Air Quality Technical Report

Sacramento Northgate Blvd and Rosin Court 7-Eleven

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1.0 INTRODUCTION

This technical report documents the potential air quality, energy usage, and greenhouse gas (GHG) emissions from the Sacramento Northgate Blvd and Rosin Court 7-Eleven (the "proposed project"). The air quality analysis includes a review of criteria pollutant[1] emissions such as carbon monoxide (CO)[2], nitrogen oxides (NO_x), sulfur dioxide (SO_2), volatile organic compounds (VOC) as reactive organic gases (ROG)[3], particulate matter less than 10 micrometers (coarse or PM_{10}), and particulate matter less than 2.5 micrometers (fine or $PM_{2.5}$).[4] The construction and operational emissions inventory used the California Air Pollution Officers Association (CAPCOA) CalEEMod (California Emissions Estimator Model Version 2022.1).[5]

The supporting information, methodology, and assumptions used in the construction air emissions inventory and operational air emissions inventory are provided in:

- **Attachment A: Construction and Operational Emissions Inventory Supporting Information**

The HRA focuses on health impacts on existing residences and interim campus from emissions of toxic air contaminants (TAC)[6] such as diesel particulate matter (DPM)[7] from diesel equipment and haul truck emissions associated with project construction activities and operation. The HRA was conducted to determine the health impacts, in terms of excess cancer risk and non-cancer hazards, using the significance levels identified by the Sacramento Metropolitan Quality Management District (SMAQMD)'s

[1] Criteria air pollutants refer to those air pollutants for which the USEPA and CARB has established National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) under the Federal Clean Air Act (CAA).

[2] CO is a non–reactive pollutant that is a product of incomplete combustion of organic material, and is mostly associated with motor vehicle traffic, and in wintertime, with wood–burning stoves and fireplaces.

[3] VOC means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions and thus, a precursor of ozone formation. ROG are any reactive compounds of carbon, excluding methane, CO, CO_2 carbonic acid, metallic carbides or carbonates, ammonium carbonate, and other exempt compounds. The terms VOC and ROG are often used interchangeably.

[4] PM_{10} and $PM_{2.5}$ consists of airborne particles that measure 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. PM_{10} and $PM_{2.5}$ represent fractions of particulate matter that can be inhaled into the air passages and the lungs, causing adverse health effects.

[5] California Air Pollution Officers Association, *California Emissions Estimator Model User Guide Version 2022.1*, April 2022, http://www.caleemod.com/

[6] Toxic air contaminants are a broad class of compounds known to cause morbidity or mortality. TAC are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., gasoline service stations, dry cleaners). TAC are typically found in low concentrations, even near their source (e.g., diesel particulate matter near a freeway). Because chronic exposure can result in adverse health effects, TAC are regulated at the regional, state, and federal level.

[7] In 1998, the California Air Resources Board classified diesel particulate matter as a toxic air contaminant, citing its potential to cause cancer and other health problems. The US Environmental Protection Agency concluded that long-term exposure to diesel engine exhaust is likely to pose a lung cancer hazard to humans and can also contribute to other acute and chronic health effects.

Guide to Air Quality Assessment in Sacramento County.[8] The HRA was prepared based on the California Office of Environmental Health Hazard Assessment (OEHHA)'s *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*[9] and based on the methodology recommended by the CAPCOA's *Gasoline Service Station Industry-wide Risk Assessment Guidelines*.[10]

The supporting information, methodology, and assumptions used in the health risk assessment are provided in:

- **Attachment B: Health Risk Assessment Methodology, Assumptions, and Detailed Results**

All construction-related emissions would be below the significance thresholds. Estimated operational emissions would be below the significance thresholds. Health impacts and greenhouse gas (GHG) emissions would also be below the significance thresholds. Therefore, the proposed project would have a less-than-significant impact on air quality and GHG emissions.

2.0 PROJECT OVERVIEW

The project site is in the northern part of the City of Sacramento, Sacramento County, California. The project site is northwest of the intersection of Northgate Boulevard and Rosin Court. Interstate 80 is approximately 0.2 miles north of the project site. The project site is approximately 62,304 square feet (1.43 acres) with a convenience store of 4,761 square feet. There would be 25 parking spaces (17 standard spaces and eight EV chargers access spaces). The project does not include commercial truck area.

There would be a total of four standard fueling stations serving eight fueling positions. There would be one tank with regular unleaded gasoline of 20,000 gallons and one tank with a separation creating 8,000 gallons of premium and 12,000 gallons of diesel fuel.

3.0 ANALYSIS METHODOLOGY

Intermittent (short-term construction emissions that occur from activities, such as site-grading, construction of structures, and paving) and long-term air quality impacts related to the operation of the project were evaluated. The analysis focuses on daily and annual emissions from construction and operational (mobile, area, stationary, and fugitive sources) activities.

Regulatory models used to estimate air quality impacts include:

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8 Sacramento Metropolitan Air Quality Management District, *Guide to Air Quality Assessment in Sacramento County*, April 2020, https://www.airquality.org/businesses/ceqa-land-use-planning/ceqa-guidance-tools#:~:text=The%20Guide%20to%20Air%20Quality,complying%20with%20the%20California%20Environmental

9 Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, February 2015, http://oehha.ca.gov/air/hot_spots/hotspots2015.html

10 California Air Resources Board, *Gasoline Service Station Industrywide Risk Assessment Supplemental Policy Guidance Document*, July 21, 2022, https://ww2.arb.ca.gov/resources/documents/gasoline-service-station-industrywide-risk-assessment-guidance

- California Air Pollution Officers Association (CAPCOA) CalEEMod (California Emissions Estimator Model Version 2022.1)[11] is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. The model quantifies direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.
- VOC emissions from the fuel station were estimated based on the methodology recommended by the CAPCOA's *Gasoline Service Station Industry-wide Risk Assessment Guidelines*. Fuel dispensing and loading storage tank operations would result in VOC emissions.[12]
- AERMOD (American Meteorological Society/USEPA Regulatory Model, Version 24142) is an atmospheric dispersion model which can simulate point, area, volume, and line emissions sources and has the capability to include simple, intermediate, and complex terrain along with meteorological conditions and multiple receptor locations.[13,14] AERMOD is commonly executed to yield 1-hour maximum and annual average concentrations (in $\mu g/m^3$) at each receptor.

4.0 EXISTING CONDITIONS

Ambient air quality is generally affected by climatological conditions, the topography of the air basin, and the type and amounts of pollutants emitted. The project site is in the Sacramento Valley Air Basin (SVAB) which is a valley bounded by the North Coast Mountain Ranges to the west and the Northern Sierra Nevada Mountains to the east. The terrain in the valley is flat and approximately 25 feet above sea level. The mountains surrounding the Sacramento Valley Air Basin (SVAB) create a barrier to airflow, which can trap air pollutants in the valley.

The local air quality within the SVAB is impacted by topography, dominant air flows, atmospheric inversions, location, and season. Air pollutants are often transported into the SVAB from adjacent air basins such as the San Francisco Bay Area Air Basin (SFBAAB) or the San Joaquin Valley Air Basin (SJVAB). Transported pollutants add to the concentration of pollutants in the region; however, air pollution emissions from within the basin are the most significant sources of high pollution concentration. During the summer a "delta breeze" blows east from the SFBAAB toward the SVAB through the Carquinez Strait.

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[11] California Air Pollution Officers Association, *California Emissions Estimator Model User Guide Version 2022.1*, April 2022, http://www.caleemod.com/

[12] California Air Resources Board, *Gasoline Service Station Industrywide Risk Assessment Supplemental Policy Guidance Document*, July 21, 2022, https://ww2.arb.ca.gov/resources/documents/gasoline-service-station-industrywide-risk-assessment-guidance

[13] US Environmental Protection Agency, Preferred/Recommended Models, *AERMOD Modeling System*, https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models#aermod

[14] Title 40 CFR Part 51, *Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions; Final Rule,* https://www.epa.gov/sites/default/files/2020-09/documents/appw_17.pdf

The delta breeze moves Sacramento's air pollution up toward the north end of the Sacramento Valley and east into the Sierra Nevada foothills.[15]

Air pollution within the SVAB is generated by stationary, area, and mobile sources. Stationary sources occur at specific locations, are usually associated with manufacturing and industry, and are usually subject to a permit to operate from the local air district. Area sources generally include landscaping-related fuel combustion sources (such as from lawn mowers, etc.), evaporate emissions from consumer products, natural gas and wood combustion used for space heating such as from hearths, and architectural coatings. Mobile sources refer to the tailpipe and evaporative emissions from motor vehicles, both on-road and off-road, and particles from brake and tire wear. On-road mobile sources are those that are legally operated on roadways and highways, such as cars, trucks, and motorcycles.[16]

Sensitive receptors are children, elderly, asthmatics and others who are at a heightened risk of negative health outcomes due to air pollution exposure. The locations where these sensitive receptors congregate are considered sensitive receptor locations. Sensitive receptor locations may include residences, hospitals, schools, and day care centers. Residential land uses are located within 1,000 feet to the south of the project site.

Criteria Air Pollutants

The following provides a summary of the potential health and welfare effects and typical sources of each of the criteria air pollutants.

Ozone

Ozone (or O_3) is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. O_3 is not emitted directly into the atmosphere but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving VOC and NO_x. VOC and NO_x are known as precursor compounds for O_3. Substantial ozone production generally requires O_3 precursors to be present in a stable atmosphere with strong sunlight for approximately three hours. O_3 is a regional air pollutant because it is not emitted directly by sources but is formed downwind of sources of VOC and NO_x under the influence of wind and sunlight. O_3 concentrations tend to be higher in the late spring, summer, and fall, when long sunny days combine with regional air subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds.

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[15] City of Sacramento, Public Review Draft Master Environmental Impact Report, Sacramento 2040 General Plan and Climate Action & Adaption Plan, SCH# 2019012048, August 2023, https://www.cityofsacramento.gov/content/dam/portal/cdd/Planning/Environmental-Impact-Reports/2040-gpu-and-caap/Sacramento-2040-Plan-Final-MEIR_1-2024.pdf

[16] City of Sacramento, Public Review Draft Master Environmental Impact Report, Sacramento 2040 General Plan and Climate Action & Adaption Plan, SCH# 2019012048, August 2023, https://www.cityofsacramento.gov/content/dam/portal/cdd/Planning/Environmental-Impact-Reports/2040-gpu-and-caap/Sacramento-2040-Plan-Final-MEIR_1-2024.pdf

Carbon Monoxide

CO is a nonreactive pollutant that is a product of incomplete combustion of organic material, and is mostly associated with motor vehicle traffic, and in wintertime, with wood–burning stoves and fireplaces. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground–level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces its oxygen-carrying capacity, resulting in reduced levels of oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia. CO measurements and modeling were important in the early 1980s when CO levels were regularly exceeded throughout California, but in more recent years, CO measurements and modeling are not a priority in most California air districts due to the retirement of older vehicles, fewer emissions from new vehicles, and improvements to fuels.

Nitrogen Oxides

When combustion temperatures are extremely high, as in aircraft, truck and automobile engines, atmospheric nitrogen combines with oxygen to form various oxides of nitrogen. Nitric oxide (NO) and nitrogen dioxide (NO_2) are the most significant air pollutants generally referred to as NO_x. Nitric oxide is a colorless and odorless gas that is relatively harmless to humans, quickly converts to NO_2 and can be measured. Nitrogen dioxide has been found to be a lung irritant capable of producing pulmonary edema. Inhaling NO_2 can lead to respiratory illnesses such as bronchitis and pneumonia.

Volatile Organic Compounds

VOC means any compound of carbon, excluding carbon monoxide, carbon dioxide (CO_2), carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions and thus, is a precursor of ozone formation. VOC includes a variety of chemicals, some of which may have short- and long-term adverse health effects. VOC are emitted by a wide array of products numbering in the thousands. Examples include paints and lacquers, paint strippers, cleaning supplies, building materials and furnishings, as well as fuel storage and use.

VOC can cause eye, nose, and throat irritation; headaches, loss of coordination, nausea; and damage to liver, kidney, and central nervous system. Some organics can cause cancer in animals; some are suspected or known to cause cancer in humans. The ability of organic chemicals to cause health effects varies greatly from those that are highly toxic, to those with no known health effects. As with other pollutants, the extent and nature of the health effect will depend on many factors including level of exposure and length of time exposed. Eye and respiratory tract irritation, headaches, dizziness, visual disorders, and memory impairment are among the immediate symptoms that some people have experienced soon after exposure to some organics.

Particulate Matter

PM_{10} and $PM_{2.5}$ consist of airborne particles that measure 10 micrometers or less in diameter and 2.5 micrometers or less in diameter, respectively. PM_{10} and $PM_{2.5}$ represent fractions of particulate matter that can be inhaled into the air passages and the lungs, causing adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, wood burning stoves and fireplaces, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition, construction activities and mining, are more local in nature, while others such as vehicular traffic and wood burning stoves and fireplaces, have a more regional effect.

Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates can also damage materials and reduce visibility. Dust comprised of large particles (diameter greater than 10 micrometers) settles out rapidly and is easily filtered by human breathing passages. This dust is of concern more as a soiling nuisance rather than a health hazard. The remaining fractions, PM_{10} and $PM_{2.5}$, are a health concern particularly at levels above the federal and California ambient air quality standards. $PM_{2.5}$ (including diesel exhaust particles) is thought to have greater effects on health, because these particles are so small and thus penetrate to the deepest parts of the lungs.

Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, coughing, bronchitis, and respiratory illnesses in children. Mortality studies since the 1990s have shown a statistically significant direct association between mortality (premature deaths) and daily concentrations of particulate matter in the air. Despite important gaps in scientific knowledge and continued reasons for some skepticism, a comprehensive evaluation of the research findings provides persuasive evidence that exposure to fine particulate air pollution has adverse effects on cardiopulmonary health. The CARB has estimated that achieving the ambient air quality standards for PM_{10} could reduce premature mortality rates by 6,500 cases per year.

Sulfur Dioxide

SO_2 is a combustion product of sulfur or sulfur–containing fuels such as coal and diesel. SO_2 is also a precursor to the formation of atmospheric sulfate and particulate matter and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain.

Lead

Lead has a range of adverse neurotoxin health effects and was released into the atmosphere via leaded gasoline products. The phase-out of leaded gasoline in California has resulted in dramatically decreased levels of atmospheric lead. Metal processing is currently the primary source of lead emissions in the SCAB. The highest concentrations of lead in air are generally found near lead smelters and general aviation airports; where piston aircraft use leaded fuel. Other stationary sources that generate lead emissions include waste incinerators, utilities, and lead-acid battery manufacturers.

Sulfates

Sulfates are the fully oxidized ionic form of sulfur produced when sulfur dioxide is fully oxidized in the atmosphere. Sulfates are produced by emissions from automobiles, power plants, and industrial activity, and contribute to general atmospheric haziness. Typical health effects associated with exposure to sulfates include respiratory illness and an increased risk of cardio-pulmonary disease.

Vinyl Chloride

Vinyl chloride is an artificially created colorless gas with a mild, slightly sweet odor. The gas is used in the manufacture of vinyl products, including polyvinyl chloride plastic. Vinyl chloride emissions are produced from the vinyl manufacturing process as well as from the breakdown of vinyl products in landfills and hazardous waste sites. The health effects associated with vinyl chloride include dizziness, headaches, and drowsiness from short-term exposure, and liver damage and cancer resulting from long-term exposure.

Hydrogen Sulfide

H_2S is a naturally occurring, colorless gas that at low concentrations produces a distinctive rotten egg odor. At higher concentrations, olfactory fatigue prevents detection of odor. The gas is produced through the bacteriological breakdown of organic materials as well as during oil and gas production and geothermal power generation. Health effects associated with H_2S include exposure to a disagreeable odor, coughing, irritation to eyes, and impairment of the respiratory system.

Visibility Reducing Particles

Visibility reducing particles are particulate matter composed of many different substances that are suspended in the atmosphere and contribute to haze and diminished visibility.

Ambient Air Quality Standards

Regulation of air pollutants is achieved through both national and state ambient air quality standards and emissions limits for individual sources. Regulations implementing the federal Clean Air Act and its subsequent amendments established National Ambient Air Quality Standards (NAAQS) for the six criteria pollutants. California has adopted more stringent California Ambient Air Quality Standards (CAAQS) for most of the criteria air pollutants. In addition, California has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Because of the meteorological conditions in the state, there is considerable difference between state and federal standards in California.

The NAAQS and CAAQS are intended to protect public health and welfare, and they incorporate an adequate margin of safety. They are designed to protect those segments of the public most susceptible to respiratory distress, known as sensitive receptors, including asthmatics, the very young, elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels somewhat above the ambient air quality standards before adverse health effects are observed.

Under amendments to the federal Clean Air Act, USEPA has classified air basins or portions thereof, as either “attainment” or “non-attainment” for each criteria air pollutant, based on whether or not the NAAQS have been achieved. The California Clean Air Act, which is patterned after the federal Clean Air

Act, also requires areas to be designated as "attainment" or "non-attainment" for the CAAQS. Thus, areas in California have two sets of attainment/non-attainment designations: one set with respect to the NAAQS and one set with respect to the CAAQS.

Toxic Air Contaminants

Toxic air contaminants (TAC) are regulated under both state and federal laws. Federal laws use the term "Hazardous Air Pollutants" (HAP) to refer to the same types of compounds that are referred to as TAC under state law. Both terms encompass essentially the same compounds. Under the 1990 Federal Clean Air Act Amendments, 189 substances are regulated as HAP.

With respect to state law, in 1983 the California legislature adopted Assembly Bill 1807 (AB 1807), which establishes a process for identifying TAC and provides the authority for developing retrofit air toxics control measures on a statewide basis. Air toxics in California may also be regulated because of another state law, the Air Toxics "Hot Spots" Information and Assessment Act of 1987, or Assembly Bill 2588 (AB 2588). Under AB 2588, TAC from individual facilities must be quantified and reported to the local air pollution control agency. The facilities are then prioritized by the local agencies based on the quantity and toxicity of these emissions, and on their proximity to areas where the public may be exposed. In establishing priorities, the air districts are to consider the potency, toxicity, quantity, and volume of hazardous materials released from the facility, the proximity of the facility to potential receptors, and any other factors that the air district determines may indicate that the facility may pose a significant risk. High priority facilities are required to perform a Health Risk Screening Assessment, and if specific risk thresholds are exceeded, they are required to communicate the results to the public in the form of notices and public meetings. Depending on the health risk levels, emitting facilities can be required to implement varying levels of risk reduction measures. CARB identified approximately 200 TAC, including the 189 federal HAP, under AB 2588.

In August of 1998, CARB identified particulate emissions from diesel-fueled engines as TAC. CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*[17] and *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines.*[18] The document represents a proposal to reduce diesel particulate emissions, with the goal to reduce emissions and the associated health risk by 75 percent in 2010 and 85 percent in 2020. The program aims to require the use of state-of-the-art catalyzed diesel particulate filters and ultra-low sulfur diesel fuel on diesel-fueled engines.

Diesel Particulate Matter (DPM) is the most complex of diesel emissions. Diesel particulates, as defined by most emission standards, are sampled from diluted and cooled exhaust gases. This definition includes both solid and liquid material that condenses during the dilution process. The basic fractions of DPM are elemental carbon; heavy hydrocarbons derived from the fuel and lubricating oil and hydrated sulfuric acid

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[17] California Air Resources Board, Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles, October 2000, Report: 2000-10-00 Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (ca.gov)

[18] California Air Resources Board, Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines, October 2000, https://ww2.arb.ca.gov/sites/default/files/classic/diesel/documents/rmgfinal.pdf

derived from the fuel sulfur. DPM contains a large portion of the polycyclic aromatic hydrocarbons (PAH) found in diesel exhaust. Diesel particulates include small nuclei particles of diameters below 0.04 micrometers (µm) and their agglomerates of diameters up to 1 µm. DPM is a major factor in total TAC exposure in California.

California State law defines TAC as air pollutants having carcinogenic effects. A total of 243 substances have been designated as TAC under California law; they include the 187 (federal) hazardous air pollutants (HAP) adopted in accordance with AB 2728. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources, but AB 2588 does not regulate air toxics emissions. TAC emissions from individual facilities are quantified and prioritized. Depending on the risk levels, emitting facilities are required to implement varying levels of risk reduction measures.

Sacramento Metropolitan Air Quality Management District

All projects under the jurisdiction of SMAQMD are required to comply with all applicable SMAQMD rules and regulations. Rules and regulations related to the proposed project could include, but are not limited to, Rule 201 (General Permit Requirements), Rule 402 (Nuisance), Rule 403 (Fugitive Dust), Rule 404 (Particulate Matter), Rule 414 (Water Heaters, Boilers and Process Heaters Rated Less Than 1,000,000 British Thermal Units per Hour), Rule 417 (Wood Burning Appliances), Rule 442 (Architectural Coatings), Rule 453 (Cutback and Emulsified Asphalt Paving Materials), Rule 460 (Adhesives and Sealants), Rule 902 (Asbestos) and CCR requirements related to the registration of portable equipment and anti-idling.

The proposed project includes fueling pump stations. The SMAQMD requires all gasoline dispensing facilities to be equipped with a Phase I and Phase II vapor recovery system (Rule 449: Transfer of Gasoline into Vehicle Fuel Tanks). The proposed fuel station would be subject to SMAQMD rules and regulations which govern the storage and distribution of gasoline. Vapor recovery systems collect gasoline vapors that would otherwise escape into the air during bulk fuel delivery (Phase I) or fuel storage and vehicle refueling (Phase II). Phase I refers to control methods used for reducing emissions when tank trucks unload into underground storage tanks. Phase I vapor recovery system components include the couplers that connect tanker trucks to the underground tanks, spill containment drain valves, overfill prevention devices, and vent pressure/vacuum valves. A Phase I vapor balance system employs a vapor return hose which returns gasoline vapor displaced from the underground storage tank to the tank truck storage compartment being emptied. Phase II vapor recovery system components include gasoline dispensers, nozzles, piping, break away, hoses, face plates, vapor processors, and system monitors. Phase II refers to control methods used for reducing vehicle/equipment refueling emissions. The Phase II systems are designed to convey the vapors displaced from vehicle fuel tanks to underground storage tanks vapor space. Both balance systems and assist systems were assumed to capture 95 percent control of the vapors released from the vehicle fuel tank, with an overall efficiency of 90 percent. In addition, all gasoline will be stored underground with valves installed on the tank vent pipes to further control gasoline vapor emissions.

Local Air Quality

CARB maintains a network of monitoring stations within the SVAB that monitor air quality and compliance with applicable ambient standards. The monitoring stations closest to the project site are at 100 Bercut Drive and 1309 T Street in Sacramento. CO, NO_2, and $PM_{2.5}$ are measured at the 100 Bercut Drive location and NO_2, ozone, PM_{10}, and $PM_{2.5}$ are measured at the 1309 T Street location. **Table 1: Air Quality Data Summary** summarizes the most recent three years of data (2022 – 2024) from the air monitoring stations.

Table 1: Air Quality Data Summary (2022 - 2024)

Pollutant	Monitoring Data by Year			
	Standard[a]	2022	2023	2024
Carbon Monoxide (CO)				
Highest 1 Hour Average (ppm)[b]	20	2.09	1.98	1.56
Highest 8 Hour Average (ppm)[b]	9	1.60	1.30	1.10
Ozone				
Highest 1 Hour Average (ppm)[b]	0.090/-	**0.106**	**0.092**	**0.092**
Highest 8 Hour Average (ppm)[b]	0.070	**0.079**	**0.071**	**0.077**
Nitrogen Dioxide (NO_2)				
Highest 1 Hour Average (ppb)[b]	180/100	46/50.1	45/42.4	42/42
Annual Average (ppb)[b]	30/53	9.36/8.38	9.45/6.50	8.49/6.46
Particulate Matter (PM_{10})				
Highest 24-Hour Average ($\mu g/m^3$)[b]	50/150	**59**	**62**	49
Annual Average ($\mu g/m^3$)[b]	20/-	19.3	16.8	16.2
Particulate Matter ($PM_{2.5}$)				
Highest 24-Hour Average ($\mu g/m^3$)[b]	-/35	**36**/33.1	**38.1/35.6**	**35/35.6**
Annual Average ($\mu g/m^3$)[b]	12/9	**9.33**/8.50	**9.35**/8.26	7.79/6.95

NOTES: Values in **bold** are in excess of at least one applicable standard.

a. Generally, state standards/national standards are not to be exceeded more than once per year.
b. ppm = parts per million; ppb = parts per billion, $\mu g/m^3$ = micrograms per cubic meter.

Source: United States Environmental Protection Agency, AirData, https://www.epa.gov/outdoor-air-quality-data/interactive-map-air-quality-monitors

SMAQMD's Minor Project Health Effects Screening Tool, Version 2 results for the project site are shown in **Attachment B: Health Risk Assessment Methodology, Assumptions, and Detailed Results.** According to the Minor Project Health Effects Screening Tool, which is based on the highly conservative assumption that the proposed project would emit criteria pollutants at levels equal to the SMAQMD thresholds of significance, the proposed project could result in approximately 2.3 premature deaths per year due to the project's $PM_{2.5}$ impacts and could result in approximately 0.054 premature deaths per year due to the project's ozone impacts. Such numbers represent a very small increase over the background incidence of premature deaths due to $PM_{2.5}$ and ozone concentrations (0.0047 percent and 0.00015 percent, respectively). $PM_{2.5}$ emissions from the proposed project could result in approximately 1.4 asthma-related emergency room visits, and ozone emissions from the proposed project could result in approximately one asthma-related emergency room visit. Such numbers represent a minute increase over the background level of asthma-related emergency room visits (0.0069 percent).

SMAQMD's Mobile Sources Air Toxics Protocol Tool gives a conservative estimate of cancer risk and $PM_{2.5}$ concentrations for points extending two kilometers out from roadways where at least 100,000 vehicles travel daily on average, and rail lines, within Sacramento County.[19] The Mobile Sources Air Toxics Protocol

[19] Sacramento Metropolitan Air Quality Management District, *Mobile Sources Air Toxics Protocol Tool,* https://app-airtoxics.azurewebsites.net/

Tool shows that existing cancer risk for sensitive receptors near the project site is 23 (diesel) and 2.3 (other air toxics) cancers per million persons with an annual $PM_{2.5}$ concentration of 0.64 micrograms per cubic meter (µg/m^3). The project site and surrounding area is located near Interstate 80.

5.0 IMPACT ANALYSIS AND MITIGATION

The significance of potential impacts was determined based on State CEQA Guidelines, Appendix G. Using Appendix G evaluation thresholds, the proposed project would be considered to have significant air quality impacts if it were to:

A. Conflict with or obstruct implementation of the applicable air quality plan;

B. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;

C. Expose sensitive receptors to substantial pollutant concentrations; or

D. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Nearly all development projects in the Sacramento region have the potential to generate air pollutants that may increase the difficulty of attaining federal and State AAQS. In order to evaluate ozone and other criteria air pollutant emissions and support attainment goals for those pollutants for which the area is designated nonattainment, SMAQMD has developed the *Guide to Air Quality Assessment in Sacramento County*, which includes recommended thresholds of significance, including mass emission thresholds for construction-related and operational ozone precursors, as the area is under nonattainment for ozone.[20]

The SMAQMD's recommended thresholds of significance for the ozone precursors of ROG and NOx, which are expressed in pounds per day are 85 pounds per day for construction and 65 pounds per day for operations.

