Harris & Associates

TECHNICAL MEMORANDUM

To: Matthew Esquivel, Project Manager, Warmington Residential
From: Sharon Toland, Project Manager, Harris & Associates
Subject: Vista II Residential Project – Air Quality Impact Analysis
Date: August 30, 2024
CC: Ryan Binns, Senior Director, Harris & Associates
Att: 1, CalEEMod Results

Dear Mr. Esquivel,

The following presents the results of Harris & Associates' analysis of the potential impacts to air quality from implementation of the proposed Vista II Residential Project (project). The project is a Tentative Map and Major Use Permit to subdivide an 8.93-acre site into three lots. Lot 1 would contain an existing church and driveway that would be improved as a secondary access for Lot 2. Lot 2, which would be 5.33 acres, would be improved with 37 multi-family condominium units with associated parking and 14,800 square feet of private usable open space. The third lot, Lot A, which has not been approved for future development, would consist of an existing cellular facility. Access to the project site would be from Hannalei Drive, with secondary emergency access in the northwestern area of the site connecting to the adjacent church property to the west (on Lot 1). The project would be part of the North County Metro Community Planning Area. The Vista Fire Protection District would provide fire service, the Buena Sanitation District would provide sewer service, and the Vista Irrigation District would provide water to the project site. The site is subject to General Plan Designation VR-7.3. Zoning for the site is RS. In total, the project would include 111 parking spaces and 61,462 square feet of open space. Earthwork would consist of 10,700 cubic yards of cut, 22,500 cubic yards of fill, and 11,800 cubic yards of imported material. Currently, the project site contains a stockpile of approximately 3,500 cubic yards of soil spread over a 1-acre area, which violates the County's Grading Ordinance. The stockpile would remain on site and be considered part of the project. Final mapping for the project would occur in phases. The first unit would create Lots 1 and 2 and Lot A for finance and conveyance purposes only, not for development. Once the first unit is recorded, Lot 2 would be transferred to the future developer. Lot 2 would then be developed per the conditions of approval for Tentative Tract Map 5647.

Background

Air quality laws and regulations have historically divided air pollutants into two broad categories: criteria air pollutants and non-criteria pollutants, or toxic air contaminants (TACs). Criteria air pollutants are a group of common air pollutants regulated by the federal and state governments by means of ambient air standards based on criteria regarding health and environmental effects of pollution. TACs are pollutants with potential to cause significant adverse health effects. In California, unlike the air quality standards for criteria pollutants to protect health and the environment, the California Air Resources Board (CARB) identifies exposure thresholds for TACs that indicate levels below which no significant adverse health effects are anticipated from exposure to the identified substance. However, thresholds are not specified for TACs that have been found to have no safe exposure level or where insufficient data is available to identify an exposure threshold (CARB 2022a).

The criteria air pollutants pertinent to the analysis in this memorandum are carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O_3), particulate matter, and sulfur dioxide (SO_2). The following describes the health effects of these criteria air pollutants.

Carbon Monoxide (CO)

CO is a colorless, odorless, poisonous gas produced by combustion processes, primarily mobile sources. When CO gets into the body, it combines with chemicals in the blood and prevents blood from providing oxygen to cells, tissues, and organs. Because the body requires oxygen for energy, high-level exposure to CO can cause serious health effects, including dizziness, confusion, and death. Elevated CO levels are of particular concern for people with certain types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain, also known as angina (USEPA 2022a).

Nitrogen Oxides (NO_x)

NO_x is a general term pertaining to compounds including nitric oxide (NO), nitrogen dioxide (NO_2), and other oxides of nitrogen. NO_x is produced from burning fuels, including gasoline, diesel, and coal. NO_x reacts with volatile organic compounds (VOCs) to form ground-level O_3 (smog). NO_x is linked to a number of adverse respiratory system effects. It also decreases lung function and may reduce resistance to infection. People with asthma, as well as children and the elderly, are generally at greater risk to the health effects of NO_2 (USEPA 2022b).

Ozone (O_3)

Ground-level O_3 is not emitted directly into the air but is formed by chemical reactions of "precursor" pollutants (NO_x and VOCs) in the presence of sunlight. Major emissions sources include NO_x and VOC emissions from industrial facilities and electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents. O_3 can trigger a variety of health problems, including reduced lung function especially during vigorous physical activity, particularly for sensitive receptors, including children, older adults, and people of all ages who have lung diseases, such as asthma (USEPA 2022c).

Particulate Matter (PM_{10} and $PM_{2.5}$)

Particulate matter includes dust, metals, organic compounds, and other tiny particles of solid materials that are released into and move around in the air. Particulates are produced by many sources, including the burning of diesel fuels by trucks and buses, industrial processes, and fires. Particulate pollution can cause nose and throat irritation and heart and lung problems. Particulate matter is measured in microns, which are one-millionth of a meter in length (or one-thousandth of a millimeter). PM_{10} is small (i.e., respirable) particulate matter measuring no more than ten microns in diameter, while $PM_{2.5}$ is fine particulate matter measuring no more than 2.5 microns in diameter. The U.S. Environmental Protection Agency's (USEPA) scientific review concluded that $PM_{2.5}$, which penetrates deeply into the lungs, is more likely than PM_{10} to contribute to the health effects listed in a number of recently published community epidemiological studies at concentrations that extend well below those allowed by the current PM_{10} standards. These health effects include premature death and increased hospital admissions and emergency room visits (primarily among older adults and individuals with cardiopulmonary disease), increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease [e.g., asthma]), decreased lung function (particularly in children and individuals with asthma), and alterations in lung tissue and structure and in respiratory tract defense mechanisms (CARB 2023).

