	0.02338 AT (301983.59, 3788966.10, 22.00, 22.00, 0.00)	DC
	9TH HIGHEST VALUE IS	0.02336 AT (302023.59, 3788946.10, 22.00, 22.00, 0.00)	DC
	10TH HIGHEST VALUE IS	0.02326 AT (301953.59, 3788956.10, 22.00, 22.00, 0.00)	DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

NETWORK GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.14388	ON 19091221:	AT (302013.59, 3788966.10, 22.00, 22.00, 0.00)	DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV URBAN SigA Data

*** Message Summary : AERMOD Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 1 Warning Message(s)
A Total of 552 Informational Message(s)

A Total of 43824 Hours Were Processed

A Total of 173 Calm Hours Identified

A Total of 379 Missing Hours Identified (0.86 Percent)

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
MX W403 260 PFLCNV: Turbulence data is being used w/o ADJ_U* option SigA Data

****
*** AERMOD Finishes Successfully ***
****

APPENDIX C

Energy Calculation Sheets

Table 1. Summary of Energy Use During Construction		
Fuel Type	**Quantity**	
Diesel		
Off-Road Construction Equipment	70,005	Gallons
On-Road Motor Vehicles	73,968	Gallons
Total	143,973	Gallons
Gasoline		
Off-Road Construction Equipment	0	Gallons
On-Road Motor Vehicles	62,423	Gallons
Total	62,423	Gallons
Electricity		
Total	151.9	kWh

Table 2. Summary of Annual Energy Use During Operation			
Source	**Units**	**Existing**	**Buildout**
Electricity			
Apartments Mid Rise	kWh/yr	0	795,984
Parking Lot	kWh/yr	0	-
Enclosed Parking with Ele	kWh/yr	0	289,408
Water Conveyance	kWh/yr	0	121,801
Total Electricty	***kWh/yr***	***0***	***1,207,193***
Natural Gas			
Apartments Mid Rise	kBTU/yr	-	3,204,669
Enclosed Parking with Ele	kBTU/yr	-	-
Parking Lot	kBTU/yr	-	-
Total Natural Gas	***kBTU/yr***	***0***	***3,204,669***
Transportation/On-Site Sources			
Diesel	gallons	-	16,715
Gasoline	gallons	-	103,770
Total	**gallons**	**-**	**120,485**

Table 3. Water by Land Use							
		Existing			Buildout		
Land Use	**Units**	**Indoor/Outdoor Use**	**Indoor Use**	**Outdoor Use**	**Indoor/Outdoor Use**	**Indoor Use**	**Outdoor Use**
Buildout	Mgal	0	0	0	8.869401 / 0.568196	8.869401	0.568196

Water and Wastewater Electricity Intensity (kWh/gallon)

Supply Water	0.009727
Treat Water	0.000111
Distribute Water	0.001272
Wastewater Treatment	0.001911

Source: CalEEMod User's Guide, Appendix D, Table 9.2

Indoor Water Factor	0.013021	kWh/gallon (supply, treat, distribute, wastewater treatment)
Outdoor Water Factor	0.01111	kWh/gallon (supply, treat, and distribute)

Notes:

Electricity and Natural Gas for the Proposed Project is total operational usage. Electricity, natural gas, and mobile usage was calculated from CalEEMod. Indoor water factor used for entire Project Site for conservative analysis.

Table 4. Off-Road Equipment Fuel Usage During Construction							
Phase Name	**Off-road Equipment Type**	**Amount**	**Hours per Day**	**Horsepower**	**Load Factor**	**Number of Days**	**Diesel Fuel Usage (Gallons per Project)**
Site Preparation	Rubber Tired Dozers	3	8	367	0.4	10	1,762
Site Preparation	Tractors/Loaders/Backhoes	4	8	84	0.37	10	497
Grading	Excavators	1	8	36	0.38	46	252
Grading	Graders	1	8	148	0.41	46	1,117
Grading	Rubber Tired Dozers	1	8	367	0.4	46	2,701
Grading	Tractors/Loaders/Backhoes	3	8	84	0.37	46	1,716
Building Construction	Cranes	1	7	367	0.29	575	21,419
Building Construction	Forklifts	3	8	82	0.2	575	11,316
Building Construction	Generator Sets	1	8	14	0.74	575	2,383
Building Construction	Tractors/Loaders/Backhoes	3	7	84	0.37	575	18,765
Building Construction	Welders	1	8	46	0.45	575	4,761
Architectural Coating	Air Compressors	1	6	37	0.48	48	256
Paving	Pavers	2	8	81	0.42	48	1,306
Paving	Paving Equipment	2	8	89	0.36	48	1,230
Paving	Rollers	2	8	36	0.38	48	525
						Project Total	**70,005**

Notes:

Equipment assumptions from CalEEMod.