SMAQMD has construction and operational thresholds of significance for PM_{10} and $PM_{2.5}$ expressed in both pounds per day and tons per year. The construction and operational thresholds for PM_{10} and $PM_{2.5}$ only apply to those projects that have implemented all applicable Best Available Control Technologies (BACTs) and Best Management Practices (BMPs). The PM_{10} and $PM_{2.5}$ construction and operational thresholds of significance are 80 and 82 pounds per day and 14.6 and 15 tons per year, respectively.

6.0 CONSTRUCTION EMISSIONS INVENTORY

Intermittent (short-term construction emissions that occur from activities, such as site-grading, paving, and building construction) and long-term air quality impacts related to the operation of the project were

[20] Sacramento Metropolitan Air Quality Management District, *Guide to Air Quality Assessment in Sacramento County*, April 2020, https://www.airquality.org/businesses/ceqa-land-use-planning/ceqa-guidance-tools#:~:text=The%20Guide%20to%20Air%20Quality,complying%20with%20the%20California%20Environmental

evaluated. The analysis focuses on daily emissions from construction and operational (mobile, area, stationary, and fugitive sources) activities. CalEEMod was used to quantify construction-related pollutant emissions.

CalEEMod output worksheets are included in **Attachment A: Construction and Operational Emissions Inventory Supporting Information**. The emissions generated from these construction activities include:

- Dust (including PM_{10} and $PM_{2.5}$) primarily from "fugitive" sources (i.e., emissions released through means other than through a stack or tailpipe) such as material handling and travel on unpaved surfaces; and
- Combustion exhaust emissions of criteria air pollutants (ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$) primarily from operation of heavy off-road construction equipment, haul trucks, (primarily diesel-operated), and construction worker automobile trips (primarily gasoline-operated).
- VOC as ROG primarily from "fugitive" sources such as architectural coating and paving.

Construction-related fugitive dust emissions would vary from day to day, depending on the level and type of activity, silt content of the soil, and the weather. High winds (greater than 10 miles per hour) occur infrequently in the area, less than two percent of the time. In the absence of mitigation, construction activities may result in significant quantities of dust, and as a result, local visibility and PM_{10} concentrations may be adversely affected on a temporary and intermittent basis during construction. In addition, the fugitive dust generated by construction would include not only PM_{10}, but also larger particles, which would fall out of the atmosphere within several hundred feet of the site and could result in nuisance-type impacts.

Table 2: Estimated Construction Schedule presents the construction schedule by construction phase. Construction activities may be conducted from 7 a.m. to 6 p.m. Monday through Friday.

Table 2: Estimated Construction Schedule

Description	Start	End	Working Days
Demolition	11/16/2026	11/20/2026	5
Site Preparation	11/21/2026	12/04/2026	10
Grading	12/5/2026	1/01/2027	20
Paving	1/02/2027	1/15/2027	10
Building Construction	1/16/2027	8/09/2027	146
Architectural Coating	8/10/2027	8/16/2027	5

SOURCE: CalEEMod Version 2022.1.0.

The estimated construction equipment associated with the proposed project along with the number of pieces of equipment, daily hours of operation, horsepower (hp), and load factor (i.e., percent of full throttle) are shown in **Table 3: Estimated Construction Equipment Usage**.

Table 3: Estimated Construction Equipment Usage

Phase	Equipment	Amount	Daily Hours	HP	Load Factor
Demolition	Tractors/Loaders/Backhoes	3	8	84	0.37
Demolition	Rubber Tired Dozers	1	8	367	0.4
Demolition	Concrete/Industrial Saws	1	8	33	0.73
Site Preparation	Tractors/Loaders/Backhoes	1	7	84	0.37
Site Preparation	Graders	1	8	148	0.41
Site Preparation	Scrapers	1	8	423	0.48
Grading	Graders	1	8	148	0.41
Grading	Rubber Tired Dozers	1	8	367	0.4
Grading	Tractors/Loaders/Backhoes	2	7	84	0.37
Building Construction	Cranes	1	8	367	0.29
Building Construction	Forklifts	2	7	82	0.2
Building Construction	Generator Sets	1	8	14	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6	84	0.37
Building Construction	Welders	3	8	46	0.45
Paving	Pavers	1	8	81	0.42
Paving	Paving Equipment	1	8	89	0.36
Paving	Rollers	2	8	36	0.38
Paving	Cement and Mortar Mixers	1	8	10	0.56
Paving	Tractors/Loaders/Backhoes	1	8	84	0.37
Architectural Coating	Air Compressors	1	6	37	0.48

SOURCE: CalEEMod Version 2022.1.0.

Table 4: Estimated Daily Maximum Construction Emissions provides the estimated daily construction emissions that would be associated with the proposed project and compares those emissions to the significance thresholds. All construction-related emissions would be below the significance thresholds.

Table 4: Estimated Daily Maximum Construction Emissions (pounds)

Condition	ROG	NOx	PM10	PM2.5	CO
Construction	8.85	13.5	7.85	4.01	15.1
Significance Threshold	--	85	80	82	--
Significant (Yes or No)?	No	No	No	No	No

SOURCE: CalEEMod Version 2022.1.0.

Using standard fuel consumption estimates, construction activities would require approximately 19,750 gallons of diesel fuel [21]

As shown in **Table 3: Estimated Daily Maximum Construction Emissions**, proposed project construction emissions would be below SMAQMD's significance thresholds for construction. Furthermore, the

[21] Fuel usage is estimated using the CalEEMod output for CO_2, and a 8.91 $kgCO_2$/gallon (gasoline) and 10.15 $kgCO_2$/gallon (diesel) conversion factor, https://www.eia.gov/environment/emissions/co2_vol_mass.php

proposed project would implement the following Basic Construction Emission Control Practices recommended by the SMAQMD to control fugitive dust in accordance with SMAQMD Rule 403:

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [CCR, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
- Provide current certificate(s) of compliance for the CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation (CCR, Title 13, Sections 2449 and 2449.1).
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.
- Proof of compliance with this measure shall be submitted to the City of Sacramento and SMAQMD for review and approval.

The proposed project would not exceed SMAQMD thresholds of significance for construction emissions and would implement Basic Construction Emission Control Practices recommended by the SMAQMD. Therefore, construction of the proposed project would result in a less than significant impact**.**

7.0 OPERATIONAL EMISSIONS INVENTORY

CalEEMod was used to estimate emissions that would be associated with motor vehicle use, space and water heating, and landscape maintenance emissions expected to occur after the proposed project construction is complete and operational. The proposed project land use types and size and other project-specific information were input to the model. CalEEMod provides emissions for transportation, areas sources, electricity consumption, electricity usage associated with water usage and wastewater discharge, and solid waste land filling and transport. CalEEMod output worksheets are included in **Attachment A: Construction and Operational Emissions Inventory Supporting Information**.

In addition, VOC/ROG emissions would result from fuel loading, breathing (both related to the underground storage tanks), refueling, and spillage (both related to the fuel pumps). The following are additional details concerning these emission points:

- Loading emissions occur when a cargo tank truck unloads gasoline to the storage tanks.
- At the gasoline station, storage tank vapors are emitted from the vent pipe during the initial fuel transfer period. These emissions are significantly reduced when the vent pipe includes a pressure/vacuum valve.
- Gasoline vapors are emitted from the storage tank vent pipe due to temperature and pressure changes within the storage tank vapor space.
- During the refueling process, gasoline vapors are emitted at the vehicle/nozzle interface.
- Spillage emissions occur from the spills during vehicle fueling.

CAPCOA's *Gasoline Service Station Industry-wide Risk Assessment Guidelines* was used to estimate VOC/ROG emissions that would result from the proposed gasoline station.[22] The calculations are based on maximum hourly gasoline throughput and typical annual gasoline throughput based on maximum vehicle volume and number of fuel pumps with underground storage tanks and vapor recovery systems, and 90 percent overall control efficiency.

According to the California Annual Retail Fuel Outlet Report Results, the average annual throughput of gasoline fuel was 1,358,299 gallons and the average annual throughput of diesel fuel was 365,814 gallons during 2023. According to the California Annual Retail Fuel Outlet Report Results, the maximum annual throughput of gasoline fuel was 1,668,383 gallons and the maximum annual throughput of diesel fuel was 388,767 gallons between 2010 and 2023.[23] It is anticipated that for the proposed project, the throughput for both gasoline and diesel would be lower than these values.

The proposed project is estimated to generate 1,374 gross daily trips[24], with 87 trips during the a.m. peak hour and 112 trips during the p.m. peak hour. Due to the project's location and proximity to I-80, most of the project trips would already be traveling on I-80 and diverting to patronize the proposed project. Trips that require diversion from roadways within the vicinity are referred as "diverted" trips and affect traffic along the streets near the proposed project. Therefore, the proposed project is anticipated to generate

[22] California Air Resources Board, *Gasoline Service Station Industrywide Risk Assessment Supplemental Policy Guidance Document*, July 21, 2022, https://ww2.arb.ca.gov/resources/documents/gasoline-service-station-industrywide-risk-assessment-guidance

[23] California Energy Commission, 2022. *California Retail Fuel Outlet Annual Reporting (CEC-A15) Results*, *https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting*

[24] DKS, *Transportation Analysis Retail at Northgate and Rosin Court*, August 28, 2018 (Table 9) specifics 2,061 gross daily trips (based on 12 fuel pumps). Thus, project values were adjusted to account for only eight fuel pumps (i.e., 2,061 trips times 8/12 = 1,374 trips). Similarly, peak morning and peak afternoon values were also adjusted (131 trips times 8/12 = 87 trips and 168 trips times 8/12 = 112 trips, respectively).

563 net daily trips, with 33 net trips during the a.m. peak hour and 49 net trips during the p.m. peak hour.[25] [26]

The project would generate a gross total of 501,510 trips per year and 1,806,350 vehicle miles per year. However, the project would generate a net total of 205,495 trips per year and 1,776,320 vehicle miles per year.

The estimated gross annual vehicle fuel usage is approximately 49,980 gallons of gasoline and 16,170 gallons of diesel.[27] However, the estimated net annual vehicle fuel usage is approximately 47,360 gallons of gasoline and 15,320 gallons of diesel.[28]

Estimated daily and annual operational emissions that would be associated with the proposed project are presented in **Tables 5: Estimated Daily Operational Emissions** and **Tables 6: Estimated Annual Operational Emissions** and are compared to thresholds of significance. As indicated, the estimated proposed project operational emissions would be below the significance thresholds and would be less than significant.

Table 5: Estimated Daily Operational Emissions (pounds)

Condition	ROG	NOx	PM10	PM2.5	CO
Mobile	4.83	2.18	3.55	0.93	23.7
Area	0.15	<0.01	<0.01	<0.01	0.21
Fuel Pumps/Tanks Fugitive	4.72				
Total Operations	**9.71**	**2.18**	**3.55**	**0.93**	**23.9**
Significance Threshold	65	65	80	82	--
Significant Impact?	No	No	No	No	No

SOURCE: CalEEMod Version 2022.1.0.

Table 6: Estimated Annual Operational Emissions (tons)

Condition	ROG	NOx	PM10	PM2.5	CO
Mobile	0.79	0.37	0.63	0.17	3.99
Area	0.03	<0.01	<0.01	<0.01	0.03
Fuel Pumps/Tanks Fugitive	0.86				
Total Operations	**1.68**	**0.37**	**0.63**	**0.17**	**4.01**
Significance Threshold	--	--	14.6	15.0	--
Significant Impact?	No	No	No	No	No

SOURCE: CalEEMod Version 2022.1.0.

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[25] DKS, *Transportation Analysis Retail at Northgate and Rosin Court*, August 28, 2018

[26] DKS, *Transportation Analysis Retail at Northgate and Rosin Court*, August 28, 2018 (Table 8) specifies that 59 percent of daily trips are pass-by, 62 percent of peak morning trips are pass-by, and 56 precent of peak afternoon trips are pass-by. Therefore, net daily trips are 1,374 trips times 41 percent = 563 trips, net peak morning trips are 87 trips times 38 percent -= 33 trips, and net afternoon peak trips are 112 trips times 44 percent = 49 trips.

[27] Fuel usage is estimated using the CalEEMod output for CO2, and a 8.91 kgCO2/gallon (gasoline) and 10.15 kgCO2/gallon (diesel) conversion factor: https://www.eia.gov/environment/emissions/co2_vol_mass.php

[28] Fuel usage is estimated using the CalEEMod output for CO2, and a 8.91 kgCO2/gallon (gasoline) and 10.15 kgCO2/gallon (diesel) conversion factor: https://www.eia.gov/environment/emissions/co2_vol_mass.php

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. Pursuant to the SMAQMD CEQA Guide, emissions of CO are generally of less concern than other criteria pollutants, as operational activities are not likely to generate substantial quantities of CO, and the SVAB has been in attainment for CO for multiple years. Additionally, due to the continued attainment of CAAQS and NAAQS, and advances in vehicle emissions technologies, the likelihood that any single project would create a CO hotspot is minimal. Consequently, the proposed project would result in a less than- significant impact related to localized CO emissions.

8.0 HEALTH IMPACTS

Exposure of persons by siting a new source or a new sensitive receptor to substantial levels of TAC resulting in (a) a cancer risk level greater than 10 in one million, (b) a noncancerous risk (chronic or acute) hazard index greater than 1.0, or (c) an increase of annual average $PM_{2.5}$ of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$). For this threshold, sensitive receptors include residential uses, schools, parks, daycare centers, nursing homes, and medical centers.

The construction HRA was conducted following methodologies in OEHHA's *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*.[29] This analysis was accomplished by applying the estimated concentrations at the receptors analyzed to the established cancer risk estimates and acceptable reference concentrations for non-cancer health effects. **Attachment B: Health Risk Assessment Methodology, Assumptions, and Detailed Results** provides additional methodologies and assumptions used within the health risk assessment.

OEHHA specifies that due to the uncertainty in assessing cancer risk from very short-term exposures, it does not recommend assessing cancer risk for projects lasting less than two months. OEHHA recommends that exposure from projects longer than two months, but less than six months be assumed to last six months while exposure from projects lasting more than six months should be evaluated for the duration of the project.

Construction activities may be conducted from 7 a.m. to 6 p.m. Monday through Friday. Therefore, the HRA estimated the health impacts as a result of exposure during those construction activity periods. The project would constitute a new emission source of DPM and $PM_{2.5}$ due to its construction activities and operations. Therefore, the HRA was conducted for construction activities and operations. Studies have demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. The HRA also addressed air toxics from operation of the fueling station.

Land uses such as schools, children's daycare centers, hospitals, and convalescent homes are more sensitive than the public to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. The CARB has identified the following people as most likely

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[29] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, February 2015, http://oehha.ca.gov/air/hot_spots/hotspots2015.html

to be affected by air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes, and those with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive population groups. Generally, the relevant zone of influence for an assessment of air quality health risks is considered to be within 1,000 feet of a project site. Residential land uses are located within 1,000 feet to the south of the project site.

Health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. Individual cancer risk is the likelihood that a person exposed to air toxic concentrations over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. The maximally exposed individual (MEI) represents the worst–case risk estimate, based on a theoretical person continuously exposed for a lifetime at the point of highest compound concentration in the air. This is a highly conservative assumption since most people do not remain at home all day and on average residents change residences every 11 to 12 years. In addition, this assumption assumes that residents are experiencing outdoor concentrations for the entire exposure period.

The HRA analyzes the incremental cancer risks to sensitive receptors in the vicinity of the project, using emission rates (in pounds per hour) from the construction activities and operations. DPM (reported as combustion exhaust emissions of $PM_{2.5}$) emission rates were input into the USEPA's AERMOD atmospheric dispersion model to calculate ambient air concentrations at receptors in the project vicinity. The HRA is intended to provide a worst–case estimate of the increased exposure by employing a standard emission estimation program, an accepted pollutant dispersion model, approved toxicity factors, and conservative exposure parameters.

In accordance with OEHHA *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments,* the HRA was accomplished by applying the highest estimated concentrations of TAC at the receptors analyzed to the established cancer potency factors and acceptable reference concentrations for non-cancer health effects. Increased cancer risks were calculated using the modeled DPM concentrations and OEHHA-recommended methodologies for both child exposure (3rd trimester through two years of age) and adult exposure. The cancer risk calculations were based on applying the OEHHA-recommended age sensitivity factors and breathing rates, as well as fraction of time at home and an exposure duration of 30 years, to the DPM concentration exposures. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing air pollutants. Therefore, the cancer risk is different for a child compared to an adult.

These conservative methodologies overestimate both non-carcinogenic and carcinogenic health risk, possibly by an order of magnitude or more. Therefore, for carcinogenic risks, the actual probabilities of cancer formation in the populations of concern due to exposure to carcinogenic pollutants are likely to be lower than the risks derived using HRA methodology. The extrapolation of toxicity data in animals to humans, the estimation of concentration prediction methods within dispersion models; and the variability in lifestyles, fitness and other confounding factors of the human population also contribute to the overestimation of health impacts. Therefore, the results of the HRA are highly overstated.

According to the requirements under the California Public Resources Code, Division 13, Environmental Quality (§21000 – §21189.57), a project located within ¼ mile of a school that involve the construction or alteration of a facility that might reasonably be anticipated to emit hazardous air emissions, and that may impose a health or safety hazard to persons who would attend or would be employed at the school, must meet all requirements per CEQA Guidelines §15186 (b)(1)(2).[30] The lead agency must consult with the affected school district or districts regarding the potential impact of the project on the school and notify the affected school district(s) of the project in writing, not less than 30 days prior to approval or certification of the negative declaration or environmental impact report.

Cancer Risks on Existing Residences and Offsite Workers Due to Construction Activities

The following describes the HRA results associated with existing receptors due to project construction activities. As shown in **Table 7: Estimated Construction Health Impacts for Existing Residences**, the maximum cancer risk from unmitiagted project construction emissions for a residential child receptor would be 2.4 per million persons and for a residential adult receptor would be 0.1 per million persons.[31] The maximum health impacts would occur at the residences to the south of the project site. As shown in **Table 8: Estimated Health Impacts for Existing Offsite Workers**, the maximum cancer risk from unmitiagted project construction emissions for an offsite worker receptor would be 0.9 per million persons. Thus, the cancer risk due to construction activities is less than signficant when compared to the SMAQMD threshold of 10 per million.

Table 7: Estimated Construction Health Impacts for Existing Residences

Source	Cancer Risk (child/adult)	Hazard Impact
Construction	**2.39/0.11**	**<0.01**
Significance Threshold	10	1.0
Potentially Significant (Yes or No)?	No	No

Table 8: Estimated Construction Health Impacts for Existing Offsite Workers

Source	Cancer Risk)	Hazard Impact
Construction	**0.94**	**0.04**
Significance Threshold	10	1.0
Potentially Significant (Yes or No)?	No	No

Non-Cancer Health Hazard Associated with Existing Receptors Due to Construction Activities

Both acute (short-term) and chronic (long-term) adverse health impacts unrelated to cancer are measured against a hazard index (HI), which is defined as the ratio of the predicted incremental DPM exposure concentration from the proposed project to a reference exposure level (REL) that could cause adverse health effects. The REL are published by OEHHA based on epidemiological research. The ratio (referred to as the Hazard Quotient [HQ]) of each non-carcinogenic substance that affects a certain organ system is added to produce an overall HI for that organ system. The overall HI is calculated for each organ system.

[30] 2019 CEQA Statutes and Guidelines, http://resources.ca.gov/ceqa/docs/2019_CEQA_Statutes_and_Guidelines.pdf

[31] This theoretical individual would be born on construction year 1 and subsequently be exposed to the full construction period. Individuals born after construction year 1 would be exposed to shorter construction duration and thus, result in a lower risk and health impacts.

The impact is considered to be significant if the overall HI for the highest-impacted organ system is greater than 1.0.

The chronic reference exposure level for DPM was established by the California OEHHA[32] as 5 µg/m^3. Thus, the proposed project-related annual concentration of DPM cannot exceed 5.0 µg/m^3; resulting in a chronic HI of greater than 1.0 (i.e., DPM annual concentration/5.0 µg/m^3). The chronic HI would be below the project-level threshold of 1 and the impact of the proposed project would therefore have a **less than significant impact**. There is no acute REL for DPM.

Health Impacts on Existing Residences and Offsite Workers Due to Operations

CAPCOA's *Gasoline Service Station Industry-wide Risk Assessment Guidelines* was used to estimate health impacts from the proposed gasoline station.[33] For the nearest residential-receptors, 820 feet from the fueling station canopy, the estimated cancer risk would be 0.15 per million, which is well below the significance threshold of 10 per million. The nearest offsite worker receptors is 165 feet from the fueling station canopy. For the nearest off-site workers (KFC and McDonalds), the estimated cancer risk would be 0.14 per million, which is well below the significance threshold of 10 per million and the health impact of the proposed project would therefore be less than significant.

The acute and chronic HI would be 0.27 and less than 0.01 for nearby sensitive receptors. The acute and chronic HI would be below the threshold of 1 and the health impact of the proposed project would therefore be less than significant.

Notably, CAPCOA's *Health Risk Assessments for Proposed Land Use Projects*[34] states that siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater) should be avoided. A 50-foot separation is recommended for typical gas dispensing facilities.

9.0 ODOR IMPACTS

Though offensive odors from stationary and mobile sources rarely cause any physical harm, they remain unpleasant and can lead to public distress, generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors. Generally, odor emissions are highly dispersive, especially in areas with higher average wind speeds. However, odors disperse less quickly during inversions or during calm conditions, which hamper vertical mixing and dispersion.

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32 California Office of Environmental Health Hazards Assessment - Acute, 8-hour, and Chronic Reference Exposure Levels, November 4, 2019, http://www.oehha.ca.gov/air/allrels.html

33 California Air Resources Board, *Gasoline Service Station Industrywide Risk Assessment Supplemental Policy Guidance Document*, July 21, 2022, https://ww2.arb.ca.gov/resources/documents/gasoline-service-station-industrywide-risk-assessment-guidance

34 California Air Resources Board, *Health Risk Assessments for Proposed Land Use Projects, July 2009,* https://ww2.valleyair.org/media/glsdzpx3/capcoa_hra_lu_guidelines_8-6-09.pdf

Potential localized odor sources associated with proposed project operation-related activities could originate from fumes from the diesel exhaust from trucks or VOC emissions from the fuel station. However, odor emissions are highly dispersive, especially in areas with higher average wind speeds. Therefore, proposed project odor impacts would be less than significant.

10.0 GREENHOUSE GAS ANALYSIS

"Global warming" and "global climate change" are the terms used to describe the increase in the average temperature of the earth's near-surface air and oceans since the mid-20th century and its projected continuation. Warming of the climate system is now considered to be unequivocal, with global surface temperature increasing approximately 1.33 degrees Fahrenheit (°F) over the last 100 years. Continued warming is projected to increase global average temperature between 2 and 11°F over the next 100 years.

Natural processes and human actions have been identified as the causes of this warming. The Intergovernmental Panel on Climate Change (IPCC) concludes that variations in natural phenomena such as solar radiation and volcanoes produced most of the warming from pre-industrial times to 1950 and had a small cooling effect afterward. After 1950, however, increasing GHG concentrations resulting from human activity such as fossil fuel burning, and deforestation have been responsible for most of the observed temperature increase. These basic conclusions have been endorsed by more than 45 scientific societies and academies of science, including all of the national academies of science of the major industrialized countries. Since 2007, no scientific body of national or international standing has maintained a dissenting opinion.

Increases in GHG concentrations in the earth's atmosphere are thought to be the main cause of human-induced climate change. GHG naturally trap heat by impeding the exit of solar radiation that has hit the earth and is reflected back into space. Some GHG occurs naturally and are necessary for keeping the earth's surface inhabitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have decreased the amount of solar radiation that is reflected back into space, intensifying the natural greenhouse effect and resulting in the increase of global average temperature.

Gases that trap heat in the atmosphere are referred to as GHG because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHG has been implicated as the driving force for global climate change. The primary GHG are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), ozone, and water vapor.

While the presence of the primary GHG in the atmosphere are naturally occurring, CO_2, CH_4, and N_2O are also emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills. Other GHG include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes.

CO_2 is the reference gas for climate change because it is the predominant GHG emitted. The effect that each of the aforementioned gases can have on global warming is a combination of the mass of their emissions and their global warming potential (GWP). GWP indicates, on a pound-for-pound basis, how much a gas is predicted to contribute to global warming relative to how much warming would be predicted to be caused by the same mass of CO_2. CH_4 and N_2O are substantially more potent GHG than CO_2, with GWP of 25 and 298 times that of CO_2, respectively.[35]

In emissions inventories, GHG emissions are typically reported in terms of pounds or metric tons (MT) of CO_2 equivalents (CO_2e). CO_2e are calculated as the product of the mass emitted of a given GHG and its specific GWP. While CH_4 and N_2O have much higher GWP than CO_2, CO_2 is emitted in such vastly higher quantities that it accounts for the majority of GHG emissions in CO_2e.

Fossil fuel combustion, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO_2 emissions (and thus substantial increases in atmospheric concentrations of CO_2). In pre-industrial times (c. 1860), concentrations of atmospheric CO_2 were approximately 280 parts per million (ppm). By February 2024, atmospheric CO_2 concentrations had increased to 424.55 ppm, 52 percent above pre-industrial concentrations.[36]

There is international scientific consensus that human-caused increases in GHG have and will continue to contribute to global warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.[37]

California Environmental Quality Act and Climate Change

Under CEQA, lead agencies are required to disclose the reasonably foreseeable adverse environmental effects of projects they are considering for approval. GHG emissions have the potential to affect the environment because they contribute to global climate change. In turn, global climate change has the potential to cause sea level rise, alter rainfall and snowfall patterns, and affect habitat.

California Code of Regulations Title 24

Although not originally intended to reduce greenhouse gas emissions, Title 24 of the California Code of Regulations, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow for the consideration and possible incorporation of new energy efficiency technologies and methods. Energy efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for water heating) results in GHG emissions. Therefore, increased energy efficiency results in decreased GHG emissions.

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[35] Global Warming Potential values, https://www.ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf

[36] Earth System Research Laboratory, *Recent Monthly Mean CO_2 at Mauna Lora*, www.esrl.noaa.gov/gmd/ccgg/trends/

[37] California Environmental Protection Agency, *2006 Final Climate Action Team Report to the Governor and Legislature*, March 2006, https://planning.lacity.org/eir/8150Sunset/References/4.E.%20Greenhouse%20Gas%20Emissions/GHG.23_CalEPA%202006%20Report%20to%20Governor.pdf

Accordingly, Title 24 in the CALGreen Building Code is now a part of the statewide strategy for reducing GHG emissions and is the only statewide plan for reduction of GHG emissions that every local agency must adopt in a public hearing by adopting the state building code. Consistent with CALGreen, the state recognized that GHG reductions would be achieved through buildings that exceed minimum energy-efficiency standards, decrease consumption of potable water, reduce sold waste during construction and operation, and incorporate sustainable materials. Compliance with Title 24 of the CALGreen Building Code is thus a vehicle to achieve statewide electricity and natural gas efficiency targets, and lower GHG emissions from waste and water transport sectors.

Executive Order S-3-05

Governor Schwarzenegger established Executive Order S-3-05 in 2005, in recognition of California's vulnerability to the effects of climate change. Executive Order S-3-05 set forth a series of target dates by which statewide emissions of GHG would be progressively reduced, as follows:

- 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.

The executive order directed the Secretary of CalEPA to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The Secretary will also submit biannual reports to the governor and California Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's resources, and mitigation and adaptation plans to combat these impacts. To comply with the executive order, the secretary of CalEPA created the California Climate Action Team, made up of members from various state agencies and commissions. The report proposed to achieve the targets by building on the voluntary actions of California businesses, local governments, and communities and through state incentive and regulatory programs.