Sulfur Dioxide (SO_2)

SO_2 is formed primarily by the combustion of sulfur-containing fossil fuels, especially at power plants and industrial facilities. SO_2 is linked to a number of adverse effects on the respiratory system. It can irritate the respiratory tract, which can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight (USEPA 2022d).

Toxic Air Contaminants

TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills. The two primary emissions of concern regarding health effects for land development projects are CO and diesel particulate matter (DPM). The health effects of CO are described previously. DPM is a mixture of many exhaust

particles and gases that is produced when an engine burns diesel fuel. Compounds found in diesel exhaust are carcinogenic. Some short-term (acute) effects of diesel exhaust exposure include eye, nose, throat, and lung irritation and headaches and dizziness. Chronic exposure is linked to increased risk of cardiovascular, cardiopulmonary, and respiratory disease and lung cancer (OSHA 2013).

Existing Ambient Air Quality

The project site is in the San Diego Air Basin (SDAB). Table 1, Air Quality Monitoring Data, presents a summary of the highest pollutant concentrations monitored during the four most recent years (2018 through 2021) for which the San Diego Air Pollution Control District (SDAPCD) has reported data. Data is reported from the monitoring station nearest to the project site with available data for that pollutant. No CO or SO_2 data is available from any monitoring site in the SDAB for recent years. However, with one exception for CO during the firestorms of October 2003, the SDAB has not violated the state or federal standards for CO or SO_2 in the last 20 years (SDAPCD 2017). As shown in Table 1, the eight-hour O_3 concentration standard was exceeded in 2020, one PM_{10} exceedance was recorded in 2019, and one $PM_{2.5}$ exceedance was recorded in 2020.

Table 1. Air Quality Monitoring Data

Pollutant	Monitoring Station	2018	2019	2020	2021
O_3					
Maximum one-hour concentration (ppm)	Camp Pendleton (21441 W B Street)	0.084	0.075	0.094	0.074
Days above one-hour state standard (>0.09 ppm)		0	0	0	0
Maximum eight-hour concentration (ppm)		0.068	0.064	0.074	0.059
Days above eight-hour state standard (>0.07 ppm)		0	0	3	0
Days above eight-hour federal standard (>0.075 ppm)		0	0	3	0
PM_{10}					
Peak 24-hour concentration (μg/m^3)	San Diego – Chula Vista (80 E. J Street)	45	68.2	—	—
Days above state standard (>50 μg/m^3)		0	1	—	—
Days above federal standard (>150 μg/m^3)		0	0	—	—
$PM_{2.5}$					
Peak 24-hour concentration (μg/m^3)	San Diego – Kearny Villa Road (6125A Kearny Villa Road)	32.2	25	47.5	20.9
Days above federal standard (>35 μg/m^3)		0	0	2	0
NO_2					
Peak one-hour concentration (ppm)	Camp Pendleton (21441 W B Street)	0.063	0.053	0.058	0.059
Days above state one-hour standard (0.18 ppm)		0	0	0	0

Source: CARB 2022.

Notes: μg/m3 = micrograms per cubic meter; NO_2 = nitrogen dioxide; O_3 = ozone; PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particulate matter; ppm = parts per million; SO_2 = sulfur dioxide

Regulatory Setting

The Clean Air Act (CAA) of 1970 requires the USEPA to establish National Ambient Air Quality Standards (NAAQS) while retaining the option for states to adopt more stringent standards or to include other specific pollutants. The NAAQS were developed for six criteria pollutants: O_3, NO_2, CO, SO_2, particulate matter, and lead. The 1990 CAA

Amendments require that each state have an Air Pollution Control Plan called the State Implementation Plan (SIP). The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The USEPA reviews the SIPs to determine whether the plans would conform to the 1990 CAA Amendments and achieve the air quality goals.

The USEPA has classified air basins (or portions thereof) as being in "attainment," "nonattainment," or "unclassified" for each criteria air pollutant based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data was available as a basis for a nonattainment or attainment designation. Table 2, San Diego Air Basin Attainment Status, lists the attainment status of the SDAB for the criteria pollutants. The USEPA classifies the SDAB as attainment for the federal CO, NO_2, lead, $PM_{2.5}$, and SO_2 standards. It is unclassifiable for PM_{10} with respect to federal air quality standards. The SDAB is classified as in moderate nonattainment for O_3.

The State of California, under the California Clean Air Act, has established standards for criteria pollutants that are generally stricter than federal standards. As shown in Table 2, the SDAB is in nonattainment with the CAAQS for O_3, PM_{10}, and $PM_{2.5}$. The county is designated as an attainment area for the state CO, NO_2, SO_2, lead, and sulfates standards. Hydrogen sulfide and visibility-reducing particles are unclassified in the county.