Fuel usage estimate of 0.05 gallons per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3 E.

Table 5. On-Road Vehicle Fuel Usage During Construction (Peak Days)																
		Daily Trips			Total Trips			Trip Length (Miles)			Total Length (Miles)			Fuel Consumption (Gallons)	
Phase	Number of Days	Worker	Vendor	Hauling	Worker Trips	Vendor Trips	Haul Trips	Worker	Vendor	Hauling	Worker	Vendor	Hauling	Gasoline	Diesel
Site Preparation	10	18	0	0	180	0	0	15	7	20	2,646	0	0	94	75
Grading	46	15	0	4	690	0	184	15	7	20	10,143	0	3,680	362	873
Building Construction	575	201	38	0	115,575	21,850	0	15	7	20	1,698,953	150,765	0	60,583	71,927
Paving	48	15	0	0	720	0	0	15	7	20	10,584	0	0	377	298
Architectural Coatings	48	40	0	0	1,920	0	0	15	7	20	28,224	0	0	1,006	795
Total		**289**	**38**	**4**	**119,085**	**21,850**	**184**	**n/a**	**n/a**	**n/a**	**1,750,550**	**150,765**	**3,680**	**62,423**	**73,968**

Fuel Efficiency		
Class	**Gas**	**DSL**
Workers	28.04	35.49
Vendor/Haul Trucks	0	6.27

Notes:

Fuel efficiency calculated in ***Table 6: EMFAC2021 Results - Construction.***

Table 6. EMFAC2021 Results - Construction								
Vehicle Class	**Fuel**	**VMT (miles per day)**	**Fuel (1,000 gal per day)**	**Fuel Efficiency (miles per gallon)**	**Fuel**	**VMT (miles per day)**	**Fuel (1,000 gal per day)**	**Fuel Efficiency (miles per gallon)**
LDA	GAS	9,485,022	307.10	30.89	DSL	30,276	0.71	42.78
LDT1	GAS	817,044	32.21	25.36	DSL	214	0.01	24.08
LDT2	GAS	4,512,101	180.22	25.04	DSL	21,504	0.67	32.33
			Average (LDA, LDT1, LDT2)	**28.04**				**35.49**
T7 Tractor Construction	DSL	55,635	8.88	**6.27**				

Construction Worker Fleet Mix

LDA	50%
LDT1	25%
LDT2	25%

Vendor and Delivery/Haul Truck Fleet Mix

HHDT	100%

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: County
Region: Ventura
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption.

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Trips	Fuel_Consumption
Ventura	2025	LDA	Aggregate	Aggregate	Gasoline	235982.7922	9485022.329	1090309.128	307.0991886
Ventura	2025	LDA	Aggregate	Aggregate	Diesel	1009.979172	30276.46173	4213.295896	0.707800469
Ventura	2025	LDA	Aggregate	Aggregate	Electricity	13628.24454	707926.071	67798.46407	0
Ventura	2025	LDT1	Aggregate	Aggregate	Gasoline	23554.18939	817043.9427	101540.5107	32.21260406
Ventura	2025	LDT1	Aggregate	Aggregate	Diesel	15.70474938	214.4692696	44.07990233	0.00890589
Ventura	2025	LDT1	Aggregate	Aggregate	Electricity	59.05587891	2745.563205	281.1401412	0
Ventura	2025	LDT2	Aggregate	Aggregate	Gasoline	108590.5912	4512101.35	504994.4555	180.2167054
Ventura	2025	LDT2	Aggregate	Aggregate	Diesel	501.485505	21503.65591	2372.960187	0.665090141
Ventura	2025	T7 Tractor Class	Aggregate	Aggregate	Diesel	748.4159281	55635.10291	10874.48344	8.877534406
									529.787829
									529787.829
		Gas	519.528498	519528.498	189627901.8	35,378,625.00		193,372,557.57	
		Diesel	10.25933091	10259.33091	3744655.781	10,548,851.00			
						45,927,476.00			

Table 7. Water Usage for Control of Fugitive Dust During Construction			
Phase Name	**Total Acres**	**Gallons for Project**	**Electricity (kWh)**
Project	5.2	**15,613**	**151.9**

Notes:

Total acres graded based on CalEEMod output sheets.

Water Usage

3,020 gallons per acre per day

Source: Air & Waste Management Association, Air Pollution Engineering Manual, 1992 Edition

Supply Water Electricity Intensity

0.009727 kWh/gallons (CalEEMod default)

Table 8. On road Vehicles - Operational										
		Fuel Efficiency (miles/gal)			Fleet Percentage			Fuel Consumption (gallons)		Total Fuel
Scenario	Annual VMT	Diesel	Gasoline	Hybrid	Diesel	Gasoline	Hybrid	Diesel	Gasoline/Hybrid	Consumption
Existing	0	10.3	27.5	67.9	6%	87%	2%	**0**	**0**	**0**
Project Buildout	3,000,000	10.2	25.8	64.3	6%	88%	2%	**16,715**	**103,770**	**120,485**

Notes:

Percent fleet and fuel efficiency based on ***Table 9: EMFAC2021 Emissions Inventory-Operations***

Annual VMT obtained from the CalEEMod Output files.