Assembly Bill 32 (California Global Warming Solutions Act of 2006)

California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599). AB 32 established regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 required that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction was to be accomplished by enforcing a statewide cap on GHG emissions that were to be phased in starting in 2012. To effectively implement the cap, AB 32 directed CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specified that regulations adopted in response to AB 1493 were used to address GHG emissions from vehicles. However, AB 32 also included language stating that if the AB 1493 regulations cannot be implemented, then CARB was to develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 required CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state reduces GHG emissions enough to meet the cap. AB 32 also includes guidance on instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers are not unfairly affected by the reductions. Pursuant to AB 32, CARB identified 427 million MT CO_2e as the total Statewide aggregated 1990 GHG emissions level, which serves as the 2020 emissions limit. Using these criteria to reduce statewide GHG emissions to 1990 levels by 2020 represented an approximate 25 to 30 percent reduction in current emissions levels. However, CARB also had discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as compared to other sectors that are not expected to significantly increase emissions. The goals of AB 32 were achieved within the 2002 timeline.

Climate Change Scoping Plans

AB 32 also required CARB to develop a Scoping Plan that describes the approach California will take to reduce GHG to achieve the goal of reducing emissions to 1990 levels by 2020. The Scoping Plan was first approved by CARB in 2008 and must be updated every five years. The initial AB 32 Scoping Plan contains the main strategies California will use to reduce the GHG that cause climate change. The initial Scoping Plan has a range of GHG reduction actions which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 program implementation fee regulation to fund the program. In August 2011, the initial Scoping Plan was approved by CARB.

The 2013 Scoping Plan Update builds upon the initial Scoping Plan with new strategies and recommendations. The 2013 Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The 2013 Update defines CARB climate change priorities for the next five years and sets the groundwork to reach California's long-term climate goals set forth in Executive Orders S-3-05 and B-16-2012. The 2013 Update highlights California progress toward meeting the near-term 2020 GHG emission reduction goals defined in the initial Scoping Plan. In the 2013 Update, nine key focus areas were identified (energy, transportation, agriculture, water, waste management, and natural and working lands), along with short-lived climate pollutants, green buildings, and the cap-and-trade program.

On May 22, 2014, the First Update to the Climate Change Scoping Plan was approved by CARB, along with the finalized environmental documents. The First Update to the Climate Change Scoping Plan identified the 2020 emissions limit as 431 million metric tons of CO_2e and the 2020 business-as-usual forecast as 509 million metric tons of CO_2e. Finally, the Updated Scoping Plan provided recommendations for establishing a mid-term emissions limit that aligns with the long-term (2050) goals of Executive Order S-3-05. The recommendations covered energy, transportation, agriculture, water, waste management, natural and working lands, short-lived climate pollutants, green building, and cap-and-trade sectors.

In 2017, CARB approved the Second Update to the Climate Change Scoping Plan (2017 Scoping Plan). The 2017 Scoping Plan identified progress made to meet the near-term (2020) objectives of AB 32 and defined California's climate change priorities and activities for the next several years. The 2017 Scoping Plan identified the 2020 emissions limit as 431 million metric tons of CO_2e and the 2020 business-as-usual forecast as 509 million metric tons of CO_2e. The 2017 Scoping Plan provided strategies for meeting the mid-term 2030 greenhouse gas reduction target set by Senate Bill (SB) 32. The 2017 Scoping Plan also identified how the State can substantially advance toward the 2050 greenhouse gas reduction target of Executive Order S-3-05, which consists of reducing greenhouse gas emissions to 80 percent below 1990 levels. The recommendations covered the key sectors, including energy and industry; transportation; natural and working lands; waste management; and water.

In 2022, CARB approved the Third Update to the Climate Change Scoping Plan (2022 Scoping Plan), which lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279.[38] The 2022 Scoping Plan:

- Identifies a path to keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030.
- Identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 and a reduction in anthropogenic emissions by 85 percent below 1990 levels.
- Focuses on strategies for reducing California's dependency on petroleum to provide consumers with clean energy options that address climate change, improve air quality, and support economic growth and clean sector jobs.
- Integrates equity and protecting California's most impacted communities as driving principles throughout the document.
- Incorporates the contribution of natural and working lands to the state's GHG emissions, as well as their role in achieving carbon neutrality.
- Relies on the most up-to-date science, including the need to deploy all viable tools to address the existential threat that climate change presents, including carbon capture and sequestration, as well as direct air capture.
- Evaluates the substantial health and economic benefits of taking action.
- Identifies key implementation actions to ensure success.

The recommended measures in the 2022 Scoping Plan and previous Scoping Plans are broad policy and regulatory initiatives that will be implemented at the State level and do not relate to the construction and operation of individual projects.

Greenhouse Gas Regional Emission Estimates

In 2021, the United States emitted about 6,340 million metric tons of CO_2e or 5,586.0 million metric tons of carbon dioxide equivalents after accounting for sequestration from the land sector. Emissions increased in 2021 by 6 percent. The increase in total GHG emissions was driven largely by an increase in CO_2 emissions from fossil fuel combustion. In 2021, CO_2 emissions from fossil fuel combustion increased by 7

[38] California Air Resources Board, *Final 2022 Scoping Plan Update*, November 16, 2022, https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan#:~:text=The%20Draft%202022%20Scoping%20Plan,neutrality%20no%20later%20than%202045

percent relative to the previous year. This increase in fossil fuel consumption emissions was due primarily to economic activity rebounding after the height of the COVID-19 pandemic.[39]

According to the USEPA, net emissions in 2021 were 17 percent below 2005 levels. The recent decline is mostly due to a shift to less CO_2-intensive natural gas for generating electricity and a rapid increase in the use of renewable energy in the electric power sector. Transportation activities accounted for 29 percent of total GHGs emissions in 2021. Emissions from electric power accounted for the second largest portion (25 percent), while emissions from industry accounted for the third largest portion (24 percent) of total GHG in 2021.[40]

In 2021, California emitted approximately 381 million metric tons of CO_2e, 12 million metric tons of CO_2e higher than 2020 levels and 50 million metric tons of CO_2e below the 2020 GHG Limit of 431 million metric tons of CO_2e).[41] The transportation sector represents 39 percent of the total GHG emissions. The industrial sector represents 22 percent of the total GHG emissions, followed by electricity (16 percent), and residential, agricultural, and commercial (8, 8, and 6 percent, respectively).

In 2021, GHG emissions were 12.6 million metric tons of CO_2e (3.4 percent) higher than 2020 (368.7 million metric tons of CO_2e), but 23.1 million metric tons of CO_2e (5.7 percent) lower than 2019 levels (404.4 million metric tons of CO_2e). Both the 2019 to 2020 decrease and the 2020 to 2021 increase in emissions are likely due in large part to the impacts of the COVID-19 pandemic that were felt globally. Emissions levels in 2020 are anomalous to the long-term trend, and the one-year increase from 2020 to 2021 should be considered in the broader context of the pandemic and subsequent economic recovery that took place over 2021.[42]

City of Sacramento Climate Action Plan

To meet the statewide GHG emission targets, the City of Sacramento adopted the Climate Action Adaption Plan (CAAP) in February of 2024 to comply with AB 32. The CAAP identified how the City and the broader community could reduce Sacramento's GHG emissions and included reduction targets, strategies, and specific actions. In 2015, the City of Sacramento adopted the 2035 General Plan Update. The update incorporated measures and actions from the CAAP into Appendix B, General Plan CAAP Policies and Programs, which includes citywide policies and programs that are supportive of reducing GHG emissions.[43]

2040 General Plan Master Environmental Impact Report

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[39] United States Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990 - 2021*, April 2023, https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks

[40] United States Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990 - 2021*, April 2023, https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks

[41] California Air Resources Board, *Emissions Trends Report 2000-2021 (2023 Edition)*, https://ww2.arb.ca.gov/ghg-inventory-data

[42] California Air Resources Board, *Emissions Trends Report 2000-2021 (2023 Edition)*, https://ww2.arb.ca.gov/ghg-inventory-data

[43] City of Sacramento Climate Action Adaption Plan, November 14, 2023, https://www.cityofsacramento.gov/content/dam/portal/cdd/Planning/General-Plan/07Redlined-Version-of-the-revised-Draft-Climate-Action--Adaptation-Plan.pdf

The 2040 General Plan Master EIR was adopted in February of 2024. The 2040 General Plan Master EIR found that GHG emissions that would be generated by development consistent with the 2040 General Plan would contribute to climate change on a cumulative basis.[44] Policies of the 2040 General Plan identified in the 2040 General Plan Master EIR that would reduce GHG emissions include:

Policy LUP-1.1: Compact Urban Footprint. The City shall promote a land- and resource-efficient development pattern and the placement of infrastructure to support efficient delivery of public services and conserve open space, reduce vehicle miles traveled, and improve air quality.

Policy LUP-1.7: Regional Growth Strategy. The City shall continue to take a leadership role in defining and implementing a regional growth strategy, collaborating with the Sacramento Area Council of Governments (SACOG) and other stakeholders in the region on initiatives for sustainable growth, transit-oriented infill development, enhanced air quality, economic prosperity, and social equity.

Policy LUP-4.13: Future-Ready Gas Stations. The City shall prohibit the establishment of new gas stations or the expansion of fossil fuel infrastructure at existing gas stations unless the project proponent provides high-speed electric vehicle charging stations on site at a ratio of at least 1 charging station per 3 fuel pumps.

Policy LUP-10.2: Promote Green Buildings. The City shall partner with the Sacramento Municipal Utility District (SMUD), Grid Alternatives, American Institute of Architects, North State Building Industry Association, and other organizations and public agencies to raise awareness and promote adoptions of innovative green building technologies in both new and existing buildings.

Policy LUP-11.7: Building Materials. The City shall support and promote the use of benign; responsibly and ethically-sourced; and low-carbon and/or carbon-sequestering building materials and products.

Policy LUP-11.8: Construction Processes. The City shall encourage onsite construction processes that reduce environmental harm and support sustainable methods.

Threshold of Significance

The potential for the proposed project to result in adverse GHG emissions effects was determined by comparing proposed project emissions to the applicable thresholds within SMAQMD's *Guide to Air Quality Assessment in Sacramento County*.[45] The proposed project would be considered to result in adverse GHG emissions effects if it were to:

- Exceed 1,100 metric tons of CO_2e per year during construction.

For evaluating operational GHG emissions, SMAQMD has prepared a two-tiered framework of analysis for new projects. In addition, the City of Sacramento has integrated a CAAP into the 2035 General Plan. Thus,

[44] City of Sacramento, Sacramento 2040 General Plan and Climate Action and Adaption Plan, January 2024, https://www.cityofsacramento.gov/content/dam/portal/cdd/Planning/Environmental-Impact-Reports/2040-gpu-and-caap/Sacramento-2040-Plan-Final-MEIR_1-2024.pdf

[45] Sacramento Metropolitan Air Quality Management District, *Guide to Air Quality Assessment in Sacramento County*, April 2020, https://www.airquality.org/businesses/ceqa-land-use-planning/ceqa-guidance-tools#:~:text=The%20Guide%20to%20Air%20Quality,complying%20with%20the%20California%20Environmental

potential impacts related to climate change from development within the City are also assessed based on the proposed project's compliance with the City's adopted 2035 General Plan CAAP Policies and Programs set forth in Appendix B of the 2035 General Plan Update. Most of the policies and programs set forth in Appendix B of the 2035 General Plan Update are citywide efforts in support of reducing overall citywide emissions of GHG. However, various policies related to new development within the City would directly apply to the proposed project.

- Implement the following BMPs during operation:
  - BMP 1 - projects shall be designed and constructed without natural gas infrastructure.
  - BMP 2 - projects shall meet the current CalGreen Tier 2 standards, except all electric vehicle capable spaces shall instead be electric vehicle ready.
- If the project does not implement Tier 1 BMPs, estimate excess emissions from natural gas use and implement onsite measures to maximum extent feasible, or purchase offsite mitigation (offsets) to reduce natural gas emissions. Ensure the project has the capacity to be all-electric in the future. Ensure BMP 2 requirement met on-site or through off-site program.

Project Greenhouse Gas Emissions

The estimated total construction GHG emissions are 200 metric tons of CO_2e. As indicated, 30-year amortized annual construction related GHG emissions would be approximately 7 metric tons of CO_2e.[46] **Table 9: Estimated Construction Greenhouse Gas Emissions** shows the estimated annual construction GHG emissions. GHG emissions from construction represent a very small portion of a project's lifetime GHG emissions. GHG emissions from construction are a one-time release and would not pose a significant impact to the environment. Therefore, project construction would not result in a cumulatively considerable contribution to global climate change.

Table 9: Estimated Construction Greenhouse Gas Emissions (metric tons)

Year	Proposed Project Annual CO_2e Metric Tons)
Total Construction Emissions	**200**
30-Year Amortized	**7**
Significance Threshold	1,100
Significant Impact?	No

SOURCE: *CARB EMFAC and OFFROAD*

CalEEMod incorporates GHG emission factors for Sacramento Municipal Utility District (SMUD). CalEEMod uses an intensity rate of 375 pounds of CO_2 per megawatt of electricity produced for SMUD. The electricity delivered by SMUD and consumed by the project would be subject to SB 100 and the state's RPS, which

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[46] Given that the SCAPCD does not have a policy, construction emissions were amortized over 30 years and added to operational GHG emissions consistent with SCAQMD's Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, December 5, 2008, https://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf

requires increasing renewable energy to 60 percent by 2030 and 100 percent by 2045. The associated emissions rate is nearly 90 percent cleaner than the latest national average among energy providers. It would be expected that SMUD's GHG intensity for electricity continues to decrease over time and is estimated to be net zero by 2045.

SMAQMD has adopted qualitative thresholds of significance for GHG emissions during operations of projects. However, SMAQMD's CEQA Guidelines note that, where local jurisdictions have adopted thresholds or guidance for analyzing GHG emissions, the local thresholds should be used for the project analysis. The City of Sacramento has adopted a CAAP, which provides a jurisdiction-wide approach to the analysis of GHG emissions. The City's CAAP includes Citywide measures intended to reduce emissions from existing sources, as well as measures aimed at reducing emissions from future sources related to development within the City of Sacramento. Thus, the analysis is focused on the proposed project's consistency with the City's CAAP. Nonetheless, the estimated maximum annual operational emissions from the proposed project were modeled for informational purposes.

Operation of the proposed project would generate GHG emissions associated with vehicle trips, energy use, water use/wastewater conveyance, refrigerants, and solid waste disposal. **Table 10: Estimated Annual Operational Greenhouse Gas Emissions** presents the annual GHG emissions generated by the project, which would be 820 metric tons of CO_2e per year (assuming the gross traffic generation rates) and less than the significance threshold of 1,100 metric tons of CO_2e per year. The project would not use natural gas. There would be eight EV chargers access spaces, and the project would meet the current CalGreen Tier 2 standards, except all electric vehicle capable spaces shall instead be electric vehicle ready. Therefore, the project operation would not result in a cumulatively considerable contribution to global climate change and would result in less than significant impacts. The project operation would not result in a cumulatively considerable contribution to global climate change and would result in less than significant impacts with **Mitigation Measures GHG-1 and GHG-2**.

The net annual GHG emissions generated by the project would be 788 metric tons CO_2e per year (assuming the net traffic generation rates) and thus, less than 1,100 metric tons CO_2e per year and a less than significant impact.

Table 10: Estimated Annual Operational Greenhouse Gas Emissions (metric tons)

Source	Proposed Project
Mobile	609 (578)
Area	<1
Energy (Electrical)	45
Water	<1
Waste	2
Refrigeration	163
Total Emissions	**820 (788)**
Significance Threshold	1,100
Significant Impact?	No

SOURCE: *CARB CalEEMod*

Mitigation Measure GHG-1: The Project shall be designed and constructed without natural gas infrastructure.

Mitigation Measure GHG-2: The Project Applicant shall meet the current CalGreen Tier 2 standards, except all electric vehicle capable spaces shall instead be electric vehicle ready. The Project Applicant shall ensure the project has the capacity to be all-electric in the future.

Consistency with State and Local GHG Reduction Plans

The City of Sacramento has integrated a CAAP into the City's 2040 General Plan. Potential impacts related to climate change from development within the City are assessed based on the project's compliance with the City's newly adopted CAAP reduction measures. The majority of the reduction measures set forth in the CAAP are citywide efforts in support of reducing overall citywide emissions of GHG and are not applicable to individual development projects.

CARB's 2022 Scoping Plan extends and expands upon earlier scoping plans with a target of reducing anthropogenic GHG emissions to 85 percent below 1990 levels by 2045. The 2022 Scoping Plan's strategies that are applicable to the project include reducing fossil fuel use, energy demand, and vehicle miles traveled. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

The project would be consistent with these strategies through the project's location and design, which includes complying with the latest Title 24 Green Building Code and Building Efficiency Energy Standards and installing energy-efficient LED lighting, water-efficient faucets and toilets, water efficient landscaping and irrigation, and electric vehicle infrastructure. These standards are intended to encourage more sustainable and environmentally friendly building practices, including the conservation of natural resources and the use of energy-efficient materials and equipment. The project would be served by SMUD, which is required to increase its renewable energy procurement in accordance with SB 100 targets.

The proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG, and a less-than-significant impact would occur.

11.0 SUMMARY

In summary, daily construction emissions would not exceed the significance thresholds, as described in **Section 6**. These impacts are largely due to off-road construction equipment and to a much lesser degree due to off-site construction haul trucks. Construction emissions would be less than significant. Once operational, the project would result in less than significant impacts of criteria air pollutants (**Section 7**). The health impacts due to project operations at nearby existing residences would also be less than significant (**Section 8**). Odor impacts (**Section 9**) would be less than significant. GHG emissions would also be less than significant with mitigation (**Section 10**). Therefore, the project would have a less than significant impact on air quality and GHG emissions.

Attachment A

Construction and Operational Emissions

CalEEMod Input Summary

CalEEMod Output Files

Sacramento Northgate Blvd and Rosin Court 7-Eleven

CalEEMod Version 2022.1 Inputs

Project Characteristics

Start of Construction: November 16, 2026

End of Construction: August 16, 2027

Operational Year: 2028

Location: Sacramento County

Air District: Sacramento Metropolitan Air Quality Management District

Utility Company: Sacramento Municipal Utility District (Electricity)

Land Use Setting: Suburban

Construction Specifics

a. Demolition: 5 days

b. Site preparation: 10 days

c. Grading/Excavation: 20 days

d. Paving: 10 days

e. Building Construction: 146 days (including site construction)

f. Painting/Coating: 5 days

Import of 697 cubic yards of soil materials.

Project site is 62,304 square feet (1.43 acres).

17,704 square feet (0.41 acres) of landscaping.

41,720 square feet (0.96 acres) of pavement.

There would be 25 parking spaces (17 standard spaces and eight EV chargers access spaces). The project does not include commercial truck area.

Area of convenience store is 4,761 square feet.

Construction activities will take place between 7 am and 6 pm Monday through Friday.

Operational Specifics

There would be one tank with regular unleaded gasoline of 20,000 gallons and one tank with a separation creating 8,000 gallons of premium and 12,000 gallons of diesel fuel. All fuel tanks will be underground. There would be a total of 4 standard fueling stations serving 8 fueling positions.

According to the California Annual Retail Fuel Outlet Report Results, the average annual throughput of gasoline fuel was 1,358,299 gallons and the average annual throughput of diesel fuel was 365,814 gallons during 2023. Anticipated throughput for both gasoline and diesel would be lower than the values noted.

According to the California Annual Retail Fuel Outlet Report Results, the maximum annual throughput of gasoline fuel was 1,668,383 gallons and the maximum annual throughput of diesel fuel was 388,767 gallons between 2010 and 2023. Anticipated throughput for both gasoline and diesel would be lower than the values noted.

Development will make use of local Water Efficient Landscape Ordinance (WELO) irrigation best practices and EV charging spaces.

The estimated annual electricity usage is 22,000 kWh/month or 264,000 kWh/year.

The estimated indoor and outdoor water usage is 27,000 gallons/month and 324,000 gallons/year.

The estimated tons of solid waste generated per year (tons/year) is 8.7 tons.

The proposed project is estimated to generate 1,374 gross daily trips[1], with 87 trips during the a.m. peak hour and 112 trips during the p.m. peak hour. Due to the project's location and proximity to I-80, most of the project trips would already be traveling on I-80 and diverting to patronize the proposed project. Trips that require diversion from roadways within the vicinity are referred as "diverted" trips and affect traffic along the streets near the proposed project. Therefore, the proposed project is anticipated to generate 563 net daily trips, with 33 net trips during the a.m. peak hour and 49 net trips during the p.m. peak hour.[2] [3]

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[1] DKS, *Transportation Analysis Retail at Northgate and Rosin Court*, August 28, 2018 (Table 9) specifics 2,061 gross daily trips (based on 12 fuel pumps). Thus, project values were adjusted to account for only eight fuel pumps (i.e., 2,061 trips times 8/12 = 1,374 trips). Similarly, peak morning and peak afternoon values were also adjusted (131 trips times 8/12 = 87 trips and 168 trips times 8/12 = 112 trips, respectively).

[2] DKS, *Transportation Analysis Retail at Northgate and Rosin Court*, August 28, 2018

[3] DKS, *Transportation Analysis Retail at Northgate and Rosin Court*, August 28, 2018 (Table 8) specifies that 59 percent of daily trips are pass-by, 62 percent of peak morning trips are pass-by, and 56 precent of peak afternoon trips are pass-by. Therefore, net daily trips are 1,374 trips times 41 percent = 563 trips, net peak morning trips are 87 trips times 38 percent -= 33 trips, and net afternoon peak trips are 112 trips times 44 percent = 49 trips.

The project would generate a gross total of 501,510 trips per year and 1,806,350 vehicle miles per year. However, the project would generate a net total of 205,495 trips per year and 1,776,320 vehicle miles per year.

On-Road fugitive dust inputs left as default.

Utility Information

Per CalEEMod, Greenhouse Gas intensity factor: 375 pounds of CO_2e per MWh (Sacramento Municipal Utility District).

Estimated Construction Schedule

Description	Start	End	Working Days
Demolition	11/16/2026	11/20/2026	5
Site Preparation	11/21/2026	12/04/2026	10
Grading	12/5/2026	1/01/2027	20
Paving	1/02/2027	1/15/2027	10
Building Construction	1/16/2027	8/09/2027	146
Architectural Coating	8/10/2027	8/16/2027	5

SOURCE: CARB CalEEMod Version 2022.1.

Estimated Construction Equipment Usage

Phase	Equipment	Amount	Daily Hours	HP	Load Factor
Demolition	Tractors/Loaders/Backhoes	3	8	84	0.37
Demolition	Rubber Tired Dozers	1	8	367	0.4
Demolition	Concrete/Industrial Saws	1	8	33	0.73
Site Preparation	Tractors/Loaders/Backhoes	1	7	84	0.37
Site Preparation	Graders	1	8	148	0.41
Site Preparation	Scrapers	1	8	423	0.48
Grading	Graders	1	8	148	0.41
Grading	Rubber Tired Dozers	1	8	367	0.4
Grading	Tractors/Loaders/Backhoes	2	7	84	0.37
Building Construction	Cranes	1	8	367	0.29
Building Construction	Forklifts	2	7	82	0.2
Building Construction	Generator Sets	1	8	14	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6	84	0.37
Building Construction	Welders	3	8	46	0.45
Paving	Pavers	1	8	81	0.42
Paving	Paving Equipment	1	8	89	0.36
Paving	Rollers	2	8	36	0.38
Paving	Cement and Mortar Mixers	1	8	10	0.56
Paving	Tractors/Loaders/Backhoes	1	8	84	0.37
Architectural Coating	Air Compressors	1	6	37	0.48

SOURCE: CARB CalEEMod Version 2022.1.

Sacramento Northgate Blvd and Rosin Ct 7-Eleven Custom Report

Table of Contents

8.5. Operations

8.5.1. Mobile Sources

8.5.1.1. Vehicle Data

8.5.1.2. Fleet Mix

8.5.3. Energy Usage

8.5.4. Water and Waste Water

8.5.5. Solid Waste

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Sacramento Northgate Blvd and Rosin Ct 7-Eleven
Construction Start Date	11/16/2026
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50000
Precipitation (days)	35.4000
Location	38.63664779040286, -121.4770919353613
County	Sacramento
City	Sacramento
Air District	Sacramento Metropolitan AQMD
Air Basin	Sacramento Valley
TAZ	526
EDFZ	13
Electric Utility	Sacramento Municipal Utility District
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.43

1.2. Land Use Types

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

Convenience Market with Gas Pumps	8.00000	Pump	1.43000	4,761.00	17,704.0	0.00000	—	—
Parking Lot	25.0000	Space	0.87000	0.00000	0.00000	0.00000	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-4*	Use Local and Sustainable Building Materials
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-B	Water Active Demolition Sites
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Construction	C-12	Sweep Paved Roads

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

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.	8.86888	8.84505	9.73588	11.7982	0.02327	0.32204	0.02130	0.34334	0.29630	0.00520	0.30150	—	2,239.15	2,239.15	0.09083	0.02160	0.10286	2,247.96
Mit.	8.75287	8.75285	4.56486	13.3811	0.02327	0.07057	0.02130	0.09188	0.06806	0.00520	0.07326	—	2,239.15	2,239.15	0.09083	0.02160	0.10286	2,247.96
% Reduced	1%	1%	53%	-13%	—	78%	—	73%	77%	—	76%	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.77095	1.46942	13.4895	15.1343	0.02508	0.58486	7.26998	7.85484	0.53854	3.47118	4.00973	—	2,872.88	2,872.88	0.13118	0.07556	0.02711	2,898.70
Mit.	0.50045	0.48260	4.56846	15.3558	0.02506	0.07059	7.26998	7.32209	0.06808	3.47118	3.52329	—	2,869.99	2,869.99	0.13107	0.07553	0.02711	2,895.81
% Reduced	72%	67%	66%	-1%	—	88%	—	7%	87%	—	12%	—	< 0.5%	< 0.5%	—	—	—	< 0.5%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.69919	0.60350	4.09011	4.99618	0.00970	0.13645	0.43123	0.48071	0.12554	0.18894	0.23448	—	940.723	940.723	0.03813	0.00923	0.03035	944.453
Mit.	0.28011	0.27048	1.90033	5.63987	0.00970	0.02941	0.43123	0.43603	0.02837	0.18894	0.19373	—	940.716	940.716	0.03813	0.00923	0.03035	944.446
% Reduced	60%	55%	54%	-13%	—	78%	—	9%	77%	—	17%	—	< 0.5%	< 0.5%	—	—	—	< 0.5%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.12760	0.11014	0.74645	0.91180	0.00177	0.02490	0.07870	0.08773	0.02291	0.03448	0.04279	—	155.747	155.747	0.00631	0.00153	0.00503	156.365
Mit.	0.05112	0.04936	0.34681	1.02928	0.00177	0.00537	0.07870	0.07958	0.00518	0.03448	0.03536	—	155.746	155.746	0.00631	0.00153	0.00503	156.364
% Reduced	60%	55%	54%	-13%	—	78%	—	9%	77%	—	17%	—	< 0.5%	< 0.5%	—	—	—	< 0.5%

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	8.86888	8.84505	9.73588	11.7982	0.02327	0.32204	0.02130	0.34334	0.29630	0.00520	0.30150	—	2,239.15	2,239.15	0.09083	0.02160	0.10286	2,247.96

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.77095	1.46942	13.4895	15.1343	0.02508	0.58486	7.26998	7.85484	0.53854	3.47118	4.00973	—	2,872.88	2,872.88	0.13118	0.07556	0.02711	2,898.70
2027	1.70655	1.41362	12.7816	14.4736	0.02470	0.54489	7.26998	7.81487	0.50177	3.47118	3.97295	—	2,863.87	2,863.87	0.12916	0.07362	0.02483	2,889.06
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.15437	0.12889	1.15992	1.28804	0.00232	0.04948	0.43123	0.48071	0.04554	0.18894	0.23448	—	264.329	264.329	0.01140	0.00503	0.03035	266.142
2027	0.69919	0.60350	4.09011	4.99618	0.00970	0.13645	0.02666	0.16311	0.12554	0.00978	0.13533	—	940.723	940.723	0.03813	0.00923	0.02504	944.453
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.02817	0.02352	0.21169	0.23507	0.00042	0.00903	0.07870	0.08773	0.00831	0.03448	0.04279	—	43.7627	43.7627	0.00189	0.00083	0.00503	44.0628
2027	0.12760	0.11014	0.74645	0.91180	0.00177	0.02490	0.00486	0.02977	0.02291	0.00179	0.02470	—	155.747	155.747	0.00631	0.00153	0.00415	156.365

2.2.2. Onsite 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	8.86768	8.84387	9.69609	11.7033	0.02312	0.32173	0.00000	0.32173	0.29600	0.00000	0.29600	—	2,200.89	2,200.89	0.08928	0.01786	0.00000	2,208.44
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.69573	1.42488	12.9413	14.6164	0.02508	0.57894	7.08543	7.66437	0.53263	3.42517	3.95779	—	2,715.99	2,715.99	0.11017	0.02203	0.00000	2,725.31
2027	1.63491	1.37378	12.1813	13.8677	0.02312	0.53897	7.08543	7.62440	0.49585	3.42517	3.92102	—	2,455.46	2,455.46	0.09960	0.01992	0.00000	2,463.88
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.14902	0.12518	1.12624	1.23809	0.00221	0.04916	0.41796	0.46712	0.04523	0.18568	0.23091	—	238.293	238.293	0.00967	0.00193	0.00000	239.111
2027	0.69449	0.59987	4.07093	4.94853	0.00964	0.13632	0.01387	0.15018	0.12541	0.00670	0.13211	—	921.067	921.067	0.03736	0.00747	0.00000	924.228
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.02720	0.02284	0.20554	0.22595	0.00040	0.00897	0.07628	0.08525	0.00825	0.03389	0.04214	—	39.4521	39.4521	0.00160	0.00032	0.00000	39.5875

2027	0.12675	0.10948	0.74295	0.90311	0.00176	0.02488	0.00253	0.02741	0.02289	0.00122	0.02411	—	152.493	152.493	0.00619	0.00124	0.00000	153.017

2.2.3. Offsite 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.00830	0.00670	0.03979	0.09495	0.00015	0.00030	0.02130	0.02161	0.00030	0.00520	0.00550	—	38.2643	38.2643	0.00155	0.00375	0.10286	39.5225
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.07522	0.04536	0.63286	0.63718	0.00204	0.00592	0.18455	0.19047	0.00592	0.04602	0.05193	—	417.828	417.828	0.03160	0.05564	0.02711	435.226
2027	0.07164	0.04739	0.60031	0.60590	0.00204	0.00592	0.18455	0.19047	0.00592	0.04602	0.05193	—	408.409	408.409	0.02956	0.05370	0.02483	425.175
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.00535	0.00371	0.03368	0.04995	0.00011	0.00031	0.01327	0.01359	0.00031	0.00325	0.00357	—	26.0359	26.0359	0.00173	0.00309	0.03035	27.0309
2027	0.00470	0.00363	0.01918	0.04765	0.00006	0.00013	0.01279	0.01292	0.00013	0.00308	0.00321	—	19.6554	19.6554	0.00076	0.00176	0.02504	20.2245
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.00098	0.00068	0.00615	0.00912	0.00002	0.00006	0.00242	0.00248	0.00006	0.00059	0.00065	—	4.31054	4.31054	0.00029	0.00051	0.00503	4.47528
2027	0.00086	0.00066	0.00350	0.00870	0.00001	0.00002	0.00233	0.00236	0.00002	0.00056	0.00059	—	3.25417	3.25417	0.00013	0.00029	0.00415	3.34839

2.2.4. Total Construction Emissions by Year, Mitigated

Includes both onsite and offsite emissions.