Table 2. San Diego Air Basin Attainment Status

Pollutant	Averaging Time	State Standards	Federal Standards
O_3	One-hour	Nonattainment	No federal standard
	Eight-hour		Nonattainment (Severe)
PM_{10}	Annual arithmetic mean	Nonattainment	No federal standard
	24-hour		Unclassified[1]
$PM_{2.5}$	Annual arithmetic mean	Nonattainment	Attainment
	24-hour	No state standard	
CO	Eight-hour	Attainment	Attainment
	One-hour		
NO_2	Annual arithmetic mean	No state standard	Attainment
	One-hour	Attainment	No federal standard
Lead	Calendar quarter	No state standard	Attainment
	30-day average	Attainment	No federal standard
	Rolling three-month average	No state standard	Attainment
SO_2	Annual arithmetic mean	No state standard	Attainment
	24-hour	Attainment	Attainment
	One-hour	Attainment	No federal standard
Sulfates	24-hour	Attainment	No federal standard
Hydrogen sulfide	One-hour	Unclassified	No federal standard
Visibility-reducing particulates	Eight-hour (10:00 a.m. to 6:00 p.m. [PST])	Unclassified	No federal standard

Source: SDAPCD 2022, USEPA 2023.

Notes: CO = carbon monoxide; NO_2 = nitrogen dioxide; O_3 = ozone; PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particulate matter; SO_2 = sulfur dioxide

[1] "Unclassified" indicates data are not sufficient for determining attainment or nonattainment.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, older adults, people with acute illnesses, and people with chronic illnesses, especially those with cardiorespiratory diseases. The closest existing sensitive

receptors to the project site are residences, located approximately 50 feet directly west and south of the project site, and Hannalei Elementary School, located approximately 55 feet directly south of the site.

Significance Thresholds

The SDAPCD has jurisdiction over air quality programs in the SDAB. Therefore, the County is within the jurisdiction of the SDAPCD. The SDAPCD does not provide quantitative thresholds for determining the significance of construction- or mobile source-related projects. However, the SDAPCD specifies air quality impact analysis trigger levels for new or modified stationary sources (SDAPCD Rules 20.2 and 20.3). If these incremental levels are exceeded, an air quality impact analysis must be performed. The County has determined that, for CEQA purposes, the screening level thresholds can be used to demonstrate that a project's total emissions would not result in a significant impact to air quality. Because the air quality impact analysis screening thresholds do not include VOCs, the screening levels for VOCs used in this analysis are from the South Coast Air Quality Management District (SCAQMD), which has stricter emissions thresholds than the SDAPCD. For $PM_{2.5}$, the USEPA's Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards published in 2005, which quantifies significant emissions as 10 tons per year, is used as the screening level threshold. The trigger thresholds are listed in Table 3, San Diego Air Pollution Control District Pollutant Thresholds.

Regarding sensitive receptors, the proposed project would result in a significant impact if it would expose or exacerbate exposure of sensitive receptors to substantial CO concentrations. An air quality impact related to CO is considered significant if CO emissions create a hot spot where either the California one-hour standard of 20 parts per million (ppm) or the federal and California eight-hour standard of 9 ppm is exceeded. An odor impact would be considered significant if the project would result in emissions leading to odors that would adversely affect a substantial number of people.

Table 3. San Diego Air Pollution Control District Pollutant Thresholds

Pollutant	Pounds/Day
CO	550
NO_x	250
PM_{10}	100
$PM_{2.5}$	55[1]
SO_x	250
Lead	3.2
VOC	75[2]

Source: County of San Diego 2007.

Notes: CO = carbon monoxide; NO_x = nitrogen oxides; PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particulate matter; SO_x = sulfur oxides; VOC = volatile organic compound

SO_2 is the dominant sulfur oxide from combustion sources and is the relevant SO_x calculated by the CalEEMod model for air quality standard compliance. Therefore, the SDAPCD threshold for SO_x is used as the threshold for SO_2 emissions in this analysis.

[1] Based on the USEPA "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 2005.

[2] Based on the VOCs threshold from the SCAQMD.

Construction Impact Analysis

Project construction emissions were estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1.1.24, based on construction information provided by the applicant, including construction schedule (24 months total), material movement (net import of 11,800 cubic yards), and disturbance area (4.8 acres). Demolition would consist of asphalt and concrete at the existing baseball fields. An estimated 752 tons of material would be exported during demolition. CalEEMod default inputs were assumed for construction equipment, vehicle trips, and architectural coating. Model assumptions are provided in Attachment 1, CalEEMod Results. Modeling assumes dust control best management practices, including watering exposed surfaces twice daily, and limiting vehicle speeds in high winds.

Maximum daily emissions levels associated with project construction are shown in Table 4, Estimated Construction Daily Maximum Air Pollutant Emissions (lbs/day). As shown in Table 4, the project would not exceed SDAPCD construction thresholds for any pollutant. Therefore, the project would not result in a significant impact related to criteria pollutant emissions during construction. Because emissions of criteria pollutants under the project would be below applicable thresholds, which are established to assist maintaining or achieving regional attainment in the SDAB, construction would not result in a cumulatively considerable contribution to regional acute and long-term health impacts related to nonattainment of the ambient air quality standards. No mitigation measures would be required.

Table 4. Estimated Construction Daily Maximum Air Pollutant Emissions (lbs/day)

Project	VOC	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Site Preparation	4	36	34	<1	9	5
Demolition	3	27	23	<1	3	1
Grading	2	20	20	<1	4	2
Building Construction/Architectural Coating	17	25	31	<1	1	1
Paving	1	8	11	<1	<1	<1
Maximum Daily Emissions	**17**	**36**	**34**	**<1**	**9**	**5**
SDAPCD Threshold	75	250	550	250	100	55
Significant Impact?	*No*	*No*	*No*	*No*	*No*	*No*

Source: Attachment 1.