Table 9. EMFAC2021 Emissions Inventory - Operations				
Fuel	VMT (miles/day)	Fuel Consumption (1,000 gal/day)	Fuel Efficiency (miles per gallon)	Fuel Percentage
Existing				
Diesel	1,147,253	110.9	10.3	5.5%
Electricity	1,065,546	0.0	#DIV/0!	5.1%
Gasoline	18,008,854	655.2	27.5	86.8%
Natural Gas	25,592	4.5	5.6	0.1%
Hybrid	497,132	7.3	67.9	2.4%
Project				
Diesel	1,178,231	115.1	10.2	6%
Electricity	786,257	0.0	#DIV/0!	4%
Gasoline	18,247,843	707.9	25.8	88%
Natura Gas	23,814	4.5	5.3	0%
Hybrid	415,957	6.5	64.3	2%

Note: Fuel percentage based on VMT.

Fuel efficiency calculated using fuel consumption and VMT from EMFAC2021.

EMFAC Data - Existing Year

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: County
Region: Los Angeles
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption.

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Total VMT	Fuel Consumption
Ventura	2028	All Other Buses	Aggregate	Aggregate	Diesel	5907.284747	0.600002611
Ventura	2028	LDA	Aggregate	Aggregate	Diesel	21759.51888	0.494998439
Ventura	2028	LDT1	Aggregate	Aggregate	Diesel	56.72837838	0.002199757
Ventura	2028	LDT2	Aggregate	Aggregate	Diesel	20782.66491	0.614198262
Ventura	2028	LHD1	Aggregate	Aggregate	Diesel	291353.1995	13.78161364
Ventura	2028	LHD2	Aggregate	Aggregate	Diesel	124978.9328	7.020223226
Ventura	2028	MDV	Aggregate	Aggregate	Diesel	44796.68623	1.79540181
Ventura	2028	MH	Aggregate	Aggregate	Diesel	9941.048454	0.966800414
Ventura	2028	Motor Coach	Aggregate	Aggregate	Diesel	1524.380629	0.26038122
Ventura	2028	PTO	Aggregate	Aggregate	Diesel	10802.08292	2.092985584
Ventura	2028	SBUS	Aggregate	Aggregate	Diesel	8506.643979	1.099002831
Ventura	2028	T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	60.89175868	0.006360111