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	8.75287	8.75285	4.56486	13.3811	0.02327	0.07057	0.02130	0.09188	0.06806	0.00520	0.07326	—	2,239.15	2,239.15	0.09083	0.02160	0.10286	2,247.96

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.30615	0.29528	2.31086	15.3558	0.02506	0.05210	7.26998	7.32209	0.05210	3.47118	3.52329	—	2,869.99	2,869.99	0.13107	0.07553	0.02711	2,895.81
2027	0.50045	0.48260	4.56846	14.8467	0.02467	0.07059	7.26998	7.32209	0.06808	3.47118	3.52329	—	2,860.35	2,860.35	0.12902	0.07359	0.02483	2,885.53
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.02801	0.02636	0.16476	1.41402	0.00232	0.00480	0.43123	0.43603	0.00480	0.18894	0.19373	—	264.098	264.098	0.01139	0.00502	0.03035	265.910
2027	0.28011	0.27048	1.90033	5.63987	0.00970	0.02941	0.02666	0.05606	0.02837	0.00978	0.03815	—	940.716	940.716	0.03813	0.00923	0.02504	944.446
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.00511	0.00481	0.03007	0.25806	0.00042	0.00088	0.07870	0.07958	0.00088	0.03448	0.03536	—	43.7244	43.7244	0.00189	0.00083	0.00503	44.0244
2027	0.05112	0.04936	0.34681	1.02928	0.00177	0.00537	0.00486	0.01023	0.00518	0.00179	0.00696	—	155.746	155.746	0.00631	0.00153	0.00415	156.364

2.2.5. Onsite Construction Emissions by Year, Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	8.75167	8.75167	4.52507	13.2862	0.02312	0.07027	0.00000	0.07027	0.06776	0.00000	0.06776	—	2,200.89	2,200.89	0.08928	0.01786	0.00000	2,208.44
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.25654	0.25654	2.26914	15.0451	0.02506	0.05131	7.08543	7.13162	0.05131	3.42517	3.47135	—	2,713.10	2,713.10	0.11006	0.02201	0.00000	2,722.41
2027	0.44667	0.43521	4.52507	14.2408	0.02312	0.07027	7.08543	7.13162	0.06776	3.42517	3.47135	—	2,451.94	2,451.94	0.09946	0.01989	0.00000	2,460.36
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.02265	0.02265	0.13108	1.36407	0.00221	0.00448	0.41796	0.42244	0.00448	0.18568	0.19017	—	238.062	238.062	0.00966	0.00193	0.00000	238.879
2027	0.27541	0.26685	1.88115	5.59223	0.00964	0.02927	0.01387	0.04314	0.02823	0.00670	0.03494	—	921.060	921.060	0.03736	0.00747	0.00000	924.221
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.00413	0.00413	0.02392	0.24894	0.00040	0.00082	0.07628	0.07710	0.00082	0.03389	0.03471	—	39.4138	39.4138	0.00160	0.00032	0.00000	39.5491

2027	0.05026	0.04870	0.34331	1.02058	0.00176	0.00534	0.00253	0.00787	0.00515	0.00122	0.00638	—	152.492	152.492	0.00619	0.00124	0.00000	153.015

2.2.6. Offsite Construction Emissions by Year, Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.00830	0.00670	0.03979	0.09495	0.00015	0.00030	0.02130	0.02161	0.00030	0.00520	0.00550	—	38.2643	38.2643	0.00155	0.00375	0.10286	39.5225
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.07522	0.04536	0.63286	0.63718	0.00204	0.00592	0.18455	0.19047	0.00592	0.04602	0.05193	—	417.828	417.828	0.03160	0.05564	0.02711	435.226
2027	0.07164	0.04739	0.60031	0.60590	0.00204	0.00592	0.18455	0.19047	0.00592	0.04602	0.05193	—	408.409	408.409	0.02956	0.05370	0.02483	425.175
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.00535	0.00371	0.03368	0.04995	0.00011	0.00031	0.01327	0.01359	0.00031	0.00325	0.00357	—	26.0359	26.0359	0.00173	0.00309	0.03035	27.0309
2027	0.00470	0.00363	0.01918	0.04765	0.00006	0.00013	0.01279	0.01292	0.00013	0.00308	0.00321	—	19.6554	19.6554	0.00076	0.00176	0.02504	20.2245
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.00098	0.00068	0.00615	0.00912	0.00002	0.00006	0.00242	0.00248	0.00006	0.00059	0.00065	—	4.31054	4.31054	0.00029	0.00051	0.00503	4.47528
2027	0.00086	0.00066	0.00350	0.00870	0.00001	0.00002	0.00233	0.00236	0.00002	0.00056	0.00059	—	3.25417	3.25417	0.00013	0.00029	0.00415	3.34839

2.3. 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.	5.20742	4.98506	1.81187	23.9213	0.03829	0.03344	3.52069	3.55413	0.03127	0.89568	0.92694	3.19577	4,155.92	4,159.11	0.58925	0.18138	999.839	5,227.74

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.68165	4.43295	2.18084	23.5156	0.03493	0.03307	3.52069	3.55376	0.03099	0.89568	0.92667	3.19577	3,815.56	3,818.75	0.65131	0.20432	987.379	4,883.30
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.69627	4.46275	2.00209	21.9920	0.03561	0.03333	3.44120	3.47453	0.03118	0.87580	0.90698	3.19577	3,884.57	3,887.76	0.61775	0.19184	992.571	4,952.95
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.85707	0.81445	0.36538	4.01353	0.00650	0.00608	0.62802	0.63410	0.00569	0.15983	0.16552	0.52910	643.135	643.664	0.10228	0.03176	164.331	820.017

2.4. 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	5.05374	4.83423	1.81013	23.7143	0.03828	0.03307	3.52069	3.55376	0.03099	0.89568	0.92667	—	3,882.91	3,882.91	0.26020	0.17992	12.7921	3,955.82
Area	0.15368	0.15084	0.00174	0.20707	0.00001	0.00037	—	0.00037	0.00028	—	0.00028	—	0.85149	0.85149	0.00004	0.00001	—	0.85456
Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	271.117	271.117	0.00933	0.00123	—	271.717
Water	—	—	—	—	—	—	—	—	—	—	—	0.09148	1.04434	1.13582	0.00942	0.00023	—	1.43906
Waste	—	—	—	—	—	—	—	—	—	—	—	3.10429	0.00000	3.10429	0.31026	0.00000	—	10.8608
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987.047	987.047
Total	5.20742	4.98506	1.81187	23.9213	0.03829	0.03344	3.52069	3.55413	0.03127	0.89568	0.92694	3.19577	4,155.92	4,159.11	0.58925	0.18138	999.839	5,227.74
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.56482	4.31612	2.18084	23.5156	0.03493	0.03307	3.52069	3.55376	0.03099	0.89568	0.92667	—	3,543.39	3,543.39	0.32230	0.20286	0.33170	3,612.24
Area	0.11683	0.11683	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	271.117	271.117	0.00933	0.00123	—	271.717

Water	—	—	—	—	—	—	—	—	—	—	—	0.09148	1.04434	1.13582	0.00942	0.00023	—	1.43906
Waste	—	—	—	—	—	—	—	—	—	—	—	3.10429	0.00000	3.10429	0.31026	0.00000	—	10.8608
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987.047	987.047
Total	4.68165	4.43295	2.18084	23.5156	0.03493	0.03307	3.52069	3.55376	0.03099	0.89568	0.92667	3.19577	3,815.56	3,818.75	0.65131	0.20432	987.379	4,883.30
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.55420	4.32263	2.00089	21.8501	0.03560	0.03307	3.44120	3.47428	0.03099	0.87580	0.90679	—	3,611.82	3,611.82	0.28871	0.19038	5.52354	3,681.30
Area	0.14207	0.14012	0.00119	0.14183	0.00001	0.00025	—	0.00025	0.00019	—	0.00019	—	0.58321	0.58321	0.00002	0.00001	—	0.58531
Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	271.117	271.117	0.00933	0.00123	—	271.717
Water	—	—	—	—	—	—	—	—	—	—	—	0.09148	1.04434	1.13582	0.00942	0.00023	—	1.43906
Waste	—	—	—	—	—	—	—	—	—	—	—	3.10429	0.00000	3.10429	0.31026	0.00000	—	10.8608
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987.047	987.047
Total	4.69627	4.46275	2.00209	21.9920	0.03561	0.03333	3.44120	3.47453	0.03118	0.87580	0.90698	3.19577	3,884.57	3,887.76	0.61775	0.19184	992.571	4,952.95
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.83114	0.78888	0.36516	3.98765	0.00650	0.00604	0.62802	0.63406	0.00566	0.15983	0.16549	—	597.979	597.979	0.04780	0.03152	0.91448	609.481
Area	0.02593	0.02557	0.00022	0.02588	< 0.000005	0.00005	—	0.00005	0.00003	—	0.00003	—	0.09656	0.09656	< 0.000005	< 0.000005	—	0.09691
Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	44.8865	44.8865	0.00154	0.00020	—	44.9858
Water	—	—	—	—	—	—	—	—	—	—	—	0.01515	0.17290	0.18805	0.00156	0.00004	—	0.23825
Waste	—	—	—	—	—	—	—	—	—	—	—	0.51395	0.00000	0.51395	0.05137	0.00000	—	1.79814
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	163.417	163.417
Total	0.85707	0.81445	0.36538	4.01353	0.00650	0.00608	0.62802	0.63410	0.00569	0.15983	0.16552	0.52910	643.135	643.664	0.10228	0.03176	164.331	820.017

2.5. Operations Emissions by Sector, Mitigated

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

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

Mobile	5.05374	4.83423	1.81013	23.7143	0.03828	0.03307	3.52069	3.55376	0.03099	0.89568	0.92667	—	3,882.91	3,882.91	0.26020	0.17992	12.7921	3,955.82
Area	0.15368	0.15084	0.00174	0.20707	0.00001	0.00037	—	0.00037	0.00028	—	0.00028	—	0.85149	0.85149	0.00004	0.00001	—	0.85456
Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	271.117	271.117	0.00933	0.00123	—	271.717
Water	—	—	—	—	—	—	—	—	—	—	—	0.09148	1.04434	1.13582	0.00942	0.00023	—	1.43906
Waste	—	—	—	—	—	—	—	—	—	—	—	3.10429	0.00000	3.10429	0.31026	0.00000	—	10.8608
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987.047	987.047
Total	5.20742	4.98506	1.81187	23.9213	0.03829	0.03344	3.52069	3.55413	0.03127	0.89568	0.92694	3.19577	4,155.92	4,159.11	0.58925	0.18138	999.839	5,227.74
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.56482	4.31612	2.18084	23.5156	0.03493	0.03307	3.52069	3.55376	0.03099	0.89568	0.92667	—	3,543.39	3,543.39	0.32230	0.20286	0.33170	3,612.24
Area	0.11683	0.11683	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	271.117	271.117	0.00933	0.00123	—	271.717
Water	—	—	—	—	—	—	—	—	—	—	—	0.09148	1.04434	1.13582	0.00942	0.00023	—	1.43906
Waste	—	—	—	—	—	—	—	—	—	—	—	3.10429	0.00000	3.10429	0.31026	0.00000	—	10.8608
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987.047	987.047
Total	4.68165	4.43295	2.18084	23.5156	0.03493	0.03307	3.52069	3.55376	0.03099	0.89568	0.92667	3.19577	3,815.56	3,818.75	0.65131	0.20432	987.379	4,883.30
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.55420	4.32263	2.00089	21.8501	0.03560	0.03307	3.44120	3.47428	0.03099	0.87580	0.90679	—	3,611.82	3,611.82	0.28871	0.19038	5.52354	3,681.30
Area	0.14207	0.14012	0.00119	0.14183	0.00001	0.00025	—	0.00025	0.00019	—	0.00019	—	0.58321	0.58321	0.00002	0.00001	—	0.58531
Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	271.117	271.117	0.00933	0.00123	—	271.717
Water	—	—	—	—	—	—	—	—	—	—	—	0.09148	1.04434	1.13582	0.00942	0.00023	—	1.43906
Waste	—	—	—	—	—	—	—	—	—	—	—	3.10429	0.00000	3.10429	0.31026	0.00000	—	10.8608
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987.047	987.047
Total	4.69627	4.46275	2.00209	21.9920	0.03561	0.03333	3.44120	3.47453	0.03118	0.87580	0.90698	3.19577	3,884.57	3,887.76	0.61775	0.19184	992.571	4,952.95
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.83114	0.78888	0.36516	3.98765	0.00650	0.00604	0.62802	0.63406	0.00566	0.15983	0.16549	—	597.979	597.979	0.04780	0.03152	0.91448	609.481
Area	0.02593	0.02557	0.00022	0.02588	< 0.000005	0.00005	—	0.00005	0.00003	—	0.00003	—	0.09656	0.09656	< 0.000005	< 0.000005	—	0.09691

Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	44.8865	44.8865	0.00154	0.00020	—	44.9858
Water	—	—	—	—	—	—	—	—	—	—	—	0.01515	0.17290	0.18805	0.00156	0.00004	—	0.23825
Waste	—	—	—	—	—	—	—	—	—	—	—	0.51395	0.00000	0.51395	0.05137	0.00000	—	1.79814
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	163.417	163.417
Total	0.85707	0.81445	0.36538	4.01353	0.00650	0.00608	0.62802	0.63410	0.00569	0.15983	0.16552	0.52910	643.135	643.664	0.10228	0.03176	164.331	820.017

3. Construction Emissions Details

3.1. Demolition (2026)

3.1.1. Onsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.65937	1.39140	12.9413	14.6164	0.02393	0.50831	—	0.50831	0.46764	—	0.46764	—	2,493.95	2,493.95	0.10117	0.02023	—	2,502.51
Demolition	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02273	0.01906	0.17728	0.20022	0.00033	0.00696	—	0.00696	0.00641	—	0.00641	—	34.1637	34.1637	0.00139	0.00028	—	34.2809

Demoliti	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00415	0.00348	0.03235	0.03654	0.00006	0.00127	—	0.00127	0.00117	—	0.00117	—	5.65619	5.65619	0.00023	0.00005	—	5.67560
Demolition	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04674	0.04536	0.04172	0.51795	0.00000	0.00000	0.12629	0.12629	0.00000	0.02960	0.02960	—	123.548	123.548	0.00276	0.00504	0.01290	125.133
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00063	0.00062	0.00050	0.00723	0.00000	0.00000	0.00169	0.00169	0.00000	0.00040	0.00040	—	1.73671	1.73671	0.00003	0.00007	0.00294	1.76109
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00012	0.00011	0.00009	0.00132	0.00000	0.00000	0.00031	0.00031	0.00000	0.00007	0.00007	—	0.28753	0.28753	0.00001	0.00001	0.00049	0.29157

Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.3. Onsite - Mitigated

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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24992	0.24992	2.26914	14.5582	0.02393	0.04658	—	0.04658	0.04658	—	0.04658	—	2,493.95	2,493.95	0.10117	0.02023	—	2,502.51
Demolition	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00342	0.00342	0.03108	0.19943	0.00033	0.00064	—	0.00064	0.00064	—	0.00064	—	34.1637	34.1637	0.00139	0.00028	—	34.2809
Demolition	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00062	0.00062	0.00567	0.03640	0.00006	0.00012	—	0.00012	0.00012	—	0.00012	—	5.65619	5.65619	0.00023	0.00005	—	5.67560

Demoliti	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.4. Offsite - Mitigated

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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04674	0.04536	0.04172	0.51795	0.00000	0.00000	0.12629	0.12629	0.00000	0.02960	0.02960	—	123.548	123.548	0.00276	0.00504	0.01290	125.133
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00063	0.00062	0.00050	0.00723	0.00000	0.00000	0.00169	0.00169	0.00000	0.00040	0.00040	—	1.73671	1.73671	0.00003	0.00007	0.00294	1.76109
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00012	0.00011	0.00009	0.00132	0.00000	0.00000	0.00031	0.00031	0.00000	0.00007	0.00007	—	0.28753	0.28753	0.00001	0.00001	0.00049	0.29157
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2. Site Preparation (2026)

3.2.1. Onsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.33915	1.12526	9.84218	10.8171	0.02508	0.42379	—	0.42379	0.38989	—	0.38989	—	2,715.99	2,715.99	0.11017	0.02203	—	2,725.31
Dust From Material Movement	—	—	—	—	—	—	1.59075	1.59075	—	0.17176	0.17176	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03669	0.03083	0.26965	0.29636	0.00069	0.01161	—	0.01161	0.01068	—	0.01068	—	74.4106	74.4106	0.00302	0.00060	—	74.6659
Dust From Material Movement	—	—	—	—	—	—	0.04358	0.04358	—	0.00471	0.00471	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00670	0.00563	0.04921	0.05409	0.00013	0.00212	—	0.00212	0.00195	—	0.00195	—	12.3195	12.3195	0.00050	0.00010	—	12.3618
Dust From Material Movement	—	—	—	—	—	—	0.00795	0.00795	—	0.00086	0.00086	—	—	—	—	—	—	—

Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02804	0.02722	0.02503	0.31077	0.00000	0.00000	0.07578	0.07578	0.00000	0.01776	0.01776	—	74.1287	74.1287	0.00165	0.00303	0.00774	75.0795
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00076	0.00074	0.00060	0.00868	0.00000	0.00000	0.00203	0.00203	0.00000	0.00047	0.00047	—	2.08405	2.08405	0.00004	0.00008	0.00353	2.11331
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00014	0.00014	0.00011	0.00158	0.00000	0.00000	0.00037	0.00037	0.00000	0.00009	0.00009	—	0.34504	0.34504	0.00001	0.00001	0.00058	0.34988
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.3. Onsite - Mitigated

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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25654	0.25654	1.33402	15.0451	0.02506	0.05131	—	0.05131	0.05131	—	0.05131	—	2,713.10	2,713.10	0.11006	0.02201	—	2,722.41
Dust From Material Movement	—	—	—	—	—	—	1.59075	1.59075	—	0.17176	0.17176	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00703	0.00703	0.03655	0.41219	0.00069	0.00141	—	0.00141	0.00141	—	0.00141	—	74.3316	74.3316	0.00302	0.00060	—	74.5867
Dust From Material Movement	—	—	—	—	—	—	0.04358	0.04358	—	0.00471	0.00471	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00128	0.00128	0.00667	0.07523	0.00013	0.00026	—	0.00026	0.00026	—	0.00026	—	12.3064	12.3064	0.00050	0.00010	—	12.3487
Dust From Material Movement	—	—	—	—	—	—	0.00795	0.00795	—	0.00086	0.00086	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.4. Offsite - Mitigated

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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02804	0.02722	0.02503	0.31077	0.00000	0.00000	0.07578	0.07578	0.00000	0.01776	0.01776	—	74.1287	74.1287	0.00165	0.00303	0.00774	75.0795
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00076	0.00074	0.00060	0.00868	0.00000	0.00000	0.00203	0.00203	0.00000	0.00047	0.00047	—	2.08405	2.08405	0.00004	0.00008	0.00353	2.11331
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00014	0.00014	0.00011	0.00158	0.00000	0.00000	0.00037	0.00037	0.00000	0.00009	0.00009	—	0.34504	0.34504	0.00001	0.00001	0.00058	0.34988
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3. Grading (2026)

3.3.1. Onsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.69573	1.42488	12.8567	14.0337	0.02266	0.57894	—	0.57894	0.53263	—	0.53263	—	2,455.05	2,455.05	0.09959	0.01992	—	2,463.47
Dust From Material Movement	—	—	—	—	—	—	7.08543	7.08543	—	3.42517	3.42517	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08960	0.07529	0.67932	0.74150	0.00120	0.03059	—	0.03059	0.02814	—	0.02814	—	129.719	129.719	0.00526	0.00105	—	130.164
Dust From Material Movement	—	—	—	—	—	—	0.37438	0.37438	—	0.18098	0.18098	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01635	0.01374	0.12398	0.13532	0.00022	0.00558	—	0.00558	0.00514	—	0.00514	—	21.4764	21.4764	0.00087	0.00017	—	21.5501
Dust From Material Movement	—	—	—	—	—	—	0.06832	0.06832	—	0.03303	0.03303	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03739	0.03629	0.03338	0.41436	0.00000	0.00000	0.10103	0.10103	0.00000	0.02368	0.02368	—	98.8383	98.8383	0.00220	0.00403	0.01032	100.106
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.03783	0.00825	0.59948	0.22282	0.00204	0.00592	0.08352	0.08943	0.00592	0.02233	0.02825	—	318.990	318.990	0.02939	0.05161	0.01678	335.120
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00195	0.00191	0.00155	0.02232	0.00000	0.00000	0.00522	0.00522	0.00000	0.00122	0.00122	—	5.35900	5.35900	0.00010	0.00021	0.00908	5.43422
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00201	0.00045	0.03102	0.01171	0.00011	0.00031	0.00434	0.00465	0.00031	0.00116	0.00147	—	16.8561	16.8561	0.00155	0.00273	0.01481	17.7223
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00036	0.00035	0.00028	0.00407	0.00000	0.00000	0.00095	0.00095	0.00000	0.00022	0.00022	—	0.88724	0.88724	0.00002	0.00004	0.00150	0.89970
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00037	0.00008	0.00566	0.00214	0.00002	0.00006	0.00079	0.00085	0.00006	0.00021	0.00027	—	2.79072	2.79072	0.00026	0.00045	0.00245	2.93413

3.3.3. Onsite - Mitigated

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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.23093	0.23093	1.20083	14.2408	0.02264	0.04619	—	0.04619	0.04619	—	0.04619	—	2,452.17	2,452.17	0.09947	0.01989	—	2,460.58
Dust From Material Movement	—	—	—	—	—	—	7.08543	7.08543	—	3.42517	3.42517	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01220	0.01220	0.06345	0.75245	0.00120	0.00244	—	0.00244	0.00244	—	0.00244	—	129.567	129.567	0.00526	0.00105	—	130.011
Dust From Material Movement	—	—	—	—	—	—	0.37438	0.37438	—	0.18098	0.18098	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00223	0.00223	0.01158	0.13732	0.00022	0.00045	—	0.00045	0.00045	—	0.00045	—	21.4512	21.4512	0.00087	0.00017	—	21.5248
Dust From Material Movement	—	—	—	—	—	—	0.06832	0.06832	—	0.03303	0.03303	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.4. Offsite - Mitigated

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03739	0.03629	0.03338	0.41436	0.00000	0.00000	0.10103	0.10103	0.00000	0.02368	0.02368	—	98.8383	98.8383	0.00220	0.00403	0.01032	100.106
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.03783	0.00825	0.59948	0.22282	0.00204	0.00592	0.08352	0.08943	0.00592	0.02233	0.02825	—	318.990	318.990	0.02939	0.05161	0.01678	335.120
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00195	0.00191	0.00155	0.02232	0.00000	0.00000	0.00522	0.00522	0.00000	0.00122	0.00122	—	5.35900	5.35900	0.00010	0.00021	0.00908	5.43422
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00201	0.00045	0.03102	0.01171	0.00011	0.00031	0.00434	0.00465	0.00031	0.00116	0.00147	—	16.8561	16.8561	0.00155	0.00273	0.01481	17.7223
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00036	0.00035	0.00028	0.00407	0.00000	0.00000	0.00095	0.00095	0.00000	0.00022	0.00022	—	0.88724	0.88724	0.00002	0.00004	0.00150	0.89970
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00037	0.00008	0.00566	0.00214	0.00002	0.00006	0.00079	0.00085	0.00006	0.00021	0.00027	—	2.79072	2.79072	0.00026	0.00045	0.00245	2.93413