Notes: CO = carbon monoxide; NO_x = oxides of nitrogen; PM_{10} = particulate matter less than 10 microns; $PM_{2.5}$ = particulate matter less than 2.5 microns; SO_2 = sulfur dioxide; VOC = volatile organic compound

Emission quantities are rounded to the nearest whole number. Exact values are provided in Attachment 1.

Regarding sensitive receptors, construction has the potential to result in emissions of DPM. DPM is a mixture of many exhaust particulates and gases that is produced when an engine burns diesel fuel. Compounds found in diesel exhaust are carcinogenic and may cause health impacts ranging from irritation, headache, and dizziness to increased risk of cardiovascular, cardiopulmonary, and respiratory disease and lung cancer, depending on the length of exposure. The project would result in a short-term addition of truck trips occurring over only a few months. A total of approximately 1,479 total truck trips would be required during site grading and 188 during the demolition phase. A maximum of 2 trucks per day is estimated during building construction. Therefore, the length of individual receptor exposure would be limited, and as shown in Table 4, maximum daily air pollutant emissions from on- and off-road vehicle emissions would not exceed applicable thresholds. In addition, the project's maximum daily emissions of 20 pounds/day of PM_{10}, a surrogate for DPM, is considered low compared to the SDAPCD threshold of 100 pounds/day. Construction associated with implementation of the project would not result in a significant impact to sensitive receptors related to DPM.

Construction of the project could result in minor amounts of odor compounds associated with diesel heavy equipment exhaust. However, all diesel equipment would not be operating at once, and construction near individual receptors would be temporary and would vary by day. Additionally, SO_2 is the only criteria air pollutant with a strong, pungent odor (ATSDR 2015). As shown in Table 4, maximum construction emissions of SO_2 would be less than one pound per day, which is well below the SDAPCD long-term threshold of 250 pounds per day. Therefore, impacts associated with odors during construction would not result in nuisance odors that would result in a significant impact.

Operation Impact Analysis

Area sources of air pollutant emissions associated with the proposed project include fuel combustion emissions from space and water heating, fuel combustion emissions from landscape maintenance equipment, VOC emissions from periodic repainting of interior and exterior surfaces, consumer products like hairsprays, and the

application of fertilizers. Energy emissions include natural gas use. Increased volumes of vehicles also contribute to regional emissions of criteria pollutants. CalEEMod default inputs were assumed for the proposed project, with the exception of vehicle trips and outdoor water use. Vehicle trip data was obtained from the project's Local Transportation Assessment (CRA 2022) and outdoor water use was obtained from the project's Landscaping Plan (BMLA Landscape Architecture 2021). Vehicle trip length was adjusted to the regional trip estimate for residential use reported in the (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (SANDAG 2002). Model assumptions are provided in Attachment 1.

The total estimated operational emissions from the proposed project are provided in Table 5, Operational Daily Maximum Air Pollutant Emissions. As shown in Table 5, operational emissions from the proposed project would not exceed any of the significance thresholds for maximum daily emissions. Air quality impacts associated with operation of the project would be less than significant. Because emissions of criteria pollutants under the project would be below applicable thresholds, which are established to assist maintaining or achieving regional attainment in the SDAB, operation would not result in a cumulatively considerable contribution to regional acute and long-term health impacts related to nonattainment of the ambient air quality standards. No mitigation is required.

Table 5. Operational Daily Maximum Air Pollutant Emissions

Emission Source	Maximum Daily Emissions (pounds/day)					
	VOC	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Natural Gas	<1	<1	<1	<1	<1	<1
Landscape	<1	<1	2	<1	<1	<1
Consumer Products	2	0	0	0	0	0
Architectural Coatings	<1	0	0	0	0	0
Hearths	57	1	70	<1	10	10
Vehicular Sources	2	1	10	<1	2	1
Total Operational Emissions	**61**	**2**	**82**	**<1**	**12**	**11**
SDAPCD Threshold	75	250	550	250	100	55
Significant Impact?	*No*	*No*	*No*	*No*	*No*	*No*

Source: Attachment 1

Notes: CO = carbon monoxide; NO_x = nitrogen oxides; PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particulate matter; SO_2 = sulfur dioxide; VOC = volatile organic compound

Emission quantities are rounded to the nearest whole number. Exact values are provided in Attachment 1.

Regarding sensitive receptors, CARB recommends that a detailed health risk assessment be conducted for proposed sensitive receptors within 1,000 feet of a warehouse distribution center, 300 feet of a large gas station, 50 feet of typical gas dispensing facilities, or 300 feet of a dry-cleaning facility that uses perchloroethylene, among other siting recommendations (CARB 2005). Additionally, CARB recommends that a health risk assessment be prepared for sensitive receptors proposed within 500 feet of a highway. The proposed project consists of residences that would not be a source of substantial TACs. The proposed project would not place sensitive receptors within a screening distance for a source of TACs requiring a health risk assessment. Additionally, areas with high vehicle density, such as congested intersections and parking garages, have the potential to create high concentrations of CO, known as "CO hot spots." An air quality impact is considered significant if CO emissions create a hot spot where either the California one-hour standard of 20 ppm or the federal and California eight-hour standard of 9 ppm is exceeded. This typically occurs at severely congested intersections (level of service E or worse) (Caltrans 2010). The project traffic assessment did not identify any intersections in the project study area that would operate at level of service E or F as a result of project implementation. All three study area intersections would continue to operate at level of service A (CRA 2022). In addition, CARB's Zero-Emission Vehicle program, which requires manufacturers to meet low-emission and zero-emission vehicle standards, is resulting in the

greater use of electric vehicles and lower-emissions vehicles, further reducing CO emissions. Therefore, impacts to sensitive receptors would be less than significant.

