455 HICKEY BOULEVARD AIR QUALITY & GREENHOUSE GAS ASSESSMENT

Daly City, California

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Introduction

The purpose of this report is to address air quality, health risk, and greenhouse gas (GHG) impacts associated with the proposed technology office or medical office project located at 455 Hickey Boulevard in Daly City, California. The air quality impacts and GHG emissions would be associated with the demolition of the existing uses at the site, construction of the new building and infrastructure, and operation of the project Air pollutant and GHG emissions associated with the construction and operation of the project were predicted using the appropriate models. In addition, the potential project construction health risk impacts and the impact of existing toxic air contaminant (TAC) sources affecting the nearby sensitive receptors were evaluated. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The 3.2-acre project site is comprised of three parcels. Currently, the site is developed with a five-story, 80,652 square foot (sf) office building and a three-level parking garage with a total of 293 parking spaces. The project proposes to demolish the existing building and parking structure to construct either an eight-story, 280,000-sf technology office building or a five-story, 180,000-sf medical office building. Both scenarios would include a 347,500-sf parking garage with a total of 900 parking spaces. Construction is proposed to begin in September 2023 and be completed by October 2025.

Setting

The project is located in San Mateo County, which is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

Air Pollutants of Concern

High ozone levels are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_x). These precursor pollutants react under certain meteorological conditions to form high ozone levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ozone levels. The highest ozone levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone levels aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels

[1] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.

aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

Toxic air contaminants (TAC) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs. The most recent Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines were published in February of 2015.[2] See *Attachment 1* for a detailed description of the health risk modeling methodology used in this assessment.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The closest sensitive receptors to the project site are in the single-family residences to the south of the project site as well as the multi-family residences to the northeast and northwest. There are more receptors at further distances, including children at the Junipero Serra Elementary School approximately 850 feet southwest of the project site. This project would not introduce new sensitive receptors (i.e., residents) to the area.

[2] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.

Regulatory Setting

Federal Regulations

The United States Environmental Protection Agency (EPA) sets nationwide emission standards for mobile sources, which include on-road (highway) motor vehicles such trucks, buses, and automobiles, and non-road (off-road) vehicles and equipment used in construction, agricultural, industrial, and mining activities (such as bulldozers and loaders). The EPA also sets nationwide fuel standards. California also has the ability to set motor vehicle emission standards and standards for fuel used in California, as long as they are the same or more stringent than the federal standards.

In the past decade the EPA has established a number of emission standards for on- and non-road heavy-duty diesel engines used in trucks and other equipment. This was done in part because diesel engines are a significant source of NO_X and particulate matter (PM_{10} and $PM_{2.5}$) and because the EPA has identified DPM as a probable carcinogen. Implementation of the heavy-duty diesel on-road vehicle standards and the non-road diesel engine standards are estimated to reduce particulate matter and NO_X emissions from diesel engines up to 95 percent in 2030 when the heavy-duty vehicle fleet is completely replaced with newer heavy-duty vehicles that comply with these emission standards.[3]

In concert with the diesel engine emission standards, the EPA has also substantially reduced the amount of sulfur allowed in diesel fuels. The sulfur contained in diesel fuel is a significant contributor to the formation of particulate matter in diesel-fueled engine exhaust. The new standards reduced the amount of sulfur allowed by 97 percent for highway diesel fuel (from 500 parts per million by weight [ppmw] to 15 ppmw), and by 99 percent for off-highway diesel fuel (from about 3,000 ppmw to 15 ppmw). The low sulfur highway fuel (15 ppmw sulfur), also called ultra-low sulfur diesel (ULSD), is currently required for use by all vehicles in the U.S.

All of the above federal diesel engine and diesel fuel requirements have been adopted by California, in some cases with modifications making the requirements more stringent or the implementation dates sooner.

State Regulations

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.[4] In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.

[3] USEPA, 2000. *Regulatory Announcement, Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*. EPA420-F-00-057. December.
[4] California Air Resources Board, 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. October.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. CARB regulations require on-road diesel trucks to be retrofitted with particulate matter controls or replaced to meet 2010 or later engine standards that have much lower DPM and $PM_{2.5}$ emissions. This regulation will substantially reduce these emissions between 2013 and 2023. While new trucks and buses will meet strict federal standards, this measure is intended to accelerate the rate at which the fleet either turns over so there are more cleaner vehicles on the road or is retrofitted to meet similar standards. With this regulation, older, more polluting trucks would be removed from the roads sooner.