Ventura	2028	T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	83.91797253	0.008785269
Ventura	2028	T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	215.5833248	0.022228624
Ventura	2028	T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	1400.939656	0.131737381
Ventura	2028	T6 Instate Delivery Class	Aggregate	Aggregate	Diesel	10441.14532	1.147428552
Ventura	2028	T6 Instate Delivery Class	Aggregate	Aggregate	Diesel	10472.3821	1.159957358
Ventura	2028	T6 Instate Delivery Class	Aggregate	Aggregate	Diesel	30982.99256	3.414401377
Ventura	2028	T6 Instate Delivery Class	Aggregate	Aggregate	Diesel	8110.385309	0.877353418
Ventura	2028	T6 Instate Other Class 4	Aggregate	Aggregate	Diesel	27709.74993	3.037104956
Ventura	2028	T6 Instate Other Class 5	Aggregate	Aggregate	Diesel	61310.92261	6.750950693
Ventura	2028	T6 Instate Other Class 6	Aggregate	Aggregate	Diesel	48892.665	5.370829715
Ventura	2028	T6 Instate Other Class 7	Aggregate	Aggregate	Diesel	27214.61182	2.919752595
Ventura	2028	T6 Instate Tractor Class 6	Aggregate	Aggregate	Diesel	312.3337395	0.03410421
Ventura	2028	T6 Instate Tractor Class 7	Aggregate	Aggregate	Diesel	9824.881687	0.990328638
Ventura	2028	T6 OOS Class 4	Aggregate	Aggregate	Diesel	31.07749855	0.003134374
Ventura	2028	T6 OOS Class 5	Aggregate	Aggregate	Diesel	42.63273955	0.004318559
Ventura	2028	T6 OOS Class 6	Aggregate	Aggregate	Diesel	111.4005682	0.011019594
Ventura	2028	T6 OOS Class 7	Aggregate	Aggregate	Diesel	810.0206561	0.074762672
Ventura	2028	T6 Public Class 4	Aggregate	Aggregate	Diesel	1392.969017	0.157240656
Ventura	2028	T6 Public Class 5	Aggregate	Aggregate	Diesel	2675.677242	0.30617199
Ventura	2028	T6 Public Class 6	Aggregate	Aggregate	Diesel	2682.478979	0.303375799
Ventura	2028	T6 Public Class 7	Aggregate	Aggregate	Diesel	7144.616453	0.79090207
Ventura	2028	T6 Utility Class 5	Aggregate	Aggregate	Diesel	1661.311463	0.174402364
Ventura	2028	T6 Utility Class 6	Aggregate	Aggregate	Diesel	313.7267412	0.032829121
Ventura	2028	T6 Utility Class 7	Aggregate	Aggregate	Diesel	432.7088033	0.04492229
Ventura	2028	T7 CAIRP Class 8	Aggregate	Aggregate	Diesel	72380.06708	10.86442031
Ventura	2028	T7 NNOOS Class 8	Aggregate	Aggregate	Diesel	89998.06053	12.79944355
Ventura	2028	T7 NOOS Class 8	Aggregate	Aggregate	Diesel	32694.69676	4.816697234
Ventura	2028	T7 Other Port Class 8	Aggregate	Aggregate	Diesel	18701.84815	2.911279958
Ventura	2028	T7 POLA Class 8	Aggregate	Aggregate	Diesel	1670.944813	0.274822422
Ventura	2028	T7 Public Class 8	Aggregate	Aggregate	Diesel	15333.51834	2.549227504
Ventura	2028	T7 Single Concrete/Trans	Aggregate	Aggregate	Diesel	4694.02417	0.736663848
Ventura	2028	T7 Single Dump Class 8	Aggregate	Aggregate	Diesel	14159.24441	2.301052369
Ventura	2028	T7 Single Other Class 8	Aggregate	Aggregate	Diesel	33973.78056	5.479889633
Ventura	2028	T7 SWCV Class 8	Aggregate	Aggregate	Diesel	4358.308173	1.57395096
Ventura	2028	T7 Tractor Class 8	Aggregate	Aggregate	Diesel	57068.88429	8.891798957
Ventura	2028	T7 Utility Class 8	Aggregate	Aggregate	Diesel	1361.749434	0.214524929
Ventura	2028	UBUS	Aggregate	Aggregate	Diesel	6117.142635	0.991937079
Ventura	2028	LDA	Aggregate	Aggregate	Electricity	896587.6294	0
Ventura	2028	LDT1	Aggregate	Aggregate	Electricity	5268.829689	0
Ventura	2028	LDT2	Aggregate	Aggregate	Electricity	52079.9349	0
Ventura	2028	LHD1	Aggregate	Aggregate	Electricity	27325.19309	0
Ventura	2028	LHD2	Aggregate	Aggregate	Electricity	6775.710921	0