Typical sources of odor complaints include facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations (CARB 2005). The proposed project consists of residential land use. The project would not construct a facility that would create new objectionable odors. Therefore, impacts related to odor emissions would be less than significant.

Summary

Implementation of the proposed project would not result in a significant air quality impact. No mitigation measures would be necessary.

Sincerely,

Sharon Toland
Project Manager
Harris & Associates

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Attachment 1. CalEEMod Results

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145 Hannalei Drive Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	145 Hannalei Drive
Construction Start Date	4/4/2024
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.20
Precipitation (days)	19.4
Location	145 Hannalei Dr, Vista, CA 92083, USA
County	San Diego
City	Unincorporated
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6263
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Single Family Housing	37.0	Dwelling Unit	4.00	72,150	12,125	0.00	103	—
Parking Lot	148	Space	1.33	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	11.8	56.0	54.0	0.08	2.46	11.0	13.5	2.27	5.43	7.69	—	9,842	9,842	0.42	0.49	6.86	9,940
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	11.8	36.0	33.7	0.05	1.60	7.81	9.41	1.47	3.97	5.45	—	5,456	5,456	0.22	0.05	0.02	5,476
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.41	23.6	22.3	0.03	1.04	4.73	5.77	0.96	2.35	3.31	—	3,908	3,908	0.16	0.09	0.52	3,939
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.44	4.31	4.07	0.01	0.19	0.86	1.05	0.17	0.43	0.60	—	647	647	0.03	0.01	0.09	652

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	5.71	56.0	54.0	0.08	2.46	11.0	13.5	2.27	5.43	7.69	—	9,842	9,842	0.42	0.49	6.86	9,940
2025	3.38	31.7	31.0	0.05	1.37	7.81	9.18	1.26	3.97	5.23	—	5,461	5,461	0.22	0.05	0.73	5,482
2026	11.8	0.86	1.25	< 0.005	0.02	0.02	0.05	0.02	0.01	0.03	—	158	158	0.01	< 0.005	0.09	159
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.72	36.0	33.7	0.05	1.60	7.81	9.41	1.47	3.97	5.45	—	5,456	5,456	0.22	0.05	0.02	5,476
2025	3.38	31.7	30.9	0.05	1.37	7.81	9.18	1.26	3.97	5.23	—	5,452	5,452	0.22	0.05	0.02	5,472
2026	11.8	7.17	10.5	0.01	0.32	0.13	0.45	0.29	0.03	0.32	—	1,642	1,642	0.07	0.02	0.01	1,649
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.41	23.6	22.3	0.03	1.04	4.73	5.77	0.96	2.35	3.31	—	3,908	3,908	0.16	0.09	0.52	3,939
2025	0.94	8.65	9.43	0.02	0.37	1.45	1.82	0.34	0.73	1.07	—	1,691	1,691	0.07	0.02	0.14	1,698
2026	1.36	0.59	0.86	< 0.005	0.02	0.01	0.04	0.02	< 0.005	0.03	—	130	130	0.01	< 0.005	0.02	130
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.44	4.31	4.07	0.01	0.19	0.86	1.05	0.17	0.43	0.60	—	647	647	0.03	0.01	0.09	652
2025	0.17	1.58	1.72	< 0.005	0.07	0.26	0.33	0.06	0.13	0.19	—	280	280	0.01	< 0.005	0.02	281
2026	0.25	0.11	0.16	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	21.5	21.5	< 0.005	< 0.005	< 0.005	21.6

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	59.9	2.37	82.2	0.15	9.67	2.06	11.7	9.63	0.52	10.1	1,043	3,232	4,275	2.69	0.18	8.62	4,404

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	59.7	2.44	79.6	0.15	9.67	2.06	11.7	9.62	0.52	10.1	1,043	3,119	4,162	2.70	0.18	0.73	4,285
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	15.9	1.58	26.4	0.05	2.20	2.04	4.24	2.19	0.52	2.71	246	2,806	3,052	1.96	0.13	4.02	3,143
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.90	0.29	4.81	0.01	0.40	0.37	0.77	0.40	0.09	0.49	40.8	465	505	0.32	0.02	0.66	520

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.46	0.97	10.1	0.02	0.02	2.06	2.08	0.02	0.52	0.54	—	2,423	2,423	0.12	0.09	8.10	2,462
Area	58.5	1.13	72.0	0.13	9.63	—	9.63	9.59	—	9.59	1,028	434	1,462	0.95	0.07	—	1,507
Energy	0.02	0.27	0.11	< 0.005	0.02	—	0.02	0.02	—	0.02	—	373	373	0.06	< 0.005	—	375
Water	—	—	—	—	—	—	—	—	—	—	2.49	2.09	4.58	0.26	0.01	—	12.9
Waste	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	59.9	2.37	82.2	0.15	9.67	2.06	11.7	9.63	0.52	10.1	1,043	3,232	4,275	2.69	0.18	8.62	4,404
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.43	1.07	9.56	0.02	0.02	2.06	2.08	0.02	0.52	0.54	—	2,316	2,316	0.12	0.10	0.21	2,349
Area	58.3	1.11	69.9	0.13	9.63	—	9.63	9.59	—	9.59	1,028	428	1,456	0.95	0.07	—	1,502