3.4. Grading (2027)

3.4.1. Onsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	1.63491	1.37378	12.1813	13.8677	0.02267	0.53897	—	0.53897	0.49585	—	0.49585	—	2,455.46	2,455.46	0.09960	0.01992	—	2,463.88
Dust From Material Movement	—	—	—	—	—	—	7.08543	7.08543	—	3.42517	3.42517	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00320	0.00269	0.02384	0.02714	0.00004	0.00105	—	0.00105	0.00097	—	0.00097	—	4.80520	4.80520	0.00019	0.00004	—	4.82169
Dust From Material Movement	—	—	—	—	—	—	0.01387	0.01387	—	0.00670	0.00670	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00058	0.00049	0.00435	0.00495	0.00001	0.00019	—	0.00019	0.00018	—	0.00018	—	0.79556	0.79556	0.00003	0.00001	—	0.79829
Dust From Material Movement	—	—	—	—	—	—	0.00253	0.00253	—	0.00122	0.00122	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - 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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03585	0.03159	0.03294	0.38861	0.00000	0.00000	0.10103	0.10103	0.00000	0.02368	0.02368	—	97.0895	97.0895	0.00220	0.00403	0.00938	98.3562
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.03579	0.00825	0.56737	0.21729	0.00204	0.00592	0.08352	0.08943	0.00592	0.02233	0.02825	—	311.319	311.319	0.02735	0.04967	0.01545	326.819
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00007	0.00006	0.00006	0.00078	0.00000	0.00000	0.00019	0.00019	0.00000	0.00005	0.00005	—	0.19497	0.19497	< 0.000005	0.00001	0.00031	0.19758
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00007	0.00002	0.00109	0.00042	< 0.000005	0.00001	0.00016	0.00017	0.00001	0.00004	0.00005	—	0.60927	0.60927	0.00005	0.00010	0.00050	0.64007
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00001	0.00001	0.00001	0.00014	0.00000	0.00000	0.00004	0.00004	0.00000	0.00001	0.00001	—	0.03228	0.03228	< 0.000005	< 0.000005	0.00005	0.03271
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00001	< 0.000005	0.00020	0.00008	< 0.000005	< 0.000005	0.00003	0.00003	< 0.000005	0.00001	0.00001	—	0.10087	0.10087	0.00001	0.00002	0.00008	0.10597

3.4.3. Onsite - Mitigated

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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.23093	0.23093	1.20083	14.2408	0.02264	0.04619	—	0.04619	0.04619	—	0.04619	—	2,451.94	2,451.94	0.09946	0.01989	—	2,460.36
Dust From Material Movement	—	—	—	—	—	—	7.08543	7.08543	—	3.42517	3.42517	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00045	0.00045	0.00235	0.02787	0.00004	0.00009	—	0.00009	0.00009	—	0.00009	—	4.79832	4.79832	0.00019	0.00004	—	4.81479
Dust From Material Movement	—	—	—	—	—	—	0.01387	0.01387	—	0.00670	0.00670	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00008	0.00008	0.00043	0.00509	0.00001	0.00002	—	0.00002	0.00002	—	0.00002	—	0.79442	0.79442	0.00003	0.00001	—	0.79714
Dust From Material Movement	—	—	—	—	—	—	0.00253	0.00253	—	0.00122	0.00122	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.4. Offsite - Mitigated

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03585	0.03159	0.03294	0.38861	0.00000	0.00000	0.10103	0.10103	0.00000	0.02368	0.02368	—	97.0895	97.0895	0.00220	0.00403	0.00938	98.3562
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.03579	0.00825	0.56737	0.21729	0.00204	0.00592	0.08352	0.08943	0.00592	0.02233	0.02825	—	311.319	311.319	0.02735	0.04967	0.01545	326.819
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00007	0.00006	0.00006	0.00078	0.00000	0.00000	0.00019	0.00019	0.00000	0.00005	0.00005	—	0.19497	0.19497	< 0.000005	0.00001	0.00031	0.19758
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00007	0.00002	0.00109	0.00042	< 0.000005	0.00001	0.00016	0.00017	0.00001	0.00004	0.00005	—	0.60927	0.60927	0.00005	0.00010	0.00050	0.64007
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00001	0.00001	0.00001	0.00014	0.00000	0.00000	0.00004	0.00004	0.00000	0.00001	0.00001	—	0.03228	0.03228	< 0.000005	< 0.000005	0.00005	0.03271
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00001	< 0.000005	0.00020	0.00008	< 0.000005	< 0.000005	0.00003	0.00003	< 0.000005	0.00001	0.00001	—	0.10087	0.10087	0.00001	0.00002	0.00008	0.10597

3.5. Building Construction (2027)

3.5.1. Onsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	1.35443	1.12848	9.69609	11.7033	0.02312	0.32173	—	0.32173	0.29600	—	0.29600	—	2,200.89	2,200.89	0.08928	0.01786	—	2,208.44
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35443	1.12848	9.69609	11.7033	0.02312	0.32173	—	0.32173	0.29600	—	0.29600	—	2,200.89	2,200.89	0.08928	0.01786	—	2,208.44
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54177	0.45139	3.87844	4.68132	0.00925	0.12869	—	0.12869	0.11840	—	0.11840	—	880.355	880.355	0.03571	0.00714	—	883.376
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09887	0.08238	0.70781	0.85434	0.00169	0.02349	—	0.02349	0.02161	—	0.02161	—	145.753	145.753	0.00591	0.00118	—	146.253
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.2. Offsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00600	0.00590	0.00386	0.08084	0.00000	0.00000	0.01539	0.01539	0.00000	0.00361	0.00361	—	16.6527	16.6527	0.00024	0.00058	0.05502	16.8868
Vendor	0.00230	0.00080	0.03593	0.01411	0.00015	0.00030	0.00591	0.00621	0.00030	0.00159	0.00189	—	21.6116	21.6116	0.00132	0.00317	0.04784	22.6357
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00546	0.00481	0.00502	0.05921	0.00000	0.00000	0.01539	0.01539	0.00000	0.00361	0.00361	—	14.7918	14.7918	0.00034	0.00061	0.00143	14.9848
Vendor	0.00227	0.00076	0.03837	0.01439	0.00015	0.00032	0.00591	0.00623	0.00032	0.00159	0.00191	—	21.6071	21.6071	0.00132	0.00317	0.00124	22.5845
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00217	0.00193	0.00176	0.02426	0.00000	0.00000	0.00602	0.00602	0.00000	0.00141	0.00141	—	6.07138	6.07138	0.00011	0.00023	0.00951	6.15284
Vendor	0.00091	0.00031	0.01507	0.00566	0.00006	0.00012	0.00232	0.00244	0.00012	0.00063	0.00075	—	8.64387	8.64387	0.00053	0.00127	0.00825	9.04262
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00040	0.00035	0.00032	0.00443	0.00000	0.00000	0.00110	0.00110	0.00000	0.00026	0.00026	—	1.00519	1.00519	0.00002	0.00004	0.00157	1.01867
Vendor	0.00017	0.00006	0.00275	0.00103	0.00001	0.00002	0.00042	0.00045	0.00002	0.00011	0.00014	—	1.43109	1.43109	0.00009	0.00021	0.00137	1.49711
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.3. Onsite - Mitigated

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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35708	0.33647	4.52507	13.2862	0.02312	0.07027	—	0.07027	0.06776	—	0.06776	—	2,200.89	2,200.89	0.08928	0.01786	—	2,208.44
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35708	0.33647	4.52507	13.2862	0.02312	0.07027	—	0.07027	0.06776	—	0.06776	—	2,200.89	2,200.89	0.08928	0.01786	—	2,208.44
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14283	0.13459	1.81003	5.31448	0.00925	0.02811	—	0.02811	0.02710	—	0.02710	—	880.355	880.355	0.03571	0.00714	—	883.376
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02607	0.02456	0.33033	0.96989	0.00169	0.00513	—	0.00513	0.00495	—	0.00495	—	145.753	145.753	0.00591	0.00118	—	146.253
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.4. Offsite - Mitigated

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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00600	0.00590	0.00386	0.08084	0.00000	0.00000	0.01539	0.01539	0.00000	0.00361	0.00361	—	16.6527	16.6527	0.00024	0.00058	0.05502	16.8868
Vendor	0.00230	0.00080	0.03593	0.01411	0.00015	0.00030	0.00591	0.00621	0.00030	0.00159	0.00189	—	21.6116	21.6116	0.00132	0.00317	0.04784	22.6357
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00546	0.00481	0.00502	0.05921	0.00000	0.00000	0.01539	0.01539	0.00000	0.00361	0.00361	—	14.7918	14.7918	0.00034	0.00061	0.00143	14.9848
Vendor	0.00227	0.00076	0.03837	0.01439	0.00015	0.00032	0.00591	0.00623	0.00032	0.00159	0.00191	—	21.6071	21.6071	0.00132	0.00317	0.00124	22.5845
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00217	0.00193	0.00176	0.02426	0.00000	0.00000	0.00602	0.00602	0.00000	0.00141	0.00141	—	6.07138	6.07138	0.00011	0.00023	0.00951	6.15284
Vendor	0.00091	0.00031	0.01507	0.00566	0.00006	0.00012	0.00232	0.00244	0.00012	0.00063	0.00075	—	8.64387	8.64387	0.00053	0.00127	0.00825	9.04262
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00040	0.00035	0.00032	0.00443	0.00000	0.00000	0.00110	0.00110	0.00000	0.00026	0.00026	—	1.00519	1.00519	0.00002	0.00004	0.00157	1.01867
Vendor	0.00017	0.00006	0.00275	0.00103	0.00001	0.00002	0.00042	0.00045	0.00002	0.00011	0.00014	—	1.43109	1.43109	0.00009	0.00021	0.00137	1.49711
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6. Paving (2027)

3.6.1. Onsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77224	0.64798	5.74049	8.20011	0.01181	0.23023	—	0.23023	0.21181	—	0.21181	—	1,243.85	1,243.85	0.05046	0.01009	—	1,248.12
Paving	0.25152	0.25152	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02116	0.01775	0.15727	0.22466	0.00032	0.00631	—	0.00631	0.00580	—	0.00580	—	34.0782	34.0782	0.00138	0.00028	—	34.1951
Paving	0.00689	0.00689	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00386	0.00324	0.02870	0.04100	0.00006	0.00115	—	0.00115	0.00106	—	0.00106	—	5.64203	5.64203	0.00023	0.00005	—	5.66139
Paving	0.00126	0.00126	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.2. Offsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05377	0.04739	0.04941	0.58291	0.00000	0.00000	0.15155	0.15155	0.00000	0.03552	0.03552	—	145.634	145.634	0.00331	0.00605	0.01407	147.534
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00146	0.00130	0.00119	0.01636	0.00000	0.00000	0.00406	0.00406	0.00000	0.00095	0.00095	—	4.09428	4.09428	0.00007	0.00016	0.00641	4.14921
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00027	0.00024	0.00022	0.00299	0.00000	0.00000	0.00074	0.00074	0.00000	0.00017	0.00017	—	0.67786	0.67786	0.00001	0.00003	0.00106	0.68695
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.3. Onsite - Mitigated

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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19515	0.18369	2.18705	8.63903	0.01181	0.03807	—	0.03807	0.03678	—	0.03678	—	1,243.85	1,243.85	0.05046	0.01009	—	1,248.12
Paving	0.25152	0.25152	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00535	0.00503	0.05992	0.23669	0.00032	0.00104	—	0.00104	0.00101	—	0.00101	—	34.0782	34.0782	0.00138	0.00028	—	34.1951
Paving	0.00689	0.00689	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00098	0.00092	0.01094	0.04320	0.00006	0.00019	—	0.00019	0.00018	—	0.00018	—	5.64203	5.64203	0.00023	0.00005	—	5.66139
Paving	0.00126	0.00126	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.4. Offsite - Mitigated

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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05377	0.04739	0.04941	0.58291	0.00000	0.00000	0.15155	0.15155	0.00000	0.03552	0.03552	—	145.634	145.634	0.00331	0.00605	0.01407	147.534
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00146	0.00130	0.00119	0.01636	0.00000	0.00000	0.00406	0.00406	0.00000	0.00095	0.00095	—	4.09428	4.09428	0.00007	0.00016	0.00641	4.14921
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00027	0.00024	0.00022	0.00299	0.00000	0.00000	0.00074	0.00074	0.00000	0.00017	0.00017	—	0.67786	0.67786	0.00001	0.00003	0.00106	0.68695
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7. Architectural Coating (2027)

3.7.1. Onsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13715	0.11335	0.83116	1.12539	0.00173	0.01905	—	0.01905	0.01752	—	0.01752	—	133.513	133.513	0.00542	0.00108	—	133.971
Architectural Coatings	8.73052	8.73052	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00188	0.00155	0.01139	0.01542	0.00002	0.00026	—	0.00026	0.00024	—	0.00024	—	1.82894	1.82894	0.00007	0.00001	—	1.83522
Architectural Coatings	0.11960	0.11960	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.00034	0.00028	0.00208	0.00281	< 0.000005	0.00005	—	0.00005	0.00004	—	0.00004	—	0.30280	0.30280	0.00001	< 0.000005	—	0.30384
Architectural Coatings	0.02183	0.02183	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.2. Offsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00120	0.00118	0.00077	0.01617	0.00000	0.00000	0.00308	0.00308	0.00000	0.00072	0.00072	—	3.33054	3.33054	0.00005	0.00012	0.01100	3.37735
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00001	0.00001	0.00001	0.00017	0.00000	0.00000	0.00004	0.00004	0.00000	0.00001	0.00001	—	0.04158	0.04158	< 0.000005	< 0.000005	0.00007	0.04214
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.000005	< 0.000005	< 0.000005	0.00003	0.00000	0.00000	0.00001	0.00001	0.00000	< 0.000005	< 0.000005	—	0.00688	0.00688	< 0.000005	< 0.000005	0.00001	0.00698
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.3. Onsite - Mitigated

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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02114	0.02114	0.64604	0.96319	0.00173	0.00235	—	0.00235	0.00235	—	0.00235	—	133.513	133.513	0.00542	0.00108	—	133.971
Architectural Coatings	8.73052	8.73052	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00029	0.00029	0.00885	0.01319	0.00002	0.00003	—	0.00003	0.00003	—	0.00003	—	1.82894	1.82894	0.00007	0.00001	—	1.83522
Architectural Coatings	0.11960	0.11960	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00005	0.00005	0.00162	0.00241	< 0.000005	0.00001	—	0.00001	0.00001	—	0.00001	—	0.30280	0.30280	0.00001	< 0.000005	—	0.30384

Architect Coatings	0.02183	0.02183	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.4. Offsite - Mitigated

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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00120	0.00118	0.00077	0.01617	0.00000	0.00000	0.00308	0.00308	0.00000	0.00072	0.00072	—	3.33054	3.33054	0.00005	0.00012	0.01100	3.37735
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00001	0.00001	0.00001	0.00017	0.00000	0.00000	0.00004	0.00004	0.00000	0.00001	0.00001	—	0.04158	0.04158	< 0.000005	< 0.000005	0.00007	0.04214
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.000005	< 0.000005	< 0.000005	0.00003	0.00000	0.00000	0.00001	0.00001	0.00000	< 0.000005	< 0.000005	—	0.00688	0.00688	< 0.000005	< 0.000005	0.00001	0.00698
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	5.05374	4.83423	1.81013	23.7143	0.03828	0.03307	3.52069	3.55376	0.03099	0.89568	0.92667	—	3,882.91	3,882.91	0.26020	0.17992	12.7921	3,955.82
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	5.05374	4.83423	1.81013	23.7143	0.03828	0.03307	3.52069	3.55376	0.03099	0.89568	0.92667	—	3,882.91	3,882.91	0.26020	0.17992	12.7921	3,955.82
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	4.56482	4.31612	2.18084	23.5156	0.03493	0.03307	3.52069	3.55376	0.03099	0.89568	0.92667	—	3,543.39	3,543.39	0.32230	0.20286	0.33170	3,612.24
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	4.56482	4.31612	2.18084	23.5156	0.03493	0.03307	3.52069	3.55376	0.03099	0.89568	0.92667	—	3,543.39	3,543.39	0.32230	0.20286	0.33170	3,612.24
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	0.83114	0.78888	0.36516	3.98765	0.00650	0.00604	0.62802	0.63406	0.00566	0.15983	0.16549	—	597.979	597.979	0.04780	0.03152	0.91448	609.481
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Total	0.83114	0.78888	0.36516	3.98765	0.00650	0.00604	0.62802	0.63406	0.00566	0.15983	0.16549	—	597.979	597.979	0.04780	0.03152	0.91448	609.481

4.1.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	5.05374	4.83423	1.81013	23.7143	0.03828	0.03307	3.52069	3.55376	0.03099	0.89568	0.92667	—	3,882.91	3,882.91	0.26020	0.17992	12.7921	3,955.82
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	5.05374	4.83423	1.81013	23.7143	0.03828	0.03307	3.52069	3.55376	0.03099	0.89568	0.92667	—	3,882.91	3,882.91	0.26020	0.17992	12.7921	3,955.82
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	4.56482	4.31612	2.18084	23.5156	0.03493	0.03307	3.52069	3.55376	0.03099	0.89568	0.92667	—	3,543.39	3,543.39	0.32230	0.20286	0.33170	3,612.24
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	4.56482	4.31612	2.18084	23.5156	0.03493	0.03307	3.52069	3.55376	0.03099	0.89568	0.92667	—	3,543.39	3,543.39	0.32230	0.20286	0.33170	3,612.24
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	0.83114	0.78888	0.36516	3.98765	0.00650	0.00604	0.62802	0.63406	0.00566	0.15983	0.16549	—	597.979	597.979	0.04780	0.03152	0.91448	609.481
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Total	0.83114	0.78888	0.36516	3.98765	0.00650	0.00604	0.62802	0.63406	0.00566	0.15983	0.16549	—	597.979	597.979	0.04780	0.03152	0.91448	609.481

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	271.117	271.117	0.00933	0.00123	—	271.717
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	271.117	271.117	0.00933	0.00123	—	271.717
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	271.117	271.117	0.00933	0.00123	—	271.717
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	271.117	271.117	0.00933	0.00123	—	271.717
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	44.8865	44.8865	0.00154	0.00020	—	44.9858
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	44.8865	44.8865	0.00154	0.00020	—	44.9858

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	271.117	271.117	0.00933	0.00123	—	271.717
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	271.117	271.117	0.00933	0.00123	—	271.717
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	271.117	271.117	0.00933	0.00123	—	271.717
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	271.117	271.117	0.00933	0.00123	—	271.717
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Conveni Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	44.8865	44.8865	0.00154	0.00020	—	44.9858
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	44.8865	44.8865	0.00154	0.00020	—	44.9858

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Conveni Market with Gas Pumps	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Convenience Market with Gas Pumps	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.10487	0.10487	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01196	0.01196	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03685	0.03401	0.00174	0.20707	0.00001	0.00037	—	0.00037	0.00028	—	0.00028	—	0.85149	0.85149	0.00004	0.00001	—	0.85456
Total	0.15368	0.15084	0.00174	0.20707	0.00001	0.00037	—	0.00037	0.00028	—	0.00028	—	0.85149	0.85149	0.00004	0.00001	—	0.85456
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.10487	0.10487	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	0.01196	0.01196	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.11683	0.11683	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.01914	0.01914	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00218	0.00218	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00461	0.00425	0.00022	0.02588	< 0.000005	0.00005	—	0.00005	0.00003	—	0.00003	—	0.09656	0.09656	< 0.000005	< 0.000005	—	0.09691
Total	0.02593	0.02557	0.00022	0.02588	< 0.000005	0.00005	—	0.00005	0.00003	—	0.00003	—	0.09656	0.09656	< 0.000005	< 0.000005	—	0.09691

4.3.2. Mitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.10487	0.10487	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01196	0.01196	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipment	0.03685	0.03401	0.00174	0.20707	0.00001	0.00037	—	0.00037	0.00028	—	0.00028	—	0.85149	0.85149	0.00004	0.00001	—	0.85456
Total	0.15368	0.15084	0.00174	0.20707	0.00001	0.00037	—	0.00037	0.00028	—	0.00028	—	0.85149	0.85149	0.00004	0.00001	—	0.85456
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.10487	0.10487	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01196	0.01196	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.11683	0.11683	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.01914	0.01914	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00218	0.00218	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00461	0.00425	0.00022	0.02588	< 0.000005	0.00005	—	0.00005	0.00003	—	0.00003	—	0.09656	0.09656	< 0.000005	< 0.000005	—	0.09691
Total	0.02593	0.02557	0.00022	0.02588	< 0.000005	0.00005	—	0.00005	0.00003	—	0.00003	—	0.09656	0.09656	< 0.000005	< 0.000005	—	0.09691

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.09148	1.04434	1.13582	0.00942	0.00023	—	1.43906
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	0.09148	1.04434	1.13582	0.00942	0.00023	—	1.43906
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.09148	1.04434	1.13582	0.00942	0.00023	—	1.43906
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	0.09148	1.04434	1.13582	0.00942	0.00023	—	1.43906
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.01515	0.17290	0.18805	0.00156	0.00004	—	0.23825
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	0.01515	0.17290	0.18805	0.00156	0.00004	—	0.23825

4.4.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.09148	1.04434	1.13582	0.00942	0.00023	—	1.43906
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	0.09148	1.04434	1.13582	0.00942	0.00023	—	1.43906
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.09148	1.04434	1.13582	0.00942	0.00023	—	1.43906
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	0.09148	1.04434	1.13582	0.00942	0.00023	—	1.43906
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.01515	0.17290	0.18805	0.00156	0.00004	—	0.23825
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	0.01515	0.17290	0.18805	0.00156	0.00004	—	0.23825

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	3.10429	0.00000	3.10429	0.31026	0.00000	—	10.8608
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	3.10429	0.00000	3.10429	0.31026	0.00000	—	10.8608
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	3.10429	0.00000	3.10429	0.31026	0.00000	—	10.8608
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	3.10429	0.00000	3.10429	0.31026	0.00000	—	10.8608
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.51395	0.00000	0.51395	0.05137	0.00000	—	1.79814
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000

Total	—	—	—	—	—	—	—	—	—	—	—	0.51395	0.00000	0.51395	0.05137	0.00000	—	1.79814

4.5.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	3.10429	0.00000	3.10429	0.31026	0.00000	—	10.8608
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	3.10429	0.00000	3.10429	0.31026	0.00000	—	10.8608
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	3.10429	0.00000	3.10429	0.31026	0.00000	—	10.8608
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	3.10429	0.00000	3.10429	0.31026	0.00000	—	10.8608
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.51395	0.00000	0.51395	0.05137	0.00000	—	1.79814
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000

Total	—	—	—	—	—	—	—	—	—	—	—	0.51395	0.00000	0.51395	0.05137	0.00000	—	1.79814

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987.047	987.047
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987.047	987.047
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987.047	987.047
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987.047	987.047
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	163.417	163.417
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	163.417	163.417

4.6.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987.047	987.047
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987.047	987.047
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987.047	987.047
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987.047	987.047
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	163.417	163.417
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	163.417	163.417

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.8.2. Mitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

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

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

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

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

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

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

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

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	11/16/2026	11/20/2026	5.00000	5.00000	—
Site Preparation	Site Preparation	11/21/2026	12/4/2026	5.00000	10.00000	—
Grading	Grading	12/5/2026	1/1/2027	5.00000	20.0000	—
Building Construction	Building Construction	1/16/2027	8/9/2027	5.00000	146.000	—
Paving	Paving	1/2/2027	1/15/2027	5.00000	10.00000	—
Architectural Coating	Architectural Coating	8/10/2027	8/16/2027	5.00000	5.00000	—

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	Tractors/Loaders/Back	Diesel	Average	3.00000	8.00000	84.0000	0.37000
Demolition	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Demolition	Concrete/Industrial Saws	Diesel	Average	1.000000	8.00000	33.0000	0.73000
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	1.000000	7.00000	84.0000	0.37000
Site Preparation	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Site Preparation	Scrapers	Diesel	Average	1.000000	8.00000	423.000	0.48000
Grading	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Grading	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Grading	Tractors/Loaders/Back hoes	Diesel	Average	2.00000	7.00000	84.0000	0.37000
Building Construction	Cranes	Diesel	Average	1.000000	8.00000	367.000	0.29000
Building Construction	Forklifts	Diesel	Average	2.00000	7.00000	82.0000	0.20000
Building Construction	Generator Sets	Diesel	Average	1.000000	8.00000	14.0000	0.74000
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	1.000000	6.00000	84.0000	0.37000
Building Construction	Welders	Diesel	Average	3.00000	8.00000	46.0000	0.45000
Paving	Pavers	Diesel	Average	1.000000	8.00000	81.0000	0.42000
Paving	Paving Equipment	Diesel	Average	1.000000	8.00000	89.0000	0.36000
Paving	Rollers	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Paving	Cement and Mortar Mixers	Diesel	Average	1.000000	8.00000	10.00000	0.56000
Paving	Tractors/Loaders/Back hoes	Diesel	Average	1.000000	8.00000	84.0000	0.37000
Architectural Coating	Air Compressors	Diesel	Average	1.000000	6.00000	37.0000	0.48000

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Tractors/Loaders/Back hoes	Diesel	Tier 4 Final	3.00000	8.00000	84.0000	0.37000

Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	1.000000	8.00000	367.000	0.40000
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.000000	8.00000	33.0000	0.73000
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.000000	7.00000	84.0000	0.37000
Site Preparation	Graders	Diesel	Tier 4 Final	1.000000	8.00000	148.000	0.41000
Site Preparation	Scrapers	Diesel	Tier 4 Final	1.000000	8.00000	423.000	0.48000
Grading	Graders	Diesel	Tier 4 Final	1.000000	8.00000	148.000	0.41000
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.000000	8.00000	367.000	0.40000
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00000	7.00000	84.0000	0.37000
Building Construction	Cranes	Diesel	Tier 4 Final	1.000000	8.00000	367.000	0.29000
Building Construction	Forklifts	Diesel	Tier 4 Final	2.00000	7.00000	82.0000	0.20000
Building Construction	Generator Sets	Diesel	Average	1.000000	8.00000	14.0000	0.74000
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.000000	6.00000	84.0000	0.37000
Building Construction	Welders	Diesel	Tier 4 Final	3.00000	8.00000	46.0000	0.45000
Paving	Pavers	Diesel	Tier 4 Final	1.000000	8.00000	81.0000	0.42000
Paving	Paving Equipment	Diesel	Tier 4 Final	1.000000	8.00000	89.0000	0.36000
Paving	Rollers	Diesel	Tier 4 Final	2.00000	8.00000	36.0000	0.38000
Paving	Cement and Mortar Mixers	Diesel	Average	1.000000	8.00000	10.00000	0.56000
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.000000	8.00000	84.0000	0.37000
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.000000	6.00000	37.0000	0.48000

5.3. Construction Vehicles

5.3.1. Unmitigated

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

Demolition	Worker	12.5000	14.3000	LDA,LDT1,LDT2
Demolition	Vendor	0.00000	8.80000	HHDT,MHDT
Demolition	Hauling	0.00000	20.0000	HHDT
Demolition	Onsite truck	0.00000	—	HHDT
Site Preparation	Worker	7.50000	14.3000	LDA,LDT1,LDT2
Site Preparation	Vendor	0.00000	8.80000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	0.00000	0.00000	HHDT
Grading	Worker	10.00000	14.3000	LDA,LDT1,LDT2
Grading	Vendor	0.00000	8.80000	HHDT,MHDT
Grading	Hauling	4.40000	20.0000	HHDT
Grading	Onsite truck	0.00000	0.00000	HHDT
Building Construction	Worker	1.52352	14.3000	LDA,LDT1,LDT2
Building Construction	Vendor	0.78033	8.80000	HHDT,MHDT
Building Construction	Hauling	0.00000	20.0000	HHDT
Building Construction	Onsite truck	0.00000	0.00000	HHDT
Paving	Worker	15.0000	14.3000	LDA,LDT1,LDT2
Paving	Vendor	0.00000	8.80000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	0.00000	0.00000	HHDT
Architectural Coating	Worker	0.30470	14.3000	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00000	8.80000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	0.00000	0.00000	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	12.5000	14.3000	LDA,LDT1,LDT2