Ventura	2028	MDV	Aggregate	Aggregate	Electricity	54062.24853	0
Ventura	2028	OBUS	Aggregate	Aggregate	Electricity	317.9858295	0
Ventura	2028	PTO	Aggregate	Aggregate	Electricity	544.1634579	0
Ventura	2028	SBUS	Aggregate	Aggregate	Electricity	304.0217091	0
Ventura	2028	T6 CAIRP Class 4	Aggregate	Aggregate	Electricity	4.139956099	0
Ventura	2028	T6 CAIRP Class 5	Aggregate	Aggregate	Electricity	5.293845805	0
Ventura	2028	T6 CAIRP Class 6	Aggregate	Aggregate	Electricity	17.52970916	0
Ventura	2028	T6 CAIRP Class 7	Aggregate	Aggregate	Electricity	61.2631206	0
Ventura	2028	T6 Instate Delivery Class	Aggregate	Aggregate	Electricity	463.1914422	0
Ventura	2028	T6 Instate Delivery Class	Aggregate	Aggregate	Electricity	434.9913132	0
Ventura	2028	T6 Instate Delivery Class	Aggregate	Aggregate	Electricity	1278.650159	0
Ventura	2028	T6 Instate Delivery Class	Aggregate	Aggregate	Electricity	105.1669534	0
Ventura	2028	T6 Instate Other Class 4	Aggregate	Aggregate	Electricity	1387.190671	0
Ventura	2028	T6 Instate Other Class 5	Aggregate	Aggregate	Electricity	2772.45868	0
Ventura	2028	T6 Instate Other Class 6	Aggregate	Aggregate	Electricity	2255.536783	0
Ventura	2028	T6 Instate Other Class 7	Aggregate	Aggregate	Electricity	989.6669318	0
Ventura	2028	T6 Instate Tractor Class 6	Aggregate	Aggregate	Electricity	17.84322216	0
Ventura	2028	T6 Instate Tractor Class 7	Aggregate	Aggregate	Electricity	207.0892804	0
Ventura	2028	T6 Public Class 4	Aggregate	Aggregate	Electricity	61.27009514	0
Ventura	2028	T6 Public Class 5	Aggregate	Aggregate	Electricity	97.07407739	0
Ventura	2028	T6 Public Class 6	Aggregate	Aggregate	Electricity	109.4160244	0
Ventura	2028	T6 Public Class 7	Aggregate	Aggregate	Electricity	366.0795742	0
Ventura	2028	T6 Utility Class 5	Aggregate	Aggregate	Electricity	129.1236478	0
Ventura	2028	T6 Utility Class 6	Aggregate	Aggregate	Electricity	24.62925159	0
Ventura	2028	T6 Utility Class 7	Aggregate	Aggregate	Electricity	38.05677667	0
Ventura	2028	T6TS	Aggregate	Aggregate	Electricity	1985.657518	0
Ventura	2028	T7 CAIRP Class 8	Aggregate	Aggregate	Electricity	3525.678573	0
Ventura	2028	T7 Other Port Class 8	Aggregate	Aggregate	Electricity	574.8059312	0
Ventura	2028	T7 POLA Class 8	Aggregate	Aggregate	Electricity	13.16550921	0
Ventura	2028	T7 Public Class 8	Aggregate	Aggregate	Electricity	640.4341122	0
Ventura	2028	T7 Single Concrete/Trans	Aggregate	Aggregate	Electricity	426.3834315	0
Ventura	2028	T7 Single Dump Class 8	Aggregate	Aggregate	Electricity	737.117137	0
Ventura	2028	T7 Single Other Class 8	Aggregate	Aggregate	Electricity	1577.015375	0
Ventura	2028	T7 SWCV Class 8	Aggregate	Aggregate	Electricity	368.6594762	0
Ventura	2028	T7 Tractor Class 8	Aggregate	Aggregate	Electricity	1380.961683	0
Ventura	2028	T7 Utility Class 8	Aggregate	Aggregate	Electricity	52.0002717	0
Ventura	2028	T7IS	Aggregate	Aggregate	Electricity	5.529826096	0
Ventura	2028	UBUS	Aggregate	Aggregate	Electricity	167.3337971	0
Ventura	2028	LDA	Aggregate	Aggregate	Gasoline	9382078.176	286.0961067
Ventura	2028	LDT1	Aggregate	Aggregate	Gasoline	754297.5242	28.26517946
Ventura	2028	LDT2	Aggregate	Aggregate	Gasoline	4574223.045	171.172844
Ventura	2028	LHD1	Aggregate	Aggregate	Gasoline	346152.7005	23.14758069

Ventura	2028	LHD2	Aggregate	Aggregate	Gasoline	53549.80073	4.135817936
Ventura	2028	MCY	Aggregate	Aggregate	Gasoline	83495.35306	2.001423488
Ventura	2028	MDV	Aggregate	Aggregate	Gasoline	2744683.901	127.5225352
Ventura	2028	MH	Aggregate	Aggregate	Gasoline	21054.70368	4.257579583
Ventura	2028	OBUS	Aggregate	Aggregate	Gasoline	7633.138816	1.436403135
Ventura	2028	SBUS	Aggregate	Aggregate	Gasoline	5282.337475	0.580481461
Ventura	2028	T6TS	Aggregate	Aggregate	Gasoline	33193.50801	5.988986426
Ventura	2028	T7IS	Aggregate	Aggregate	Gasoline	67.55682899	0.013523197
Ventura	2028	UBUS	Aggregate	Aggregate	Gasoline	3141.771159	0.618599611
Ventura	2028	All Other Buses	Aggregate	Aggregate	Natural Gas	210.6252306	0.020738575
Ventura	2028	SBUS	Aggregate	Aggregate	Natural Gas	282.555751	0.065946784
Ventura	2028	T7 CAIRP Class 8	Aggregate	Aggregate	Natural Gas	214.8910764	0.037839407
Ventura	2028	T7 Public Class 8	Aggregate	Aggregate	Natural Gas	413.9391059	0.065343472
Ventura	2028	T7 Single Concrete/Trans	Aggregate	Aggregate	Natural Gas	143.5315986	0.022805773
Ventura	2028	T7 Single Dump Class 8	Aggregate	Aggregate	Natural Gas	420.5288501	0.073574853
Ventura	2028	T7 Single Other Class 8	Aggregate	Aggregate	Natural Gas	1010.339171	0.171840953
Ventura	2028	T7 SWCV Class 8	Aggregate	Aggregate	Natural Gas	9646.110091	1.418818842
Ventura	2028	T7 Tractor Class 8	Aggregate	Aggregate	Natural Gas	136.2029308	0.025389957
Ventura	2028	UBUS	Aggregate	Aggregate	Natural Gas	13113.29654	2.630113719
Ventura	2028	LDA	Aggregate	Aggregate	Plug-in Hybrid	384261.7778	5.702070215
Ventura	2028	LDT1	Aggregate	Aggregate	Plug-in Hybrid	4173.469584	0.056791104
Ventura	2028	LDT2	Aggregate	Aggregate	Plug-in Hybrid	67352.38386	0.957023823
Ventura	2028	MDV	Aggregate	Aggregate	Plug-in Hybrid	41343.96302	0.602582416