Energy	0.02	0.27	0.11	< 0.005	0.02	—	0.02	0.02	—	0.02	—	373	373	0.06	< 0.005	—	375
Water	—	—	—	—	—	—	—	—	—	—	2.49	2.09	4.58	0.26	0.01	—	12.9
Waste	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	59.7	2.44	79.6	0.15	9.67	2.06	11.7	9.62	0.52	10.1	1,043	3,119	4,162	2.70	0.18	0.73	4,285
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.41	1.06	9.53	0.02	0.02	2.04	2.06	0.02	0.52	0.53	—	2,332	2,332	0.12	0.10	3.50	2,368
Area	14.5	0.26	16.7	0.03	2.16	—	2.16	2.15	—	2.15	231	99.0	330	0.21	0.02	—	340
Energy	0.02	0.27	0.11	< 0.005	0.02	—	0.02	0.02	—	0.02	—	373	373	0.06	< 0.005	—	375
Water	—	—	—	—	—	—	—	—	—	—	2.49	2.09	4.58	0.26	0.01	—	12.9
Waste	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	15.9	1.58	26.4	0.05	2.20	2.04	4.24	2.19	0.52	2.71	246	2,806	3,052	1.96	0.13	4.02	3,143
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.26	0.19	1.74	< 0.005	< 0.005	0.37	0.38	< 0.005	0.09	0.10	—	386	386	0.02	0.02	0.58	392
Area	2.64	0.05	3.05	0.01	0.39	—	0.39	0.39	—	0.39	38.2	16.4	54.6	0.04	< 0.005	—	56.3
Energy	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	61.7	61.7	0.01	< 0.005	—	62.1
Water	—	—	—	—	—	—	—	—	—	—	0.41	0.35	0.76	0.04	< 0.005	—	2.13
Waste	—	—	—	—	—	—	—	—	—	—	2.18	0.00	2.18	0.22	0.00	—	7.62
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	2.90	0.29	4.81	0.01	0.40	0.37	0.77	0.40	0.09	0.49	40.8	465	505	0.32	0.02	0.66	520

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

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

Location	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	2.62	24.9	21.7	0.03	1.06	—	1.06	0.98	—	0.98	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	1.03	1.03	—	0.16	0.16	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.68	0.60	< 0.005	0.03	—	0.03	0.03	—	0.03	—	93.8	93.8	< 0.005	< 0.005	—	94.2
Demolition	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.12	0.11	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Demolition	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.06	0.05	0.74	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.58	147
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
Hauling	0.03	1.86	0.66	0.01	0.02	0.35	0.37	0.02	0.10	0.12	—	1,379	1,379	0.07	0.22	2.96	1,450
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.79	3.79	< 0.005	< 0.005	0.01	3.84
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
Hauling	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	37.8	37.8	< 0.005	0.01	0.04	39.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.64
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
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.26	6.26	< 0.005	< 0.005	0.01	6.57

3.3. Site Preparation (2024) - Unmitigated

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

Location	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	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.84	18.2	16.6	0.02	0.81	—	0.81	0.74	—	0.74	—	2,674	2,674	0.11	0.02	—	2,683
Dust From Material Movement	—	—	—	—	—	3.87	3.87	—	1.99	1.99	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	3.31	3.03	< 0.005	0.15	—	0.15	0.14	—	0.14	—	443	443	0.02	< 0.005	—	444
Dust From Material Movement	—	—	—	—	—	0.71	0.71	—	0.36	0.36	—	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.86	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	169	169	0.01	0.01	0.68	172

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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.76	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	160	160	0.01	0.01	0.02	162
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.39	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	81.4	81.4	< 0.005	< 0.005	0.15	82.6
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7
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
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

3.5. 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	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	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

Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	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
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.60	5.70	5.43	0.01	0.25	—	0.25	0.23	—	0.23	—	953	953	0.04	0.01	—	957
Dust From Material Movement	—	—	—	—	—	1.38	1.38	—	0.71	0.71	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	1.04	0.99	< 0.005	0.04	—	0.04	0.04	—	0.04	—	158	158	0.01	< 0.005	—	158
Dust From Material Movement	—	—	—	—	—	0.25	0.25	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.05	0.81	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	166	166	0.01	0.01	0.62	169
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.71	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	157	157	0.01	0.01	0.02	159
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.5	28.5	< 0.005	< 0.005	0.05	28.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.72	4.72	< 0.005	< 0.005	0.01	4.78
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
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

3.7. Grading (2024) - Unmitigated

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

Location	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	1.90	18.2	18.8	0.03	0.84	—	0.84	0.77	—	0.77	—	2,958	2,958	0.12	0.02	—	2,969
Dust From Material Movement	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	4.25	4.38	0.01	0.20	—	0.20	0.18	—	0.18	—	689	689	0.03	0.01	—	691
Dust From Material Movement	—	—	—	—	—	0.64	0.64	—	0.31	0.31	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.77	0.80	< 0.005	0.04	—	0.04	0.03	—	0.03	—	114	114	< 0.005	< 0.005	—	114
Dust From Material Movement	—	—	—	—	—	0.12	0.12	—	0.06	0.06	—	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.74	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.58	147