Demolition	Vendor	0.00000	8.80000	HHDT,MHDT
Demolition	Hauling	0.00000	20.0000	HHDT
Demolition	Onsite truck	0.00000	—	HHDT
Site Preparation	Worker	7.50000	14.3000	LDA,LDT1,LDT2
Site Preparation	Vendor	0.00000	8.80000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	0.00000	0.00000	HHDT
Grading	Worker	10.00000	14.3000	LDA,LDT1,LDT2
Grading	Vendor	0.00000	8.80000	HHDT,MHDT
Grading	Hauling	4.40000	20.0000	HHDT
Grading	Onsite truck	0.00000	0.00000	HHDT
Building Construction	Worker	1.52352	14.3000	LDA,LDT1,LDT2
Building Construction	Vendor	0.78033	8.80000	HHDT,MHDT
Building Construction	Hauling	0.00000	20.0000	HHDT
Building Construction	Onsite truck	0.00000	0.00000	HHDT
Paving	Worker	15.0000	14.3000	LDA,LDT1,LDT2
Paving	Vendor	0.00000	8.80000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	0.00000	0.00000	HHDT
Architectural Coating	Worker	0.30470	14.3000	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00000	8.80000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	0.00000	0.00000	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00000	0.00000	7,141.50	2,380.50	2,273.83

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 (Building Square Footage)	Acres Paved (acres)
Demolition	0.00000	0.00000	0.00000	0.00000	0.00000
Site Preparation	0.00000	0.00000	15.0000	0.00000	0.00000
Grading	697.000	0.00000	20.0000	0.00000	0.00000
Paving	0.00000	0.00000	0.00000	0.00000	0.96000

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	Convenience Market with Gas Pumps	0.00000	0%
Paving	Parking Lot	0.96000	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00000	374.840	0.01290	0.00170
2027	0.00000	374.840	0.01290	0.00170

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
Convenience Market with Gas Pumps	1,374.00	1,374.00	1,374.00	501,510	4,948.91	4,948.91	4,948.91	1,806,353
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Convenience Market with Gas Pumps	1,374.00	1,374.00	1,374.00	501,510	4,948.91	4,948.91	4,948.91	1,806,353
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Convenience Market with Gas Pumps	Wood Fireplaces	0	0
Convenience Market with Gas Pumps	Gas Fireplaces	0	0
Convenience Market with Gas Pumps	Propane Fireplaces	0	0
Convenience Market with Gas Pumps	Electric Fireplaces	0	0
Convenience Market with Gas Pumps	No Fireplaces	0	0
Convenience Market with Gas Pumps	Conventional Wood Stoves	0	0
Convenience Market with Gas Pumps	Catalytic Wood Stoves	0	0
Convenience Market with Gas Pumps	Non-Catalytic Wood Stoves	0	0
Convenience Market with Gas Pumps	Pellet Wood Stoves	0	0

Parking Lot	Wood Fireplaces	0	0
Parking Lot	Gas Fireplaces	0	0
Parking Lot	Propane Fireplaces	0	0
Parking Lot	Electric Fireplaces	0	0
Parking Lot	No Fireplaces	0	0
Parking Lot	Conventional Wood Stoves	0	0
Parking Lot	Catalytic Wood Stoves	0	0
Parking Lot	Non-Catalytic Wood Stoves	0	0
Parking Lot	Pellet Wood Stoves	0	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)
0.00000	0.00000	7,141.50	2,380.50	2,273.83

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	250.000

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	250.000

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO_2 and CH_4 and N_2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Convenience Market with Gas Pumps	264,000	374.840	0.0129	0.0017	0.00000
Parking Lot	0.00000	374.840	0.0129	0.0017	0.00000

5.11.2. Mitigated

Electricity (kWh/yr) and CO_2 and CH_4 and N_2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Convenience Market with Gas Pumps	264,000	374.840	0.0129	0.0017	0.00000
Parking Lot	0.00000	374.840	0.0129	0.0017	0.00000

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Convenience Market with Gas Pumps	47,740.0	276,260
Parking Lot	0.00000	0.00000

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Convenience Market with Gas Pumps	47,740.0	276,260
Parking Lot	0.00000	0.00000

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Convenience Market with Gas Pumps	5.76000	0.00000
Parking Lot	0.00000	0.00000

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Convenience Market with Gas Pumps	5.76000	0.00000
Parking Lot	0.00000	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Convenience Market with Gas Pumps	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
Convenience Market with Gas Pumps	Supermarket refrigeration and condensing units	R-404A	3,922.00	26.5200	16.5000	16.5000	18.0000

5.14.2. Mitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Convenience Market with Gas Pumps	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
Convenience Market with Gas Pumps	Supermarket refrigeration and condensing units	R-404A	3,922.00	26.5200	16.5000	16.5000	18.0000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

5.18.2.2. Mitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	21.4000	annual days of extreme heat
Extreme Precipitation	5.75000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	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	4	0	0	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	1	1	4
Extreme Precipitation	1	1	1	2
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

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	53.7274
AQ-PM	33.7897
AQ-DPM	74.5986
Drinking Water	16.8478
Lead Risk Housing	28.2168
Pesticides	0.00000
Toxic Releases	25.0063
Traffic	92.4500
Effect Indicators	—
CleanUp Sites	53.6954
Groundwater	2.10858
Haz Waste Facilities/Generators	70.9332
Impaired Water Bodies	12.4528
Solid Waste	52.8981
Sensitive Population	—
Asthma	62.2009
Cardio-vascular	61.1291
Low Birth Weights	76.6359
Socioeconomic Factor Indicators	—
Education	58.1498
Housing	38.0989

Linguistic	33.9423
Poverty	76.9849
Unemployment	94.3129

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	19.33786732
Employed	63.51854228
Median HI	17.09226229
Education	—
Bachelor's or higher	28.85923264
High school enrollment	100
Preschool enrollment	30.74554087
Transportation	—
Auto Access	39.77928911
Active commuting	56.55075067
Social	—
2-parent households	9.380213012
Voting	28.96188887
Neighborhood	—
Alcohol availability	76.77402797
Park access	81.35506224
Retail density	47.69665084
Supermarket access	68.35621712
Tree canopy	83.47234698
Housing	—

Homeownership	27.07558065
Housing habitability	37.30270756
Low-inc homeowner severe housing cost burden	35.91684845
Low-inc renter severe housing cost burden	24.71448736
Uncrowded housing	46.83690491
Health Outcomes	—
Insured adults	24.93263185
Arthritis	89.6
Asthma ER Admissions	40.4
High Blood Pressure	72.3
Cancer (excluding skin)	93.3
Asthma	19.7
Coronary Heart Disease	90.3
Chronic Obstructive Pulmonary Disease	59.8
Diagnosed Diabetes	70.5
Life Expectancy at Birth	84.5
Cognitively Disabled	62.4
Physically Disabled	74.5
Heart Attack ER Admissions	57.4
Mental Health Not Good	27.8
Chronic Kidney Disease	85.5
Obesity	26.8
Pedestrian Injuries	19.6
Physical Health Not Good	46.9
Stroke	75.8
Health Risk Behaviors	—
Binge Drinking	25.3
Current Smoker	17.7

No Leisure Time for Physical Activity	46.8
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	41.8
Elderly	98.5
English Speaking	53.3
Foreign-born	58.5
Outdoor Workers	53.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	63.3
Traffic Density	87.5
Traffic Access	23.0
Other Indices	—
Hardship	62.7
Other Decision Support	—
2016 Voting	25.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	62.0000
Healthy Places Index Score for Project Location (b)	31.0000
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

8.1. Justifications

Screen	Justification
Land Use	Applicant Response to Data Request October 3, 2025
Construction: Construction Phases	Applicant Response to Data Request October 3, 2025
Construction: Paving	Applicant Response to Data Request
Operations: Vehicle Data	DKS, Transportation Analysis Retail at Northgate and Rosin Court, August 28, 2018
Operations: Fleet Mix	Reflects vehicle fleet mix for auto gas station
Operations: Energy Use	Applicant Response to Data Request October 3, 2025
Operations: Water and Waste Water	Applicant Response to Data Request October 3, 2025
Operations: Solid Waste	Applicant Response to Data Request October 3, 2025

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	0.02593	1.43000
Building Area	sq. ft	1,129.00	4,761.00
Landscape Area	sq. ft	—	17,704.0
Special Landscape Area	sq. ft	—	0.00000
Lot Area	acre	0.22500	0.87000

Landscape Area	sq. ft	—	0.00000
Special Landscape Area	sq. ft	—	0.00000

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Site Preparation	Site Preparation	Start Date	12/15/2026	11/21/2026
Site Preparation	Site Preparation	End Date	12/19/2026	12/4/2026
Site Preparation	Site Preparation	Work Days per Phase	3.00000	10.00000
Grading	Grading	Start Date	12/20/2026	12/5/2026
Grading	Grading	End Date	12/28/2026	1/1/2027
Grading	Grading	Work Days per Phase	6.00000	20.0000
Building Construction	Building Construction	Start Date	12/29/2026	1/16/2027
Building Construction	Building Construction	End Date	11/2/2027	8/9/2027
Building Construction	Building Construction	Work Days per Phase	220.000	146.000
Paving	Paving	Start Date	11/3/2027	1/2/2027
Paving	Paving	End Date	11/17/2027	1/15/2027
Architectural Coating	Architectural Coating	Start Date	11/18/2027	8/10/2027
Architectural Coating	Architectural Coating	End Date	12/2/2027	8/16/2027
Architectural Coating	Architectural Coating	Work Days per Phase	10.00000	5.00000

8.4.9. Paving

Phase Name	Land Use	Model Parameter	Units	Default Value	New Value
Paving	Parking Lot	Area Paved	acres	0.87000	0.96000

8.5. Operations

8.5.1. Mobile Sources

8.5.1.1. Vehicle Data

Land Use	Model Parameter	Units	Default Value	New Value
Convenience Market with Gas Pumps	Weekday Trip Rate	size/day	322.500	171.750
Convenience Market with Gas Pumps	Saturday Trip Rate	size/day	322.500	171.750
Convenience Market with Gas Pumps	Sunday Trip Rate	size/day	322.500	171.750
Convenience Market with Gas Pumps	Non-Res H-W Trip Length	miles	9.84668	11.0152
Convenience Market with Gas Pumps	Non-Res W-O Trip Length	miles	13.3766	8.00416
Convenience Market with Gas Pumps	Non-Res O-O Trip Length	miles	7.93152	7.81160
Convenience Market with Gas Pumps	Weekday Primary Trip	%	14.2400	41.0000
Convenience Market with Gas Pumps	Weekday Divert Trip	%	21.2600	0.00000
Convenience Market with Gas Pumps	Weekday Pass-By Trip	%	64.5000	59.0000
Convenience Market with Gas Pumps	Saturday Primary Trip	%	100.0000	41.0000
Convenience Market with Gas Pumps	Saturday Pass-By Trip	%	0.00000	59.0000
Convenience Market with Gas Pumps	Sunday Primary Trip	%	100.0000	41.0000
Convenience Market with Gas Pumps	Sunday Pass-By Trip	%	0.00000	59.0000
Convenience Market with Gas Pumps	Non-Res H-W Trip	%	4.06504	25.0650
Convenience Market with Gas Pumps	Non-Res W-O Trip	%	1.62602	13.7407

Convenience Market with Gas Pumps	Non-Res O-O Trip	%	94.3089	61.1944
Parking Lot	Weekday Primary Trip	%	100.0000	14.2400
Parking Lot	Weekday Divert Trip	%	0.00000	21.2600
Parking Lot	Weekday Pass-By Trip	%	0.00000	64.5000
Parking Lot	Saturday Primary Trip	%	100.0000	14.2400
Parking Lot	Saturday Divert Trip	%	0.00000	21.2600
Parking Lot	Saturday Pass-By Trip	%	0.00000	64.5000
Parking Lot	Sunday Primary Trip	%	100.0000	14.2400
Parking Lot	Sunday Divert Trip	%	0.00000	21.2600
Parking Lot	Sunday Pass-By Trip	%	0.00000	64.5000

8.5.1.2. Fleet Mix

Land Use	Season	Model Parameter	Units	Default Value	New Value
Convenience Market with Gas Pumps	A	Heavy-Heavy-Duty Trucks	%	1%	0%
Convenience Market with Gas Pumps	A	Passenger Cars	%	49%	52%
Convenience Market with Gas Pumps	A	Light-Duty Trucks 1	%	4%	7%
Convenience Market with Gas Pumps	A	Light-Duty Trucks 2	%	23%	30%
Convenience Market with Gas Pumps	A	Light Heavy-Duty Trucks 1	%	3%	6%
Convenience Market with Gas Pumps	A	Light Heavy-Duty Trucks 2	%	1%	1%
Convenience Market with Gas Pumps	A	Motorcycles	%	2%	3%
Convenience Market with Gas Pumps	A	Medium-Duty Trucks	%	14%	0%
Convenience Market with Gas Pumps	A	Motor Homes	%	< 0.5%	0%

Convenience Market with Gas Pumps	A	Medium-Heavy-Duty Trucks	%	2%	0%
Convenience Market with Gas Pumps	A	Other Buses	%	< 0.5%	0%
Convenience Market with Gas Pumps	A	School Buses	%	< 0.5%	0%
Convenience Market with Gas Pumps	A	Urban Buses	%	< 0.5%	0%
Convenience Market with Gas Pumps	S	Heavy-Heavy-Duty Trucks	%	1%	0%
Convenience Market with Gas Pumps	S	Passenger Cars	%	49%	52%
Convenience Market with Gas Pumps	S	Light-Duty Trucks 1	%	4%	7%
Convenience Market with Gas Pumps	S	Light-Duty Trucks 2	%	23%	30%
Convenience Market with Gas Pumps	S	Light Heavy-Duty Trucks 1	%	3%	6%
Convenience Market with Gas Pumps	S	Light Heavy-Duty Trucks 2	%	1%	1%
Convenience Market with Gas Pumps	S	Motorcycles	%	2%	3%
Convenience Market with Gas Pumps	S	Medium-Duty Trucks	%	14%	0%
Convenience Market with Gas Pumps	S	Motor Homes	%	< 0.5%	0%
Convenience Market with Gas Pumps	S	Medium-Heavy-Duty Trucks	%	2%	0%
Convenience Market with Gas Pumps	S	Other Buses	%	< 0.5%	0%
Convenience Market with Gas Pumps	S	School Buses	%	< 0.5%	0%
Convenience Market with Gas Pumps	S	Urban Buses	%	< 0.5%	0%

Convenience Market with Gas Pumps	W	Heavy-Heavy-Duty Trucks	%	1%	0%
Convenience Market with Gas Pumps	W	Passenger Cars	%	49%	52%
Convenience Market with Gas Pumps	W	Light-Duty Trucks 1	%	4%	7%
Convenience Market with Gas Pumps	W	Light-Duty Trucks 2	%	23%	30%
Convenience Market with Gas Pumps	W	Light Heavy-Duty Trucks 1	%	3%	6%
Convenience Market with Gas Pumps	W	Light Heavy-Duty Trucks 2	%	1%	1%
Convenience Market with Gas Pumps	W	Motorcycles	%	2%	3%
Convenience Market with Gas Pumps	W	Medium-Duty Trucks	%	14%	0%
Convenience Market with Gas Pumps	W	Motor Homes	%	< 0.5%	0%
Convenience Market with Gas Pumps	W	Medium-Heavy-Duty Trucks	%	2%	0%
Convenience Market with Gas Pumps	W	Other Buses	%	< 0.5%	0%
Convenience Market with Gas Pumps	W	School Buses	%	< 0.5%	0%
Convenience Market with Gas Pumps	W	Urban Buses	%	< 0.5%	0%
Parking Lot	A	Heavy-Heavy-Duty Trucks	%	1%	3%
Parking Lot	A	Passenger Cars	%	49%	41%
Parking Lot	A	Light-Duty Trucks 1	%	4%	5%
Parking Lot	A	Light-Duty Trucks 2	%	23%	24%
Parking Lot	A	Light Heavy-Duty Trucks 1	%	3%	5%
Parking Lot	A	Light Heavy-Duty Trucks 2	%	1%	1%
Parking Lot	A	Motorcycles	%	2%	3%

Parking Lot	A	Medium-Duty Trucks	%	14%	16%
Parking Lot	A	Motor Homes	%	< 0.5%	< 0.5%
Parking Lot	A	Medium-Heavy-Duty Trucks	%	2%	1%
Parking Lot	A	Other Buses	%	< 0.5%	< 0.5%
Parking Lot	A	School Buses	%	< 0.5%	< 0.5%
Parking Lot	A	Urban Buses	%	< 0.5%	< 0.5%
Parking Lot	S	Heavy-Heavy-Duty Trucks	%	1%	3%
Parking Lot	S	Passenger Cars	%	49%	41%
Parking Lot	S	Light-Duty Trucks 1	%	4%	5%
Parking Lot	S	Light-Duty Trucks 2	%	23%	24%
Parking Lot	S	Light Heavy-Duty Trucks 1	%	3%	5%
Parking Lot	S	Light Heavy-Duty Trucks 2	%	1%	1%
Parking Lot	S	Motorcycles	%	2%	3%
Parking Lot	S	Medium-Duty Trucks	%	14%	16%
Parking Lot	S	Motor Homes	%	< 0.5%	< 0.5%
Parking Lot	S	Medium-Heavy-Duty Trucks	%	2%	1%
Parking Lot	S	Other Buses	%	< 0.5%	< 0.5%
Parking Lot	S	School Buses	%	< 0.5%	< 0.5%
Parking Lot	S	Urban Buses	%	< 0.5%	< 0.5%
Parking Lot	W	Heavy-Heavy-Duty Trucks	%	1%	3%
Parking Lot	W	Passenger Cars	%	49%	41%
Parking Lot	W	Light-Duty Trucks 1	%	4%	5%
Parking Lot	W	Light-Duty Trucks 2	%	23%	24%
Parking Lot	W	Light Heavy-Duty Trucks 1	%	3%	5%
Parking Lot	W	Light Heavy-Duty Trucks 2	%	1%	1%
Parking Lot	W	Motorcycles	%	2%	3%
Parking Lot	W	Medium-Duty Trucks	%	14%	16%
Parking Lot	W	Motor Homes	%	< 0.5%	< 0.5%

Parking Lot	W	Medium-Heavy-Duty Trucks	%	2%	1%
Parking Lot	W	Other Buses	%	< 0.5%	< 0.5%
Parking Lot	W	School Buses	%	< 0.5%	< 0.5%
Parking Lot	W	Urban Buses	%	< 0.5%	< 0.5%

8.5.3. Energy Usage

Land Use	Model Parameter	Units	Default Value	New Value
Convenience Market with Gas Pumps	Electricity	kWh/yr	225,869	264,000
Convenience Market with Gas Pumps	Electricity (Subject to Title 24)	kWh/yr	88,619.2	103,580
Convenience Market with Gas Pumps	Electricity (Not Subject to Title 24)	kWh/yr	137,250	160,420
Convenience Market with Gas Pumps	Natural Gas	kBTU/yr	95,783.6	0.00000
Convenience Market with Gas Pumps	Natural Gas (Subject to Title 24)	kBTU/yr	47,369.6	0.00000
Convenience Market with Gas Pumps	Natural Gas (Not Subject to Title 24)	kBTU/yr	48,414.0	0.00000
Parking Lot	Electricity	kWh/yr	33,197.9	0.00000
Parking Lot	Electricity (Subject to Title 24)	kWh/yr	33,197.9	0.00000

8.5.4. Water and Waste Water

Land Use	Model Parameter	Units	Default Value	New Value
Convenience Market with Gas Pumps	Indoor Water	gal/year	83,657.4	47,740.0
Convenience Market with Gas Pumps	Outdoor Water	gal/year	247,260	276,260
Convenience Market with Gas Pumps	Electricity Intensity Factor to Supply	kWh/Mgal	698.317	620.211

Convenience Market with Gas Pumps	Electricity Intensity Factor to Treat	kWh/Mgal	748.454	753.974
Convenience Market with Gas Pumps	Electricity Intensity Factor to Distribute	kWh/Mgal	165.695	1,537.28
Convenience Market with Gas Pumps	Electricity Intensity Factor for Waste Treatment	kWh/Mgal	1,519.36	1,541.92
Convenience Market with Gas Pumps	Treated by Septic Tank	%	0.00000	10.3300
Convenience Market with Gas Pumps	Treated by Aerobic Processes	%	100.0000	87.4600
Convenience Market with Gas Pumps	Treated by Facultative Lagoons	%	0.00000	2.21000
Convenience Market with Gas Pumps	Anaerobic Digestion with Combustion of Digester Gas	%	15.0000	100.0000
Convenience Market with Gas Pumps	Anaerobic Digestion with Cogeneration from Combustion of Digester Gas	%	85.0000	0.00000

8.5.5. Solid Waste

Land Use	Model Parameter	Units	Default Value	New Value
Convenience Market with Gas Pumps	Solid Waste Generation Rate	ton/pump/yr	0.42374	0.72000

Attachment B

Health Risk Assessment Methodology

Fugitive VOC Emissions

Health Impact Results

AERMOD Input/Output

VOC Emissions from Underground Gasoline Tanks

Tank Number	Tank Capacity (gal)	Throughput (gal/hr)	Throughput (gal/yr)	Emission Rate [1] (lb/10^3 gal gas)	Emission Rate [2] (lb/10^3 gal gas)	VOC Emissions (lb/hr)	VOC Emissions (lb/yr)	VOC Emissions (ton/yr)
1	20,000	672	679,150	0.084	0.025	0.073	74.0	0.037
2	8,000	672	679,150	0.084	0.025	0.073	74.0	0.037
Total Breathing	28,000	1,344	1,358,299	0.084		0.113	114	0.057
Total Working	28,000	1,344	1,358,299		0.025	0.034	34.0	0.017

1 Includes emissions from tank breathing and emptying as well as vapor loss between the tank and the gas pump

2 Emissions from balanced submerged filling underground tank

	Hourly (Maximum)		Annual (Average)
8	pumps	8	pumps
112	vehicles per peak hour	112	vehicles per average hour
1,374	vehicles per day	1,374	vehicles per day
12	gallons per trip	12	gallons per trip
1,344	gallons per peak hour	1,358,299	gallons per year

VOC Emissions from Fuel Dispensing

Throughput (gal/hr)	Throughput (gal/yr)	Emission Factor (lb VOC 10^3/gal)		VOC Emissions (lb/hr)	VOC Emissions (lb/yr)	VOC Emissions (ton/yr)
1,344	1,358,299	0.74	Refueling	0.995	1005	0.503
1,344	1,358,299	0.42	Spillage	0.564	570	0.285
			Total	1.559	1576	0.788

Health Risk Assessment Methodology, Assumptions, and Detailed Results

A health risk assessment (HRA) is accomplished in four steps: 1) hazards identification, 2) exposure assessment, 3) toxicity assessment, and 4) risk characterization. These steps cover the estimation of air emissions, the estimation of the air concentrations resulting from a dispersion analysis, the incorporation of the toxicity of the pollutants emitted, and the characterization of the risk based on exposure parameters such as breathing rate, age adjustment factors, and exposure duration; each depending on receptor type (i.e., residence, school, daycare centers, hospitals, senior care facilities, recreational areas, adult, infant, child).

This HRA was conducted in accordance with technical guidelines developed by federal, state, and regional agencies, including U.S. Environmental Protection Agency (USEPA), California Environmental Protection Agency (CalEPA), California Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*[1] and the Bay Area Air Quality Management District (BAAQMD) *Health Risk Screening Analysis Guidelines*.[2] This HRA addresses the emissions from construction activities including onsite equipment and haul trucks. Specific focus is on diesel particulate matter (DPM) and particulate matter equal to or less than 2.5 micrometers (fine particulate or $PM_{2.5}$) emissions. Gasoline-fueled vehicles emit air toxics in much smaller quantities and toxicity levels compared to DPM. The HRA also addressed air toxics within the fuel dispensing.

According to CalEPA, a HRA should not be interpreted as the expected rates of cancer or other potential human health effects, but rather as estimates of potential risk or likelihood of adverse effects based on current knowledge, under several highly conservative assumptions and the best assessment tools currently available.

TERMS AND DEFINITIONS

As the practice of conducting an HRA is particularly complex and involves concepts that are not altogether familiar to most people, several terms and definitions are provided that are considered essential to the understanding of the approach, methodology and results:

> *Acute effect* – a health effect (non-cancer) produced within a short period of time (few minutes to several days) following exposure to toxic air contaminants (TAC).
>
> *Cancer risk* – the probability of an individual contracting cancer from a lifetime (i.e., 70 year) exposure to TAC such as DPM in the ambient air.
>
> *Chronic effect* – a health effect (non-cancer) produced from a continuous exposure occurring over an extended period (weeks, months, years).

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[1] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, March 6, 2015, http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

[2] Bay Area Air Quality Management District, *Health Risk Screening Analysis Guidelines*, January 2010, http://www.baaqmd.gov/~/media/Files/Engineering/Air%20Toxics%20Programs/hrsa_guidelines.ashx

Hazard Index (HI) – the unitless ratio of an exposure level over the acceptable reference dose. The HI can be applied to multiple compounds in an additive manner.

Hazard Quotient (HQ) – the unitless ratio of an exposure level over the acceptable reference dose. The HQ is applied to individual compounds.

Toxic Air Contaminants – any air pollutant that can cause short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). The current California list of TAC lists approximately 200 compounds, including particulate emissions from diesel-fueled engines.

Human Health Effects - comprise disorders such as eye watering, respiratory or heart ailments, and other (i.e., non-cancer) related diseases.

Health Risk Assessment – an analysis designed to predict the generation and dispersion of TAC in the outdoor environment, evaluate the potential for exposure of human populations, and to assess and quantify both the individual and population-wide health risks associated with those levels of exposure.

Incremental – under CEQA, the net difference (or change) in conditions or impacts when comparing the baseline to future year project conditions.

Maximum exposed individual (MEI) – an individual assumed to be located at the point where the highest concentrations of TAC, and therefore, health risks are predicted to occur.

Non-cancer risks – health risks such as eye watering, respiratory or heart ailments, and other non-cancer related diseases.

Receptors – the locations where potential health impacts or risks are predicted (i.e., schools, residences, and recreational sites).