Fuel Type	VMT Sum	Fuel Sum
Diesel	1147253.464	110.9079189
Electricity	1065546.122	0
Gasoline	18008853.52	655.2370609
Natural Gas	25592.02035	4.532412336
Hybrid	497131.5943	7.318467558

EMFAC Data - Buildout Year

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: County
Region: Los Angeles
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption.

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Total VMT	Fuel Consumption
Ventura	2025	All Other Buses	Aggregate	Aggregate	Diesel	5978.007703	0.623054735

Ventura	2025	LDA	Aggregate	Aggregate	Diesel	30276.46173	0.707800469
Ventura	2025	LDT1	Aggregate	Aggregate	Diesel	214.4692696	0.00890589
Ventura	2025	LDT2	Aggregate	Aggregate	Diesel	21503.65591	0.665090141
Ventura	2025	LHD1	Aggregate	Aggregate	Diesel	307074.1031	14.71140815
Ventura	2025	LHD2	Aggregate	Aggregate	Diesel	127568.8432	7.303818317
Ventura	2025	MDV	Aggregate	Aggregate	Diesel	51362.95922	2.138940334
Ventura	2025	MH	Aggregate	Aggregate	Diesel	10818.7528	1.052019135
Ventura	2025	Motor Coach	Aggregate	Aggregate	Diesel	1498.498501	0.264401623
Ventura	2025	PTO	Aggregate	Aggregate	Diesel	10855.18705	2.182953186
Ventura	2025	SBUS	Aggregate	Aggregate	Diesel	8677.092414	1.13201982
Ventura	2025	T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	62.30167447	0.006644724
Ventura	2025	T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	85.60881149	0.009134675
Ventura	2025	T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	222.19746	0.023342023
Ventura	2025	T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	1408.715213	0.137772031
Ventura	2025	T6 Instate Delivery Class	Aggregate	Aggregate	Diesel	10511.05894	1.167242064
Ventura	2025	T6 Instate Delivery Class	Aggregate	Aggregate	Diesel	10524.16445	1.178402263
Ventura	2025	T6 Instate Delivery Class	Aggregate	Aggregate	Diesel	31127.79667	3.462010249
Ventura	2025	T6 Instate Delivery Class	Aggregate	Aggregate	Diesel	7967.34372	0.860057469
Ventura	2025	T6 Instate Other Class 4	Aggregate	Aggregate	Diesel	28035.91225	3.105277677
Ventura	2025	T6 Instate Other Class 5	Aggregate	Aggregate	Diesel	61861.44	6.880931497
Ventura	2025	T6 Instate Other Class 6	Aggregate	Aggregate	Diesel	49340.18261	5.479094662
Ventura	2025	T6 Instate Other Class 7	Aggregate	Aggregate	Diesel	27194.58641	2.924502955
Ventura	2025	T6 Instate Tractor Class 6	Aggregate	Aggregate	Diesel	318.0276084	0.035271592
Ventura	2025	T6 Instate Tractor Class 7	Aggregate	Aggregate	Diesel	9716.471801	0.990960131
Ventura	2025	T6 OOS Class 4	Aggregate	Aggregate	Diesel	30.22497401	0.003186378
Ventura	2025	T6 OOS Class 5	Aggregate	Aggregate	Diesel	41.46322918	0.004377972
Ventura	2025	T6 OOS Class 6	Aggregate	Aggregate	Diesel	108.3446041	0.011208542
Ventura	2025	T6 OOS Class 7	Aggregate	Aggregate	Diesel	787.7999974	0.0763726
Ventura	2025	T6 Public Class 4	Aggregate	Aggregate	Diesel	1430.353214	0.164503309
Ventura	2025	T6 Public Class 5	Aggregate	Aggregate	Diesel	2738.388632	0.316790841
Ventura	2025	T6 Public Class 6	Aggregate	Aggregate	Diesel	2753.477732	0.316252669
Ventura	2025	T6 Public Class 7	Aggregate	Aggregate	Diesel	7376.438302	0.835586208
Ventura	2025	T6 Utility Class 5	Aggregate	Aggregate	Diesel	1751.415918	0.185781755
Ventura	2025	T6 Utility Class 6	Aggregate	Aggregate	Diesel	330.9377828	0.034967197
Ventura	2025	T6 Utility Class 7	Aggregate	Aggregate	Diesel	459.1221451	0.048271164
Ventura	2025	T7 CAIRP Class 8	Aggregate	Aggregate	Diesel	71805.59042	11.31276941
Ventura	2025	T7 NNOOS Class 8	Aggregate	Aggregate	Diesel	86179.836	13.18761428
Ventura	2025	T7 NOOS Class 8	Aggregate	Aggregate	Diesel	31307.60361	4.910452345
Ventura	2025	T7 Other Port Class 8	Aggregate	Aggregate	Diesel	17217.21434	2.770769501
Ventura	2025	T7 POLA Class 8	Aggregate	Aggregate	Diesel	1496.499064	0.247900174
Ventura	2025	T7 Public Class 8	Aggregate	Aggregate	Diesel	15797.03585	2.676490404
Ventura	2025	T7 Single Concrete/Trans	Aggregate	Aggregate	Diesel	4940.527199	0.798697611