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
Hauling	0.03	1.72	0.61	0.01	0.02	0.32	0.34	0.02	0.09	0.11	—	1,273	1,273	0.07	0.20	2.74	1,338
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	32.2	32.2	< 0.005	< 0.005	0.06	32.7
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
Hauling	0.01	0.41	0.14	< 0.005	0.01	0.07	0.08	0.01	0.02	0.03	—	296	296	0.02	0.05	0.28	311
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.33	5.33	< 0.005	< 0.005	0.01	5.41
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
Hauling	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	49.1	49.1	< 0.005	0.01	0.05	51.5

3.9. Building Construction (2025) - Unmitigated

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

Location	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	1.13	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	2.29	2.86	0.01	0.09	—	0.09	0.09	—	0.09	—	526	526	0.02	< 0.005	—	527
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.42	0.52	< 0.005	0.02	—	0.02	0.02	—	0.02	—	87.0	87.0	< 0.005	< 0.005	—	87.3
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.62	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	126	126	0.01	< 0.005	0.47	128
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	99.0	99.0	< 0.005	0.01	0.26	104
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.54	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	119	119	0.01	< 0.005	0.01	121
Vendor	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	99.0	99.0	< 0.005	0.01	0.01	103
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.12	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	26.4	26.4	< 0.005	< 0.005	0.04	26.8
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	21.7	21.7	< 0.005	< 0.005	0.02	22.7
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.37	4.37	< 0.005	< 0.005	0.01	4.43
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.59	3.59	< 0.005	< 0.005	< 0.005	3.75
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

3.11. Paving (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.61	0.82	< 0.005	0.03	—	0.03	0.03	—	0.03	—	124	124	0.01	< 0.005	—	125
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.11	0.15	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	20.6	20.6	< 0.005	< 0.005	—	20.6
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	0.02	11.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.85	1.85	< 0.005	< 0.005	< 0.005	1.87
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
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

3.13. Paving (2026) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.49	0.68	< 0.005	0.02	—	0.02	0.02	—	0.02	—	103	103	< 0.005	< 0.005	—	104
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.1	17.1	< 0.005	< 0.005	—	17.2
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	132	132	0.01	0.01	0.01	133
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.10	9.10	< 0.005	< 0.005	0.01	9.23
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.51	1.51	< 0.005	< 0.005	< 0.005	1.53
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
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

3.15. Architectural Coating (2026) - Unmitigated

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

Location	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	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	11.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	11.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	1.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.12	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	24.8	24.8	< 0.005	< 0.005	0.09	25.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.4	23.4	< 0.005	< 0.005	< 0.005	23.7
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.59	2.59	< 0.005	< 0.005	< 0.005	2.62

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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.43	0.43	< 0.005	< 0.005	< 0.005	0.43
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
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

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	28.1	28.1	0.02	< 0.005	—	29.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	6.28	6.28	< 0.005	< 0.005	—	6.56
Total	—	—	—	—	—	—	—	—	—	—	—	34.4	34.4	0.03	< 0.005	—	35.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	28.1	28.1	0.02	< 0.005	—	29.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	6.28	6.28	< 0.005	< 0.005	—	6.56
Total	—	—	—	—	—	—	—	—	—	—	—	34.4	34.4	0.03	< 0.005	—	35.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	4.65	4.65	< 0.005	< 0.005	—	4.86
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	1.04	1.04	< 0.005	< 0.005	—	1.09
Total	—	—	—	—	—	—	—	—	—	—	—	5.69	5.69	< 0.005	< 0.005	—	5.94

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.02	0.27	0.11	< 0.005	0.02	—	0.02	0.02	—	0.02	—	338	338	0.03	< 0.005	—	339
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
Total	0.02	0.27	0.11	< 0.005	0.02	—	0.02	0.02	—	0.02	—	338	338	0.03	< 0.005	—	339
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.02	0.27	0.11	< 0.005	0.02	—	0.02	0.02	—	0.02	—	338	338	0.03	< 0.005	—	339

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
Total	0.02	0.27	0.11	< 0.005	0.02	—	0.02	0.02	—	0.02	—	338	338	0.03	< 0.005	—	339
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	56.0	56.0	< 0.005	< 0.005	—	56.1
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
Total	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	56.0	56.0	< 0.005	< 0.005	—	56.1

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	56.6	1.11	69.9	0.13	9.63	—	9.63	9.59	—	9.59	1,028	428	1,456	0.95	0.07	—	1,502
Consumer Products	1.55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.19	0.02	2.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.61	5.61	< 0.005	< 0.005	—	5.63
Total	58.5	1.13	72.0	0.13	9.63	—	9.63	9.59	—	9.59	1,028	434	1,462	0.95	0.07	—	1,507