LIMITATIONS AND UNCERTAINTIES

There are several important limitations and uncertainties commonly associated with an HRA due to the wide variability of human exposures to TAC, the extended timeframes over which the exposures are evaluated, and the inability to verify the results. Limitations and uncertainties associated with the HRA and identified by the CalEPA include: (a.) lack of reliable monitoring data; (b.) extrapolation of toxicity data in animals to humans; (c.) estimation errors in calculating TAC emissions; (d.) concentration prediction errors with dispersion models; and (e.) the variability in lifestyles, fitness and other confounding factors of the human population. This HRA was performed using the best available data and methodologies, notwithstanding the following uncertainties:

- There are uncertainties associated with the estimation of emissions from project activities. Where project-specific data, such as emission factors, are not available, default assumptions in emission models were used.
- The limitations of the air dispersion model provide a source of uncertainty in the estimation of exposure concentrations. According to USEPA, errors due to the limitation of the algorithms

implemented in the air dispersion model in the highest estimated concentrations of +/- 10 percent to 40 percent are typical.[3]

- The source parameters used to model emission sources add uncertainty. For all emission sources, the source parameters used source-specific, recommended as defaults, or expected to produce more conservative results. Discrepancies might exist in actual emissions characteristics of an emission source and its representation in the dispersion model.
- The exposure duration estimates do not consider that people do not usually reside at the same location for 30 years and that other exposures (i.e., school children) are also of much shorter durations than was assumed in this HRA. This exposure duration is a highly conservative assumption, since most people do not remain at home all day and on average residents change residences every 11 to 12 years. In addition, this assumption adopts that residents are experiencing outdoor concentrations for the entire exposure period.
- For the risk and hazards calculations as well as the cumulative health impact, numerous assumptions must be made in order to estimate human exposure to pollutants. These assumptions include parameters such as breathing rates, exposure time and frequency, exposure duration, and human activity patterns. While a mean value derived from scientifically defensible studies is the best estimate of central tendency, most of the exposure variables used in this HRA are high-end estimates. The combination of several high-end estimates used as exposure parameters may substantially overestimate pollutant intake. The excess lifetime cancer risks calculated in this HRA are therefore likely to be higher than may be required to be protective of public health.
- The Cal/EPA cancer potency factor for DPM was used to estimate cancer risks associated with exposure to DPM emissions from construction activities. However, the cancer potency factor derived by Cal/EPA for DPM is highly uncertain in both the estimation of response and dose. In the past, due to inadequate animal test data and epidemiology data on diesel exhaust, the International Agency for Research on Cancer (IARC), a branch of the World Health Organization, had classified DPM as Probably Carcinogenic to Humans (Group 2); the USEPA had also concluded that the existing data did not provide an adequate basis for quantitative risk assessment.[4] However, based on two recent scientific studies,[5] IARC recently re-classified DPM as Carcinogenic to Humans to Group 1,[6] which means that the agency has determined that there is "sufficient evidence of carcinogenicity" of a substance in humans and represents the strongest

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[3] US Environmental Protection Agency, *Guideline on Air Quality Models (Revised), 40 Code of Federal Regulations, Part 51, Appendix W,* November 2005, https://www3.epa.gov/scram001/guidance/guide/appw_05.pdf

[4] US Environmental Protection Agency, *Health Assessment Document for Diesel Engine Exhaust*, May 2002, https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=29060

[5] Attfield MD, Schleiff PL, Lubin JH, Blair A, Stewart PA, Vermeulen R, Coble JB, Silverman DT, *The Diesel Exhaust in Miners Study: A Nested Case-Control Study of Lung Cancer and Diesel Exhaust*, June 2012, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3369553/

[6] International Agency for Research on Cancer, *Diesel Engine Exhaust Carcinogenic*, June 2012, https://www.iarc.fr/en/media-centre/pr/2012/pdfs/pr213_E.pdf

weight-of-evidence rating in IARC's carcinogen classification scheme. This determination by the IARC may provide additional impetus for the USEPA to identify a quantitative dose-response relationship between exposure to DPM and cancer.

In summary, the estimated health impacts are based primarily on a series of conservative assumptions related to predicted environmental concentrations, exposure, and chemical toxicity. The use of conservative assumptions tends to produce upper-bound estimates of risk. BAAQMD acknowledges this uncertainty by stating: "the methods used [to estimate risk] are conservative, meaning that the real risks from the source may be lower than the calculations, but it is unlikely that they will be higher." The USEPA notes that the conservative assumptions used in a HRA are intended to assure that the estimated risks do not underestimate the actual risks posed by a site and that the estimated risks do not necessarily represent actual risks experienced by populations at or near a site.[7]

HAZARDS IDENTIFICATION

California Air Resources Board (CARB) has developed a list of TAC, where a TAC is "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health (California Health and Safety Code Section 39655). All USEPA hazardous air pollutants are TAC. CARB administers the Air Toxics "Hot Spots" program under Assembly Bill 2588 "Hot Spots" Information and Assessment Act, which requires periodic local review of facilities which emit TAC. Local air agencies periodically must prioritize stationary sources of TAC and prepare health risk assessments for high-priority sources.

Diesel exhaust is a complex mixture of numerous individual gaseous and particulate compounds emitted from diesel-fueled combustion engines. Diesel particulate matter is formed primarily through the incomplete combustion of diesel fuel. DPM is removed from the atmosphere through physical processes including atmospheric fall-out and washout by rain. Humans can be exposed to airborne DPM by deposition on water, soil, and vegetation; although the main pathway of exposure is inhalation. Cal/EPA has concluded that potential cancer risk from inhalation exposure to whole diesel exhaust outweigh the multi-pathway cancer risk from the speciated components.

In August 1998, the CARB identified DPM as an air toxic. CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel- Fueled Engines and Vehicles* and *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines* and approved these documents on September 28, 2000.[8] [9] The documents represent proposals to reduce DPM emissions, with the goal of reducing emissions and the associated health risk by 75 percent in 2010 and by 85 percent in 2020. The program aimed to require the use of state-of-the-art catalyzed DPM filters and ultra-low-sulfur diesel fuel.

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[7] US Environmental Protection Agency, *Risk Assessment Guidance for Superfund Human Health Risk Assessment*, December 1989, https://www.epa.gov/sites/production/files/2015-09/documents/rags_a.pdf

[8] California Air Resources Board, *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles,* October 2000, http://www.arb.ca.gov/diesel/documents/rrpfinal.pdf

[9] California Air Resources Board, *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines,* October 2000, https://www.arb.ca.gov/diesel/documents/rmgFinal.pdf

In 2001, CARB assessed the state-wide health risks from exposure to diesel exhaust and to other toxic air contaminants. It is difficult to distinguish the health risks of diesel emissions from those of other air toxics, since diesel exhaust contains approximately 40 different TAC. The CARB study detected diesel exhaust by using ambient air carbon soot measurements as a surrogate for diesel emissions. The study reported that the state-wide cancer risk from exposure to diesel exhaust was about 540 per million population as compared to a total risk for exposure to all ambient air toxics of 760 per million. This estimate, which accounts for about 70 percent of the total risk from TAC, included both urban and rural areas in the state. The estimate can also be considered an average worst-case for the state, since it assumes constant exposure to outdoor concentrations of diesel exhaust and does not account for expected lower concentrations indoors, where most of time is spent. DPM is estimated to increase statewide cancer risk by 520 cancers per million residents exposed over a lifetime.[10]

Exposure to DPM results in a greater incidence of chronic non-cancer health effects, such as cough, labored breathing, chest tightness, wheezing, and bronchitis. Individuals particularly vulnerable to DPM are children, whose lung tissue is still developing, the elderly and people with illnesses who may have other serious health problems that can be aggravated by exposure to DPM. In general, children are more vulnerable than adults to air pollutants because they have higher inhalation rates, narrower airways, and less mature immune systems. In addition, children with allergies may have an enhanced allergic response when exposed to diesel exhaust.

CARB has been working to develop, implement, and enforce regulations and programs to reduce DPM emissions and associated health risks. As a result, the California Emissions Projection Analysis Model data shows a 77 percent DPM emission reduction in 2020 and projects an 86 percent DPM emission reduction in 2030 compared to 2000 DPM emissions. As a reference, the South Coast Air Quality Management District (SCAQMD) Multiple Air Toxics Exposure Study (MATES)-V cites a 86 percent DPM reduction based on surrogate monitoring data between MATES II (1998) and MATES V (2018), which starts later and ends earlier than the 1990 to 2020 timeframe from CARB with an 85 percent reduction target.

In 2005, the SCAQMD conducted a comprehensive study on air toxics in the South Coast Air Basin (Los Angles Area) or SCAB called the MATES-III. The monitoring program measured more than 30 air pollutants, including both gas and particulates. The monitoring study was accompanied by a computer modeling study in which SCAQMD estimated the risk of cancer from breathing toxic air pollution throughout the region based on emissions and weather data. MATES-III found that the average cancer risk in the region from carcinogenic air pollutants ranges from approximately 870 in a million to 1,400 in a million, with an average regional risk of approximately 1,200 in a million.[11]

In 2015, the MATES IV followed up to previous air toxics studies in the SCAB. The MATES IV Study includes an updated emissions inventory of toxic air contaminants and a modeling effort to characterize risk across the SCAB. The study focuses on the carcinogenic risk from exposure to air toxics but does not

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[10] California Air Resources Board, *Summary: Diesel Particulate Matter Health Impacts*, April 12, 2016, https://www.arb.ca.gov/research/diesel/diesel-health_summ.htm

[11] South Coast Air Quality Management District, Multiple Air Toxics Exposure Study (MATES-III) in the South Coast Air Basin, September 2008, https://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-iii

estimate mortality or other health effects from particulate exposures. An additional focus of MATES IV is the inclusion of measurements of ultrafine particle concentrations. Results for MATES-IV show that trends in monitored levels air toxics continue to decline, modeled exposures and risks were substantially lower compared to MATES III (approximately 60 percent decrease), and DPM remains the largest component of air toxics estimated risk, at approximately 68 percent of the South Coast Air Basin wide cancer risk of 418 per million persons, ranging from 320 to 480 per million persons.[12]

In August of 2021, the Multiple Air Toxics Exposure Study V (MATES V)[13] was released. MATES V focuses on measurements during 2018 and 2019 with a comprehensive modeling analysis and emissions inventory based on 2018 data. In addition to new measurements and updated modeling results, several key updates were implemented in MATES V. First, MATES V estimates cancer risks by considering multiple exposure pathways, which includes inhalation and non-inhalation pathways. Previous MATES studies quantified the cancer risks based on the inhalation pathway only. Second, along with cancer risk estimates, MATES V includes information on the chronic non-cancer risks from inhalation and non-inhalation pathways for the first time. As in previous MATES iterations, DPM is the largest contributor to overall air toxics cancer risk. However, the average levels of DPM in MATES V are 50 percent lower at the ten monitoring sites compared to MATES IV and 86 percent lower since MATES II based on monitored data.[14] It is expected that the Bay Area Air Basin would experience similar reductions in health risk due to air toxics.

EXPOSURE ASSESSMENT

Dispersion is the process by which atmospheric pollutants disseminate due to wind and vertical stability. The results of a dispersion analysis are used to assess pollutant concentrations at or near an emission source. The results of an analysis allow predicted concentrations of pollutants to be compared directly to air quality standards and other criteria such as health risks based on modeled concentrations.

A rising pollutant plume reacts with the environment in several ways before it levels off. First, the plume's own turbulence interacts with atmospheric turbulence to entrain ambient air. This mixing process reduces and eventually eliminates the density and momentum differences that cause the plume to rise. Second, wind transports the plume during its rise and entrainment process. Higher winds mix the plume more rapidly, resulting in a lower final rise. Third, the plume interacts with the vertical temperature stratification of the atmosphere, rising because of buoyancy in the unstable-to-neutrally stratified mixed layer. However, after the plume encounters the mixing lid and the stably stratified air above, its vertical motion is dampened.

Molecules of gas or small particles injected into the atmosphere will separate from each other as they are acted on by turbulent eddies. The Gaussian mathematical model such as AERMOD simulates the

[12] South Coast Air Quality Management District, Multiple Air Toxics Exposure Study (MATES-IV) in the South Coast Air Basin, May 1, 2015, http://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-iv

[13] South Coast Air Quality Management District, Multiple Air Toxics Exposure Study (MATES-V) in the South Coast Air Basin, August 2021, http://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-v

[14] South Coast Air Quality Management District, Multiple Air Toxics Exposure Study (MATES-V) in the South Coast Air Basin, August 2021, http://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-v

dispersion of the gas or particles within the atmosphere. The formulation of the Gaussian model is based on the following assumptions:

- The predictions are not time-dependent (all conditions remain unchanged with time)
- The wind speed and direction are uniform, both horizontally and vertically, throughout the region of concern
- The rate of diffusion is not a function of position
- Diffusion in the direction of the transporting wind is negligible when compared to the transport flow

Dispersion Modeling Approach

Air dispersion modeling was performed to estimate the downwind dispersion of DPM exhaust emissions resulting from construction activities. The following sections present the fundamental components of an air dispersion modeling analysis including air dispersion model selection and options, receptor locations, meteorological data, and source exhaust parameters.

Model Selection and Options

AERMOD (Version 24142)[15] was used for the dispersion analysis. AERMOD is the USEPA preferred atmospheric dispersion modeling system for general industrial sources. The model can simulate point, area, volume, and line sources. AERMOD is the appropriate model for this analysis based on the coverage of simple, intermediate, and complex terrain. It also predicts both short-term and long-term (annual) average concentrations. The model was executed using the regulatory default options (stack-tip downwash, buoyancy-induced dispersion, and final plume rise), default wind speed profile categories, default potential temperature gradients, and assuming no pollutant decay.

The selection of the appropriate dispersion coefficients depends on the land use within three kilometers (km) of the project site. The types of land use were based on the classification method defined by Auer (1978); using pertinent United States Geological Survey (USGS) 1:24,000 scale (7.5 minute) topographic maps of the area. If the Auer land use types of heavy industrial, light-to-moderate industrial, commercial, and compact residential account for 50 percent or more of the total area, the USEPA *Guideline on Air Quality Models*[16] recommends using urban dispersion coefficients; otherwise, the appropriate rural coefficients can be used. Based on observation of the area surrounding the project site, rural dispersion coefficients were applied within AERMOD (for dispersion modeling, urban coefficients are only applied to areas such as downtown Sacramento).

Receptor Locations

Some receptors are considered more sensitive to air pollutants than others, because of preexisting health problems, proximity to the emissions source, or duration of exposure to air pollutants. Land uses

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[15] US Environmental Protection Agency, AERMOD Modeling System, https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models

[16] US Environmental Protection Agency, *Guideline on Air Quality Models (Revised), 40 Code of Federal Regulations, Part 51, Appendix W*, November 2005, https://www3.epa.gov/scram001/guidance/guide/appw_05.pdf

such as primary and secondary schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because the very young, the old, and the infirm are more susceptible to respiratory infections and other air quality-related health problems than the general public. Residential areas are also considered sensitive to poor air quality because people in residential areas are often at home for extended periods. Recreational land users are moderately sensitive to air pollution because vigorous exercise associated with recreation places having a high demand on respiratory system function.

The relevant zone of influence for an assessment of air quality health risks is within 1,000 feet of a project site. Residential land uses are located within 1,000 feet to the south of the project site. KFC and McDonalds are located to the northwest and southeast, respectively, of the project site. **Figure B-1** displays the sensitive receptors within 1,000 feet of the project site. Receptors were placed at a height of 1.8 meters (typical breathing height). Terrain elevations for receptor locations were used based on available USGS information for the area.

Meteorological Data

Hourly meteorological data (2014 through 2018) from Sacramento International Airport were used in the dispersion modeling analysis. **Figure B-2** displays the annual wind rose. Wind directions are predominantly from the south-southeast with a low frequency of calm wind speed conditions (1.0 percent), as shown in **Figure B-3**. The average annual wind speed is 8.1 miles per hour (3.6 meters per second). SMAQMD provides AERMOD-ready meteorological data within their network.[17]

[17] Sacramento Metropolitan Air Quality Management District, AERMOD Meteorological Data Files. https://www.airquality.org/Residents/CEQA-Land-Use-Planning/CEQA-Guidance-Tools

Figure B-1
Health Risk Assessment Sensitive Receptors

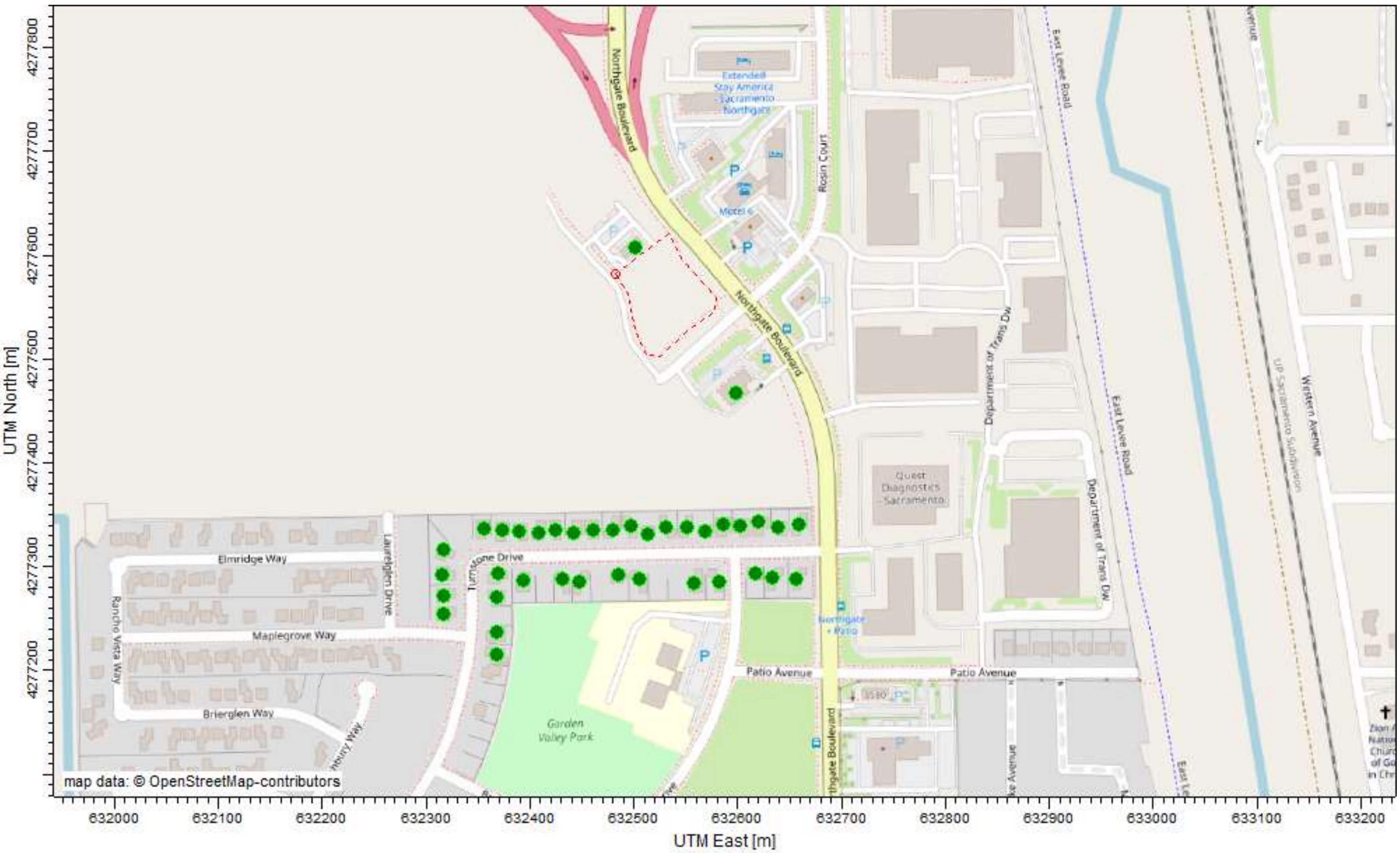


Figure B-2
Windrose for Sacramento International Airport

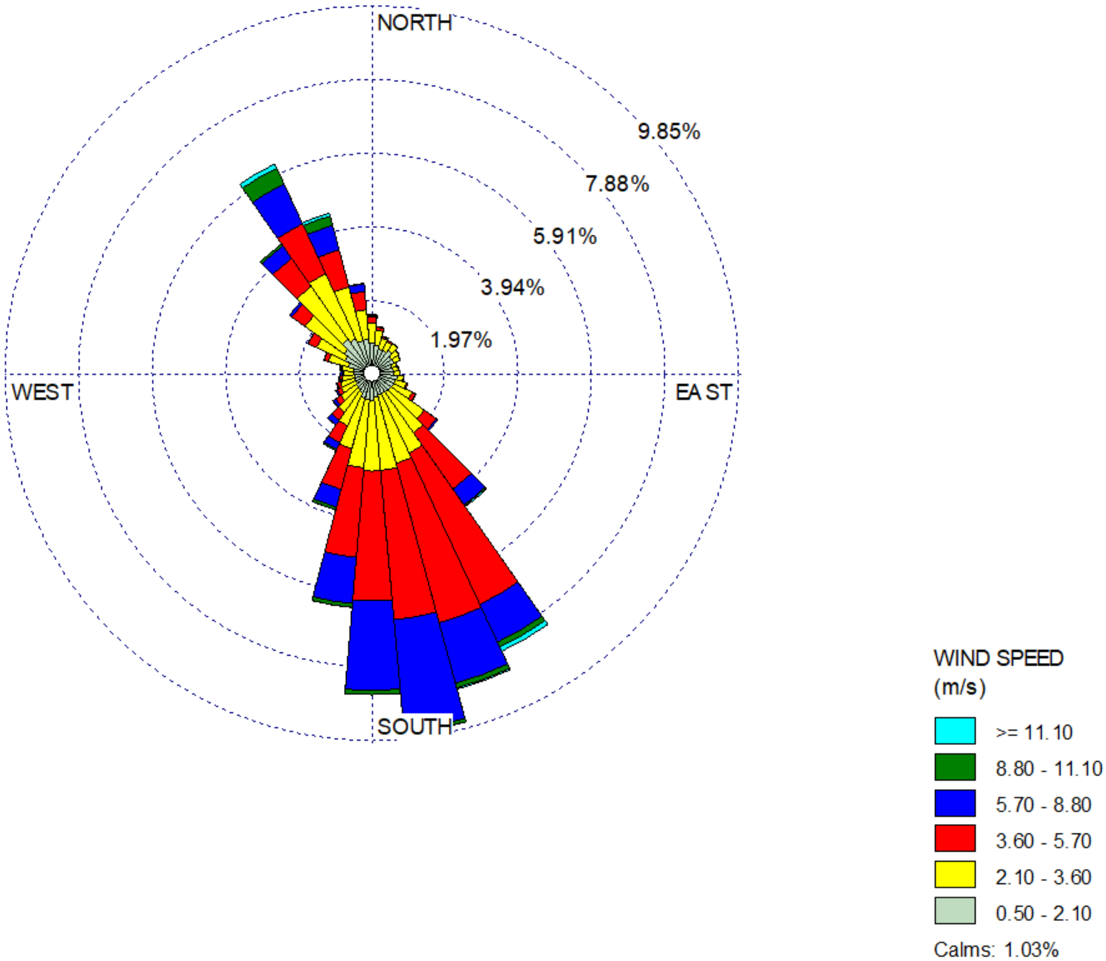
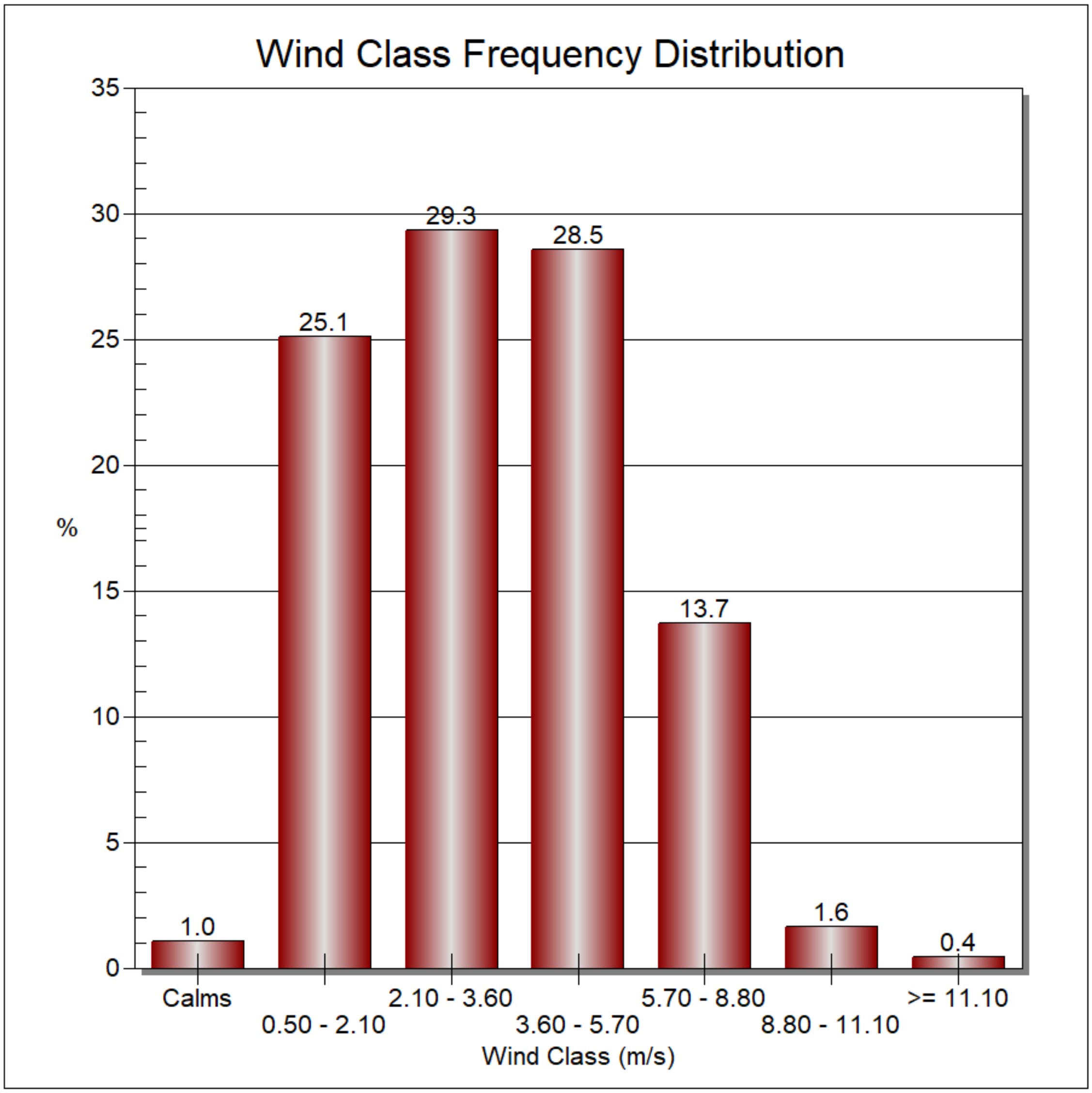


Figure B-3
Wind Speed Distribution for Sacramento International Airport



Source Release Characteristics

Construction equipment activities were treated as an area source. The release height of the off-road equipment exhaust was 5.0 meters (16.4 feet) and an initial vertical dimension of 1.4 meters (4.6 feet), which reflects the height of the equipment plus an additional height of the exhaust plume above the exhaust point to account for plume rise due to buoyancy and momentum. Fugitive dust-generating activities were treated as an area source. The release height of the fugitive dust was 0.0 meters (0.0 feet) and an initial vertical dimension of 1.0 meter (3.3 feet). Haul trucks were treated as a line source (i.e., volume sources placed at regular intervals) located along an access road. The haul trucks were assigned a release height of 5.0 meters (16.4 feet) and an initial vertical dimension of 1.4 meters (4.6 feet), which accounts for dispersion from the movement of vehicles.[18 19] Construction activities would be conducted from 7 a.m. to 6 p.m. Monday through Friday. Terrain elevations for emission source locations were used based on available USGS information for the area. AERMAP (Version 18081)[20] was used to develop the terrain elevations.

EXPOSURE PARAMETERS

This HRA was conducted following methodologies in OEHHA's *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*.[21] This was accomplished by applying the estimated concentrations at the receptors analyzed to the established cancer risk estimates and acceptable reference concentrations for non-cancer health effects.