Ventura	2025	T7 Single Dump Class 8	Aggregate	Aggregate	Diesel	14532.3866	2.392754803
Ventura	2025	T7 Single Other Class 8	Aggregate	Aggregate	Diesel	33673.56518	5.498312807
Ventura	2025	T7 SWCV Class 8	Aggregate	Aggregate	Diesel	5713.975859	2.082544249
Ventura	2025	T7 Tractor Class 8	Aggregate	Aggregate	Diesel	55635.10291	8.877534406
Ventura	2025	T7 Utility Class 8	Aggregate	Aggregate	Diesel	1397.311369	0.22241247
Ventura	2025	UBUS	Aggregate	Aggregate	Diesel	6523.003654	1.041587512
Ventura	2025	LDA	Aggregate	Aggregate	Electricity	707926.071	0
Ventura	2025	LDT1	Aggregate	Aggregate	Electricity	2745.563205	0
Ventura	2025	LDT2	Aggregate	Aggregate	Electricity	30350.4981	0
Ventura	2025	LHD1	Aggregate	Aggregate	Electricity	5902.194283	0
Ventura	2025	LHD2	Aggregate	Aggregate	Electricity	1447.884697	0
Ventura	2025	MDV	Aggregate	Aggregate	Electricity	32807.45115	0
Ventura	2025	OBUS	Aggregate	Aggregate	Electricity	78.48629688	0
Ventura	2025	PTO	Aggregate	Aggregate	Electricity	130.9052033	0
Ventura	2025	SBUS	Aggregate	Aggregate	Electricity	71.98992916	0
Ventura	2025	T6 CAIRP Class 4	Aggregate	Aggregate	Electricity	0.946076484	0
Ventura	2025	T6 CAIRP Class 5	Aggregate	Aggregate	Electricity	1.155729288	0
Ventura	2025	T6 CAIRP Class 6	Aggregate	Aggregate	Electricity	4.520767646	0
Ventura	2025	T6 CAIRP Class 7	Aggregate	Aggregate	Electricity	13.37610648	0
Ventura	2025	T6 Instate Delivery Class	Aggregate	Aggregate	Electricity	94.14773418	0
Ventura	2025	T6 Instate Delivery Class	Aggregate	Aggregate	Electricity	83.99558457	0
Ventura	2025	T6 Instate Delivery Class	Aggregate	Aggregate	Electricity	248.837801	0
Ventura	2025	T6 Instate Delivery Class	Aggregate	Aggregate	Electricity	22.83776645	0
Ventura	2025	T6 Instate Other Class 4	Aggregate	Aggregate	Electricity	262.8348936	0
Ventura	2025	T6 Instate Other Class 5	Aggregate	Aggregate	Electricity	463.9923579	0
Ventura	2025	T6 Instate Other Class 6	Aggregate	Aggregate	Electricity	404.9108356	0
Ventura	2025	T6 Instate Other Class 7	Aggregate	Aggregate	Electricity	235.9865704	0
Ventura	2025	T6 Instate Tractor Class 6	Aggregate	Aggregate	Electricity	3.091868706	0
Ventura	2025	T6 Instate Tractor Class 7	Aggregate	Aggregate	Electricity	40.30000603	0
Ventura	2025	T6 Public Class 4	Aggregate	Aggregate	Electricity	18.01866278	0
Ventura	2025	T6 Public Class 5	Aggregate	Aggregate	Electricity	23.17581612	0
Ventura	2025	T6 Public Class 6	Aggregate	Aggregate	Electricity	27.15316399	0
Ventura	2025	T6 Public Class 7	Aggregate	Aggregate	Electricity	103.9552642	0
Ventura	2025	T6 Utility Class 5	Aggregate	Aggregate	Electricity	31.79554897	0
Ventura	2025	T6 Utility Class 6	Aggregate	Aggregate	Electricity	6.05308767	0
Ventura	2025	T6 Utility Class 7	Aggregate	Aggregate	Electricity	9.744096098	0
Ventura	2025	T6TS	Aggregate	Aggregate	Electricity	486.410454	0
Ventura	2025	T7 CAIRP Class 8	Aggregate	Aggregate	Electricity	852.6523903	0
Ventura	2025	T7 Other Port Class 8	Aggregate	Aggregate	Electricity	90.58216397	0
Ventura	2025	T7 POLA Class 8	Aggregate	Aggregate	Electricity	2.345927769	0
Ventura	2025	T7 Public Class 8	Aggregate	Aggregate	Electricity	159.0871373	0
Ventura	2025	T7 Single Concrete/Trans	Aggregate	Aggregate	Electricity	117.1228749	0