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	56.6	1.11	69.9	0.13	9.63	—	9.63	9.59	—	9.59	1,028	428	1,456	0.95	0.07	—	1,502
Consumer Products	1.55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	58.3	1.11	69.9	0.13	9.63	—	9.63	9.59	—	9.59	1,028	428	1,456	0.95	0.07	—	1,502
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	2.32	0.05	2.87	0.01	0.39	—	0.39	0.39	—	0.39	38.2	15.9	54.2	0.04	< 0.005	—	55.9
Consumer Products	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	< 0.005	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.46	0.46	< 0.005	< 0.005	—	0.46
Total	2.64	0.05	3.05	0.01	0.39	—	0.39	0.39	—	0.39	38.2	16.4	54.6	0.04	< 0.005	—	56.3

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	2.49	2.09	4.58	0.26	0.01	—	12.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	2.49	2.09	4.58	0.26	0.01	—	12.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	2.49	2.09	4.58	0.26	0.01	—	12.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	2.49	2.09	4.58	0.26	0.01	—	12.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.41	0.35	0.76	0.04	< 0.005	—	2.13
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.41	0.35	0.76	0.04	< 0.005	—	2.13

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	2.18	0.00	2.18	0.22	0.00	—	7.62
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	2.18	0.00	2.18	0.22	0.00	—	7.62

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	4/4/2024	4/17/2024	5.00	10.0	—
Site Preparation	Site Preparation	4/18/2024	4/2/2025	5.00	250	—
Grading	Grading	4/4/2024	7/31/2024	5.00	85.0	—
Building Construction	Building Construction	7/31/2025	11/19/2025	5.00	80.0	—
Paving	Paving	11/20/2025	2/4/2026	5.00	55.0	—
Architectural Coating	Architectural Coating	2/5/2026	4/1/2026	5.00	40.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

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

Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
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
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2

Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	18.8	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	17.4	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	13.3	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	3.96	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.66	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	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%

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	146,104	48,701	0.00	0.00	3,481

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	752	—
Site Preparation	0.00	0.00	375	0.00	—
Grading	11,800	0.00	85.0	0.00	—
Paving	0.00	0.00	0.00	0.00	1.74

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	0.41	0%
Parking Lot	1.33	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	540	0.03	< 0.005
2025	0.00	540	0.03	< 0.005
2026	0.00	45.1	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
Total all Land Uses	370	370	370	135,050	2,923	2,923	2,923	1,066,895

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—

Wood Fireplaces	13
Gas Fireplaces	20
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	4
Conventional Wood Stoves	0
Catalytic Wood Stoves	2
Non-Catalytic Wood Stoves	2
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)
146103.75	48,701	0.00	0.00	3,481

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)
Single Family Housing	227,227	45.1	0.0330	0.0040	1,055,127
Parking Lot	50,827	45.1	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	1,299,924	1,524,700
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	24.4	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

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

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)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	11.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	7.44	annual hectares burned

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

6.2. Initial Climate Risk Scores

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

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

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

6.3. Adjusted Climate Risk Scores

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	40.0
AQ-PM	30.6
AQ-DPM	59.1
Drinking Water	25.3
Lead Risk Housing	52.7
Pesticides	46.1
Toxic Releases	20.5
Traffic	72.1
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	80.2
Impaired Water Bodies	91.9
Solid Waste	0.00
Sensitive Population	—
Asthma	25.7
Cardio-vascular	28.3
Low Birth Weights	11.9
Socioeconomic Factor Indicators	—
Education	69.0
Housing	56.5
Linguistic	23.8
Poverty	61.1
Unemployment	22.6

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	37.13589118
Employed	78.07006288
Median HI	40.11292185
Education	—
Bachelor's or higher	35.58321571
High school enrollment	100
Preschool enrollment	13.98691133
Transportation	—
Auto Access	70.20402926
Active commuting	29.51366611
Social	—
2-parent households	64.23713589
Voting	76.15809059
Neighborhood	—
Alcohol availability	46.6059284
Park access	12.89618889
Retail density	77.15898884
Supermarket access	55.51135635
Tree canopy	39.79212113
Housing	—
Homeownership	43.19260875
Housing habitability	72.48813037
Low-inc homeowner severe housing cost burden	76.22225074

Low-inc renter severe housing cost burden	86.30822533
Uncrowded housing	37.66200436
Health Outcomes	—
Insured adults	27.75567817
Arthritis	81.7
Asthma ER Admissions	65.0
High Blood Pressure	95.1
Cancer (excluding skin)	66.1
Asthma	43.1
Coronary Heart Disease	77.0
Chronic Obstructive Pulmonary Disease	59.8
Diagnosed Diabetes	79.4
Life Expectancy at Birth	52.3
Cognitively Disabled	92.5
Physically Disabled	63.7
Heart Attack ER Admissions	86.4
Mental Health Not Good	40.6
Chronic Kidney Disease	73.0
Obesity	54.6
Pedestrian Injuries	97.4
Physical Health Not Good	61.7
Stroke	75.8
Health Risk Behaviors	—
Binge Drinking	3.4
Current Smoker	42.3
No Leisure Time for Physical Activity	55.7
Climate Change Exposures	—

Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	11.1
Elderly	69.3
English Speaking	32.3
Foreign-born	42.7
Outdoor Workers	9.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	56.2
Traffic Density	87.1
Traffic Access	23.0
Other Indices	—
Hardship	47.6
Other Decision Support	—
2016 Voting	71.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	32.0
Healthy Places Index Score for Project Location (b)	49.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Revised based on site acreage
Construction: Construction Phases	Revised per provided schedule
Operations: Water and Waste Water	Revised per MAWA