OEHHA's revisions to its *Guidance Manual* were primarily designed to ensure that the greater sensitivity of children to cancer and other health risks is reflected in HRAs. For example, OEHHA now recommends that risks be analyzed separately for multiple age groups, focusing especially on young children and teenagers, rather than the past practice of analyzing risks to the general population, without distinction by age. OEHHA also now recommends that statistical "age sensitivity factors" be incorporated into an HRA, and that children's relatively high breathing rates be accounted for. On the other hand, the *Guidance Manual* revisions also include some changes that would reduce calculated health risks. For example, under the former guidance, OEHHA recommended that residential cancer risks be assessed by assuming 70 years of exposure at a residential receptor; under the *Guidance Manual*, this assumption is lessened to 30 years.

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[18] While haul truck emissions contribute substantially to overall project emissions, they are spread over many miles. Hence, the portion of trucking emissions that would impact one receptor is much smaller than the emissions that the clustered off-road activity at the project site would impact a receptor near the site. For example, the DPM emissions from truck travel within 1,000 feet of the project are less than one percent of the total off-road DPM emissions.

[19] South Coast Air Quality Management District, Final Localized Significance Threshold Methodology. July 2008, http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2

[20] US Environmental Protection Agency, AERMAP, https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models

[21] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, March 6, 2015, http://oehha.ca.gov/air/hot_spots/hotspots2015.html

OEHHA has developed exposure factors (e.g., daily breathing rates) for six age groups including the last trimester to birth, birth to 2 years, 2 to 9 years, 2 to 16 years, 16 to 30 years, and 16 to 70 years. These age bins allow for more refined exposure information to be used when estimating exposure and the potential for developing cancer over a lifetime. This means that exposure variates are needed for the third trimester, ages zero to less than two, ages two to less than nine, ages two to less than 16, ages 16 to less than 30, and ages 16 to 70. Residential receptors utilize the 95th percentile breathing rate values. The breathing rates are age-specific and are 1,090 liters per kilogram-day for ages less than 2 years, 745 liters per kilogram-day for ages 2 to 16 years, 335 liters per kilogram-day for ages 16 to 30 years, and 290 liters per kilogram-day for ages 30 to 70 years. A school child breathing rate is 520 liters per kilogram-day and an off-site worker breathing rate is 230 liters per kilogram-day.

OEHHA developed age sensitivity factors (ASF) to consider the increased sensitivity to carcinogens during early-in-life exposures. OEHHA recommends that cancer risks be weighted by a factor of 10 for exposures that occur from the third trimester of pregnancy to 2 years of age, and by a factor of 3 for exposures from 2 years through 15 years of age.

Based on OEHHA recommendations, the cancer risk to residential receptors assumes exposure occurs 24 hours per day for 350 days per year while accounting for a percentage of time at home. OEHHA evaluated information from activity pattern databases to estimate the fraction of time at home (FAH) during the day. This information was used to adjust exposure duration and cancer risk based on the assumption that a person is not present at home continuously for 24 hours and therefore exposure to emissions is not occurring when a person is away from their home. In general, the FAH factors are age-specific and are 0.85 for ages less than 2 years, 0.72 for ages 2 to 16 years, and 0.73 for ages 30 to 70 years.

OEHHA has decreased the exposure duration currently being used for estimating cancer risk at the maximum exposed individual resident from 70 years to 30 years. This is based on studies showing that 30 years is a reasonable estimate of the 90th to 95th percentile of residency duration in the population. Additionally, OEHHA recommends using the 9 and 70-year exposure duration to represent the potential impacts over the range of residency periods.

Based on OEHHA recommendations, nearby residences assume an exposure duration of 350 days per year over the construction duration and offsite worker assume an exposure duration of 260 days per year over the construction duration. **Table B-1** presents a summary of the health risk assessment exposure factors.

Table B-1
Health Risk Assessment Exposure Factors

Receptor	Age	Age Specific Factor	Breathing Rate (L/kg-day)	Fraction of Time	Exposure Years	Daily Exposure	Annual Exposure
Residential	Third Trimester	10	361	0.85	0.33	24 hours	350 days
	0 to 2	10	1,090	0.85	2	24 hours	350 days
	2 to 16	3	572	0.72	14	24 hours	350 days
	16 to 30	1	261	0.73	14	24 hours	350 days
Offsite Worker	20 to 70	1	230	0.73	25	8 Hours	260 days

Source: Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, March 6, 2015, http://oehha.ca.gov/air/hot_spots/hotspots2015.html

RISK CHARACTERIZATION

Cancer risk is defined as the lifetime probability of developing cancer from exposure to carcinogenic substances. Cancer risks are expressed as the chance in one million of getting cancer (i.e., number of cancer cases among one million people exposed). The cancer risks are assumed to occur exclusively through the inhalation pathway. The cancer risk can be estimated by using the cancer potency factor (milligrams per kilogram of body weight per day [mg/kg-day]), the 30-year annual average concentration (microgram per cubic meter [µg/m^3]), and the lifetime exposure adjustment.

Following guidelines established by OEHHA, the incremental cancer risks attributable to the proposed project were calculated by applying exposure parameters to modeled DPM concentrations in order to determine the inhalation dose (mg/kg-day) or the amount of pollutants inhaled per body weight mass per day. The cancer risks occur exclusively through the inhalation pathway; therefore, the cancer risks can be estimated from the following equation:

$$\text{Dose-inh} = \frac{C_{air} * \{DBR\} * A * ASF * FAH * EF * ED * 10^{-6}}{AT}$$

where:

Dose-inh = Dose of the toxic substance through inhalation in mg/kg-day

10^{-6} = Micrograms to milligrams conversion, Liters to cubic meters conversion

C_{air} = Concentration in air in microgram (µg)/cubic meter (m^3)

{DBR} = Daily breathing rate in liter (L)/kg body weight – day

A = Inhalation absorption factor, 1.0

ASF = Age Sensitivity Factor

EF = Exposure frequency (days/year)

ED = Exposure duration (years)

FAH = Fraction of Time at Home

AT = Averaging time period over which exposure is averaged in days (25,550 days for a 70-year cancer risk)

To determine incremental cancer risk, the estimated inhalation dose attributed to the proposed project was multiplied by the cancer potency slope factor (cancer risk per mg/kg-day). The cancer potency slope factor is the upper bound on the increased cancer risk from a lifetime exposure to a pollutant. These slope factors are based on epidemiological studies and are different values for different pollutants. This allows the estimated inhalation dose to be equated to a cancer risk.

Non-cancer adverse health impacts, acute (short-term) and chronic (long-term), are measured against a hazard index (HI), which is defined as the ratio of the predicted incremental exposure concentration from the proposed project to a published reference exposure level (REL) that could cause adverse health effects as established by OEHHA. The ratio (referred to as the Hazard Quotient [HQ]) of each non-carcinogenic substance that affects a certain organ system is added to produce an overall HI for that organ system. The overall HI is calculated as the total for each organ system. If the overall HI for the highest-impacted organ system is greater than one, then the impact is significant.

The HI is an expression used for the potential for non-cancer health effects. The relationship for the non-cancer health effects is given by the annual concentration (in $\mu g/m^3$) and the REL (in $\mu g/m^3$). The acute hazard index was determined using the "simple" concurrent maximum approach, which tends to be conservative (i.e., overpredicts).

The relationship for the non-cancer health effects is given by the following equation:

$$HI = C/REL$$

where:

HI = Hazard index; an expression of the potential for non-cancer health effects.

C = Annual average concentration ($\mu g/m^3$) during the 70-year exposure period.

REL = Concentration at which no adverse health effects are anticipated.

The chronic REL for DPM was established by the California OEHHA as 5 $\mu g/m^3$.[22] There is no acute REL for DPM.

FUELING STATION

VOC/ROG emissions would result from fuel loading, breathing (both related to the underground storage tanks), refueling, and spillage (both related to the fuel pumps). The following are additional details concerning these emission points:

- Loading emissions occur when a cargo tank truck unloads gasoline to the storage tanks.
- At the gasoline station, storage tank vapors are emitted from the vent pipe during the initial fuel transfer period. These emissions are significantly reduced when the vent pipe includes a pressure/vacuum valve.
- Gasoline vapors are emitted from the storage tank vent pipe due to temperature and pressure changes within the storage tank vapor space.

[22] Office of Environmental Health Hazards Assessment - Acute, 8-hour, and Chronic Reference Exposure Levels, June 2014, http://www.oehha.ca.gov/air/allrels.html

- During the refueling process, gasoline vapors are emitted at the vehicle/nozzle interface.
- Spillage emissions occur from the spills during vehicle fueling.

CAPCOA's *Gasoline Service Station Industry-wide Risk Assessment Guidelines* was used to estimate VOC/ROG emissions that would result from the proposed gasoline station.[23] The calculations are based on maximum hourly gasoline throughput and a typical annual gasoline throughput based on maximum vehicle volume and number of fuel pumps with underground storage tanks and vapor recovery systems, and 90 percent overall control efficiency.

According to the California Annual Retail Fuel Outlet Report Results, the average annual throughput of gasoline fuel was 1,358,299 gallons and the average annual throughput of diesel fuel was 365,814 gallons during 2023. According to the California Annual Retail Fuel Outlet Report Results, the maximum annual throughput of gasoline fuel was 1,668,383 gallons and the maximum annual throughput of diesel fuel was 388,767 gallons between 2010 and 2023.[24] It is anticipated that for the proposed project, the throughput for both gasoline and diesel would be lower than these values.

A brief description of the air toxics of concern is provided within the following:

Benzene

Benzene is a volatile, colorless, flammable liquid that has a sweet odor. It is a chemical intermediate in the synthesis of compounds such as plastics, resins, nylon, synthetic fibers, synthetic rubber, lubricants, dyes, detergents, drugs, and pesticides. Major sources of atmospheric releases include vehicle exhaust emissions, evaporative gasoline fumes, emissions from vehicle service stations, and industrial emissions. Other sources of atmospheric benzene include cigarette smoke and landfill emissions. Acute inhalation exposure to benzene can result in death, while high levels can cause drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness. Eating or drinking foods containing high levels of benzene can cause vomiting, irritation of the stomach, dizziness, sleepiness, convulsions, rapid heart rate, and death.[25]

1,3-butadiene

1,3-butadiene is a colorless gas. At room temperature, it has a gasoline-like odor. This pollutant is a byproduct of petroleum processing and is used in the production of synthetic rubber and plastics. It is also found in automobile exhaust, gasoline vapor, fossil fuel incineration products, and cigarette smoke. Most 1,3-butadiene is released into the air and humans are typically exposed to the pollutant via inhalation. Breathing very high levels of 1,3-butadiene, even for a short time, may cause central nervous system damage, blurred vision, nausea, fatigue, headache, decreased blood pressure and pulse rate, and

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[23] California Air Resources Board, *Gasoline Service Station Industrywide Risk Assessment Supplemental Policy Guidance Document*, July 21, 2022, https://ww2.arb.ca.gov/resources/documents/gasoline-service-station-industrywide-risk-assessment-guidance

[24] California Energy Commission, 2022. *California Retail Fuel Outlet Annual Reporting (CEC-A15) Results*, *https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting*

[25] Agency for Toxic Substance and Disease Registry ToxFAQ for Benzene, https://www.atsdr.cdc.gov/substances/indexAZ.asp

unconsciousness. Breathing lower levels of this pollutant may cause irritation of the eyes, nose, and throat.[26]

Ethyl Benzene

Ethylbenzene is a colorless, flammable liquid that smells like gasoline. It is found in natural products such as coal tar and petroleum and is also found in manufactured products such as inks, insecticides, and paints. Ethylbenzene is used primarily to make styrene, another chemical. Other uses include as a solvent, in fuels, and to make other chemicals. You can smell ethylbenzene in the air at two parts of ethylbenzene per million parts of air (2 ppm). It evaporates at room temperature and burns easily. The median levels of ethylbenzene in air are 0.62 ppb in city and suburban locations.[27]

Formaldehyde

At room temperature, formaldehyde is a colorless, flammable gas with a distinct, pungent smell. Formaldehyde is a product of incomplete combustion and is emitted into the air by burning wood, coal, kerosene, and natural gas, by automobiles, and by cigarettes; it is also a naturally occurring substance. Formaldehyde can be released to soil, water, and air by industrial sources and can off-gas from materials made with it. Humans can be exposed to formaldehyde through inhalation of contaminated air and smog. Low levels of formaldehyde can cause irritation of the eyes, nose, throat, and skin. Some epidemiological studies found an increased incidence of nose and throat cancer in exposed individuals, but other studies could not confirm this finding.[28]

Toluene

Toluene is a colorless, clear liquid that occurs naturally in crude oil. It is also produced in the manufacturing of gasoline and other fuels from crude oil. Airport-related sources of toluene include aircraft, ground service equipment, motor vehicles, heating plants, and gasoline fuel storage tanks. Low to moderate levels of toluene can affect the nervous system and cause tiredness, confusion, weakness, memory loss, nausea, loss of appetite, and hearing and color vision loss. Inhaling high levels of toluene in a short time can make a person feel light-headed, dizzy, or sleepy, and can cause unconsciousness and death.[29]

Xylenes

There are three forms of xylene in which the methyl groups vary on the benzene ring: meta-xylene, ortho-xylene, and para-xylene (m-, o-, and p-xylene). These different forms are referred to as isomers. Xylene is a colorless, sweet-smelling liquid that catches on fire easily. It occurs naturally in petroleum

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[26] Agency for Toxic Substance and Disease Registry ToxFAQ for 1,3-Butadiene, https://www.atsdr.cdc.gov/substances/indexAZ.asp

[27] Agency for Toxic Substance and Disease Registry ToxFAQ for Ethyl Benzene, https://www.atsdr.cdc.gov/substances/indexAZ.asp

[28] Agency for Toxic Substance and Disease Registry ToxFAQ for Formaldehyde, https://www.atsdr.cdc.gov/substances/indexAZ.asp

[29] Agency for Toxic Substance and Disease Registry ToxFAQ for Toluene, https://www.atsdr.cdc.gov/substances/indexAZ.asp

and coal tar. Chemical industries produce xylene from petroleum. It is one of the top 30 chemicals produced in the United States in terms of volume. Xylene is used as a solvent and in the printing, rubber, and leather industries. It is also used as a cleaning agent, a thinner for paint, and in paints and varnishes. It is found in small amounts in airplane fuel and gasoline.[30]

30 Agency for Toxic Substance and Disease Registry ToxFAQ for Xylene, https://www.atsdr.cdc.gov/substances/indexAZ.asp

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
350	days per year
25,550	days per lifetime
1,090	95th Percentile Daily Breathing Rates (L/kg-day) 0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day) 2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day) 2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day) 16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day) 30<70 Years
0.85	fraction of 0<2 Years
0.72	fraction of 2<16 Years
0.73	fraction of 16<70 Years

Project: Sacramento Northgate Blvd and Rosin Ct 7-Eleven
Date: 10/3/2025
Condition: Unmitigated Construction
Receptor: Existing Residence

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2027	0.02	1,090	10.0	0.85	2.39
2	2028		1,090	10.0	0.85	
3	2029		745	4.75	0.72	
4	2030		745	3.00	0.72	
5	2031		745	3.00	0.72	
6	2032		745	3.00	0.72	
7	2033		745	3.00	0.72	
8	2034		745	3.00	0.72	
9	2035		745	3.00	0.72	
10	2036		745	3.00	0.72	
11	2037		745	3.00	0.72	
12	2038		745	3.00	0.72	
13	2039		745	3.00	0.72	
14	2040		745	3.00	0.72	
15	2041		745	3.00	0.72	
16	2042		745	3.00	0.72	
17	2043		335	1.70	0.73	
18	2044		335	1.00	0.73	
19	2045		335	1.00	0.73	
20	2046		335	1.00	0.73	
21	2047		335	1.00	0.73	
22	2048		335	1.00	0.73	
23	2049		335	1.00	0.73	
24	2050		335	1.00	0.73	
25	2051		335	1.00	0.73	
26	2052		335	1.00	0.73	
27	2053		335	1.00	0.73	
28	2054		335	1.00	0.73	
29	2055		335	1.00	0.73	
30	2056		335	1.00	0.73	

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
2.39	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.11	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
250	days per year
230	80th Percentile Daily Breathing Rates (L/kg-day)
0.73	fraction of time at work

Project: Sacramento Northgate Blvd and Rosin Ct 7-Eleven
Date: 4/28/2026
Condition: Unmitigated Construction
Receptor: Offsite Worker

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time	Cancer Risk
1	2027	0.19	230	1.00	0.73	0.94
2	2028					
3	2029					
4	2030					
5	2031					
6	2032					
7	2033					
8	2034					
9	2035					
10	2036					
11	2037					
12	2038					
13	2039					
14	2040					
15	2041					
16	2042					
17	2043					
18	2044					
19	2045					
20	2046					
21	2047					
22	2048					
23	2049					
24	2050					
25	2051					

0.04	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.94	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

2022 CARB & CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool
Version 1.0 - February 18, 2022

Required Value	User Defined Input	Instructions
Annual Throughput (gallons/year)	1,358,299	Enter your gas station's annual throughput in gallons of gasoline dispensed per year.
Hourly Dispensing Throughput (gallons/hour)	700	The tool will calculate the maximum hourly vehicle fueling throughput based on annual throughput as defined by Table 10 of the 2020 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Document (Technical Guidance). If a different value is desired please enter it into cell L4.
Hourly Loading Throughput (gallons/hour)	8800	The tool will calculate the maximum hourly loading throughput based on annual throughput as defined by Table 10 of the Technical Guidance. If a different value is desired please enter it into cell L5.
Meteorological Data	Fresno	Select appropriate meteorological data. Met sets provided include 2 rural (Redding and Lancaster) and 4 urban (Fresno, Ontario, San Diego, and San Jose) locations. Use whichever best correlates to your location. If you would like to use site-specific meteorological data please refer to the Variable Met Tool.
Distance to Nearest Resident (meters)	250	Enter the distance to the nearest residential receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).
Distance to Nearest Business (meters)	50	Enter the distance to the nearest worker receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).
Distance to Acute Receptor (meters)	50	Enter the distance where acute impacts are expected in meters as measured from the edge of the station canopy. This can be the distance to the property boundary, nearest resident, nearest worker, or any other user defined location. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).
Control Scenario	EVR Phase I & EVR Phase II	Select the appropriate control scenario for your gas station. Please refer to technical Guidance for an explanation of the different control scenarios. Almost all gas stations in California are equipped with EVR Phase I and EVR Phase II controls.
Include Building Downwash Adjustments	yes	Building downwash may over estimate risk results. High results should be investigated further through site-specific health risk assessment.

Risk Value	Results
Max Residential Cancer Risk (chances/million)	0.15
Max Worker Cancer Risk (chances/million)	0.14
Chronic HI	0.01
Acute HI	0.27

Minor Project Health Effects Tool

Latitude	38.636796	**<-- Step 1: Input latitude (Please chose a value between 38.0 and 39.7)**
Longitude	-121.477273	**<-- Step 2: Input longitude (Please chose a value between -122.5 and -120.0)**

PM2.5 Health Endpoint	Age Range[1]	Incidences Across the Reduced Sacramento 4-km Modeling Domain Resulting from Project Emissions (per year)[2,5]	Incidences Across the 5-Air-District Region Resulting from Project Emissions (per year)[2]	Percent of Background Health Incidences Across the 5-Air-District Region[3]	Total Number of Health Incidences Across the 5-Air-District Region (per year)[4]
		(Mean)	(Mean)		
Respiratory					
Emergency Room Visits, Asthma	0 - 99	1.4	1.3	0.0069%	18419
Hospital Admissions, Asthma	0 - 64	0.090	0.085	0.0046%	1846
Hospital Admissions, All Respiratory	65 - 99	0.35	0.31	0.0016%	19644
Cardiovascular					
Hospital Admissions, All Cardiovascular (less Myocardial Infarctions)	65 - 99	0.19	0.17	0.00073%	24037
Acute Myocardial Infarction, Nonfatal	18 - 24	0.00012	0.00011	0.0030%	4
Acute Myocardial Infarction, Nonfatal	25 - 44	0.011	0.011	0.0035%	308
Acute Myocardial Infarction, Nonfatal	45 - 54	0.024	0.022	0.0030%	741
Acute Myocardial Infarction, Nonfatal	55 - 64	0.038	0.036	0.0029%	1239
Acute Myocardial Infarction, Nonfatal	65 - 99	0.12	0.11	0.0022%	5052
Mortality					
Mortality, All Cause	30 - 99	2.3	2.1	0.0047%	44766

Ozone Health Endpoint	Age Range[1]	Incidences Across the Reduced Sacramento 4-km Modeling Domain Resulting from Project Emissions (per year)[2,5]	Incidences Across the 5-Air-District Region Resulting from Project Emissions (per year)[2]	Percent of Background Health Incidences Across the 5-Air-District Region[3]	Total Number of Health Incidences Across the 5-Air-District Region (per year)[4]
		(Mean)	(Mean)		
Respiratory					
Hospital Admissions, All Respiratory	65 - 99	0.087	0.068	0.00034%	19644
Emergency Room Visits, Asthma	0 - 17	0.46	0.39	0.0066%	5859
Emergency Room Visits, Asthma	18 - 99	0.72	0.61	0.0049%	12560
Mortality					
Mortality, Non-Accidental	0 - 99	0.054	0.045	0.00015%	30386

1. Affected age ranges are shown. Other age ranges are available, but the endpoints and age ranges shown here are the ones used by the USEPA in their health assessments. The age ranges are consistent with the epidemiological study that is the basis of the health function.

2. Health effects are shown in terms of incidences of each health endpoint and how it compares to the base (2035 base year health effect incidences, or "background health incidence") values. Health effects are shown for the Reduced Sacramento 4-km Modeling Domain and the 5-Air-District Region.

3. The percent of background health incidence uses the mean incidence. The background health incidence is an estimate of the average number of people that are affected by the health endpoint in a given population over a given period of time. In this case, the background incidence rates cover the 5-Air-District Region (estimated 2035 population of 3,271,451 persons). Health incidence rates and other health data are typically collected by the government as well as the World Health Organization. The background incidence rates used here are obtained from BenMAP.

4. The total number of health incidences across the 5-Air-District Region is calculated based on the modeling data. The information is presented to assist in providing overall health context.

5. The technical specifications and map for the Reduced Sacramento 4-km Modeling Domain are included in Appendix A, Table A-1 and Appendix B, Figure B-2 of the *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District.*

Sac Metro Air District Minor Project Health Effects Tool, version 2, published June 2020

Control Pathway

AERMOD

Dispersion Options

Titles
C:\Users\MikeRatte\Documents\Projects\Moraga Camino Pablo\Revision 2

Dispersion Options
- [x] Regulatory Default
- [ ] Non-Default Options

Dispersion Coefficient
Rural

Output Type
- [x] Concentration
- [ ] Total Deposition (Dry & Wet)
- [ ] Dry Deposition
- [ ] Wet Deposition

Plume Depletion
- [ ] Dry Removal
- [ ] Wet Removal

Output Warnings
- [ ] No Output Warnings
- [ ] Non-fatal Warnings for Non-sequential Met Data

Pollutant / Averaging Time / Terrain Options

Pollutant Type
OTHER - DPM

Averaging Time Options

Hours: [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 6 [ ] 8 [ ] 12 [ ] 24

- [ ] Month
- [x] Period
- [ ] Annual

Exponential Decay
Option not available

Terrain Height Options
- [ ] Flat
- [x] Elevated

SO: Meters
RE: Meters
TG: Meters

Flagpole Receptors
- [x] Yes
- [ ] No

Default Height = 1.80 m

Control Pathway

Optional Files

- [ ] Re-Start File
- [ ] Init File
- [ ] Multi-Year Analyses
- [ ] Event Input File
- [x] Error Listing File

Detailed Error Listing File

Filename: AERMOD.err

Source Pathway - Source Inputs

AERMOD

Polygon Area Sources

Source Type: AREA POLY

Source: CONC (Construction)

Base Elevation (Optional)	Release Height [m]	Emission Rate [g/ (s-m^2)]	Initial Vertical Dim. [m]	Number of Vertices (or sides)	X Coordinate for Vertices [m]	Y Coordinate for Vertices [m]
5.00	3.05	0.00016	4.15	10	632482.42	4277581.58
		0.00016			632532.95	4277620.52
		0.00016			632547.41	4277594.98
		0.00016			632578.90	4277558.43
		0.00016			632577.25	4277546.09
		0.00016			632551.79	4277528.53
		0.00016			632525.74	4277502.25
		0.00016			632512.34	4277503.39
		0.00016			632500.70	4277528.09
		0.00016			632493.96	4277562.89

Receptor Pathway

AERMOD

Receptor Networks

Note: Terrain Elavations and Flagpole Heights for Network Grids are in Page RE2 - 1 (If applicable)
Generated Discrete Receptors for Multi-Tier (Risk) Grid and Receptor Locations for Fenceline Grid are in Page RE3 - 1 (If applicable)

Discrete Receptors

Discrete Cartesian Receptors

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	632317.04	4277316.35		5.00	
2	632314.91	4277291.82		5.00	
3	632355.43	4277336.61		5.00	
4	632372.49	4277335.54		5.00	
5	632389.55	4277333.41		5.00	
6	632408.75	4277332.34		5.00	
7	632423.68	4277335.54		5.00	
8	632441.80	4277332.34		5.00	
9	632461.00	4277335.54		5.00	
10	632479.13	4277335.54		5.00	
11	632497.26	4277338.74		5.00	
12	632513.25	4277331.28		5.00	
13	632531.38	4277337.68		5.00	
14	632550.57	4277337.68		5.00	
15	632568.70	4277334.48		5.00	
16	632585.77	4277340.88		5.00	
17	632601.76	4277339.81		5.00	
18	632619.89	4277343.01		5.00	
19	632639.08	4277337.68		5.00	
20	632659.35	4277340.88		5.00	
21	632656.15	4277287.56		5.00	
22	632633.75	4277289.69		5.00	
23	632616.69	4277293.96		5.00	
24	632581.50	4277285.42		5.00	
25	632558.04	4277284.36		5.00	
26	632505.79	4277287.56		5.00	
27	632484.46	4277291.82		5.00	
28	632447.14	4277285.42		5.00	
29	632431.14	4277287.56		5.00	
30	632393.82	4277286.49		5.00	

31	632369.29	4277293.96		5.00	
32	632367.16	4277270.50		5.00	
33	632315.97	4277272.63		5.00	
34	632315.97	4277254.50		5.00	
35	632367.16	4277236.37		5.00	
36	632367.16	4277216.11		5.00	
37	632500.50	4277607.83		5.00	
38	632597.82	4277467.54		5.00	

Plant Boundary Receptors

Meteorology Pathway

Met Input Data

Surface Met Data

Filename: ..\Met Data\14-18.SFC

Format Type: Default AERMET format

Profile Met Data

Filename: ..\Met Data\14-18.PFL

Format Type: Default AERMET format

Wind Speed

☐ Wind Speeds are Vector Mean (Not Scalar Means)

Wind Direction

Rotation Adjustment [deg]:

Potential Temperature Profile

Base Elevation above MSL (for Primary Met Tower): 7.00 [m]

Meteorological Station Data

Stations	Station No.	Year	X Coordinate [m]	Y Coordinate [m]	Station Name
Surface		2014			
Upper Air		2014			OAKLAND/WSO AP

Data Period

Data Period to Process

Start Date: 1/1/2014 Start Hour: 1 End Date: 12/25/2018 End Hour: 24

Wind Speed Categories

Stability Category	Wind Speed [m/s]	Stability Category	Wind Speed [m/s]
A	1.54	D	8.23
B	3.09	E	10.8
C	5.14	F	No Upper Bound

Results Summary

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DPM - Concentration - Source Group: CONC

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		60.81561	ug/m^3	632500.50	4277607.83	5.00	1.80	5.00	