Ventura	2025	T7 Single Dump Class 8	Aggregate	Aggregate	Electricity	168.9197294	0
Ventura	2025	T7 Single Other Class 8	Aggregate	Aggregate	Electricity	373.2221651	0
Ventura	2025	T7 SWCV Class 8	Aggregate	Aggregate	Electricity	97.60573967	0
Ventura	2025	T7 Tractor Class 8	Aggregate	Aggregate	Electricity	320.6468915	0
Ventura	2025	T7 Utility Class 8	Aggregate	Aggregate	Electricity	10.73445876	0
Ventura	2025	T7IS	Aggregate	Aggregate	Electricity	1.395058668	0
Ventura	2025	UBUS	Aggregate	Aggregate	Electricity	14.84810966	0
Ventura	2025	LDA	Aggregate	Aggregate	Gasoline	9485022.329	307.0991886
Ventura	2025	LDT1	Aggregate	Aggregate	Gasoline	817043.9427	32.21260406
Ventura	2025	LDT2	Aggregate	Aggregate	Gasoline	4512101.35	180.2167054
Ventura	2025	LHD1	Aggregate	Aggregate	Gasoline	361575.3331	25.89979713
Ventura	2025	LHD2	Aggregate	Aggregate	Gasoline	57382.28512	4.693568774
Ventura	2025	MCY	Aggregate	Aggregate	Gasoline	86242.61676	2.088980892
Ventura	2025	MDV	Aggregate	Aggregate	Gasoline	2851763.258	141.2559697
Ventura	2025	MH	Aggregate	Aggregate	Gasoline	25590.51895	5.170699781
Ventura	2025	OBUS	Aggregate	Aggregate	Gasoline	8975.780242	1.729584329
Ventura	2025	SBUS	Aggregate	Aggregate	Gasoline	5195.912585	0.5787673
Ventura	2025	T6TS	Aggregate	Aggregate	Gasoline	33676.32772	6.277825788
Ventura	2025	T7IS	Aggregate	Aggregate	Gasoline	65.55093445	0.01531249
Ventura	2025	UBUS	Aggregate	Aggregate	Gasoline	3207.998168	0.644893694
Ventura	2025	All Other Buses	Aggregate	Aggregate	Natural Gas	115.2191125	0.011792556
Ventura	2025	SBUS	Aggregate	Aggregate	Natural Gas	271.3197209	0.064069904
Ventura	2025	T7 CAIRP Class 8	Aggregate	Aggregate	Natural Gas	232.9278541	0.042289848
Ventura	2025	T7 Public Class 8	Aggregate	Aggregate	Natural Gas	365.6504065	0.058075706
Ventura	2025	T7 Single Concrete/Trans	Aggregate	Aggregate	Natural Gas	139.1039805	0.022813719
Ventura	2025	T7 Single Dump Class 8	Aggregate	Aggregate	Natural Gas	420.0902641	0.075795297
Ventura	2025	T7 Single Other Class 8	Aggregate	Aggregate	Natural Gas	963.2185172	0.167378191
Ventura	2025	T7 SWCV Class 8	Aggregate	Aggregate	Natural Gas	8503.506893	1.311576337
Ventura	2025	T7 Tractor Class 8	Aggregate	Aggregate	Natural Gas	144.7489956	0.027868542
Ventura	2025	UBUS	Aggregate	Aggregate	Natural Gas	12658.30407	2.673366911
Ventura	2025	LDA	Aggregate	Aggregate	Plug-in Hybrid	336274.1429	5.272351125
Ventura	2025	LDT1	Aggregate	Aggregate	Plug-in Hybrid	2058.941174	0.029109168
Ventura	2025	LDT2	Aggregate	Aggregate	Plug-in Hybrid	47910.88528	0.712180733
Ventura	2025	MDV	Aggregate	Aggregate	Plug-in Hybrid	29712.69006	0.458776952

Fuel Type	VMT Sum	Fuel Sum
Diesel	1178231.457	115.0681944
Electricity	786257.4467	0
Gasoline	18247843.2	707.8838979
Natural Gas	23814.08982	4.455027011
Hybrid	415956.6594	6.472417978