CARB has also adopted and implemented regulations to reduce DPM and NO_X emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers, backhoes, off-highway trucks, etc.). The regulations apply to diesel-powered off-road vehicles with engines 25 horsepower (hp) or greater. The regulations are intended to reduce particulate matter and NO_X exhaust emissions by requiring owners to turn over their fleet (replace older equipment with newer equipment) or retrofit existing equipment in order to achieve specified fleet-averaged emission rates. Implementation of this regulation, in conjunction with stringent federal off-road equipment engine emission limits for new vehicles, will significantly reduce emissions of DPM and NO_X.

Bay Area Air Quality Management District (BAAQMD)

BAAQMD has jurisdiction over an approximately 5,600-square mile area, commonly referred to as the San Francisco Bay Area (Bay Area). The District's boundary encompasses the nine San Francisco Bay Area counties, including Alameda County, Contra Costa County, Marin County, San Francisco County, San Mateo County, Santa Clara County, Napa County, southwestern Solano County, and southern Sonoma County.

BAAQMD is the lead agency in developing plans to address attainment and maintenance of the National Ambient Air Quality Standards and California Ambient Air Quality Standards. The District also has permit authority over most types of stationary equipment utilized for the proposed project. The BAAQMD is responsible for permitting and inspection of stationary sources; enforcement of regulations, including setting fees, levying fines, and enforcement actions; and ensuring that public nuisances are minimized.

BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area.[5] The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement

[5] See BAAQMD: https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program , accessed 2/18/2021.

programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. Overburdened communities are areas located (i) within a census tract identified by the California Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0 implemented by OEHHA, as having an overall CalEnviroScreen score at or above the 70th percentile, or (ii) within 1,000 feet of any such census tract.[6] The BAAQMD has identified six communities as impacted: Concord, Richmond/San Pablo, Western Alameda County, San José, Redwood City/East Palo Alto, and Eastern San Francisco. The project site is not located within a CARE area or within a BAAQMD overburdened area as the Project site is scored at the 39th percentile.[7]

The BAAQMD California Environmental Quality Act (*CEQA) Air Quality Guidelines*[8] were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and greenhouse gas emissions. *Attachment 1* includes detailed health risk modeling methodology.

BAAQMD Rules and Regulations

Combustion equipment associated with the proposed project that includes new diesel engines to power generators would establish new sources of particulate matter and gaseous emissions. Emissions would primarily result from the testing of the emergency backup generators. Certain emission sources would be subject to BAAQMD Regulations and Rules. The District's rules and regulations that may apply to the project include:

- Regulation 2 – Permits
  - Rule 2-1: General Requirements
  - Rule 2-2: New Source Review
  - Rule 2-5: New Source Review of Toxic Air Contaminants
- Regulation 6 – Particulate Matter and Visible Emissions
  - Rule 6-3: Wood-Burning Devices
- Regulation 9 – Inorganic Gaseous Pollutants
  - Rule 9-1: Sulfur Dioxide
  - Rule 9-7: Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, And Process Heaters
  - Rule 9-8: Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines

[6] See BAAQMD: https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-2-permits/2021-amendments/documents/20210722_01_appendixd_mapsofoverburdenedcommunities-pdf.pdf?la=en , accessed 10/1/2021.
[7] OEHAA, CalEnviroScreen 4.0 Indicator Maps https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40
[8] Bay Area Air Quality Management District, 2017. *CEQA Air Quality Guidelines*. May.

Permits

Rule 2-1-301 requires that any person installing, modifying, or replacing any equipment, the use of which may reduce or control the emission of air contaminants, shall first obtain an Authority to Construct (ATC).

Rule 2-1-302 requires that written authorization from the BAAQMD in the form of a Permit to Operate (PTO) be secured before any such equipment is used or operated.

Rule 2-1 lists sources that are exempt from permitting.

New Source Review

Rule 2-2, New Source Review (NSR), applies to all new and modified sources or facilities that are subject to the requirements of Rule 2-1-301. The purpose of the rule is to provide for review of such sources and to provide mechanisms by which no net increase in emissions will result.

Rule 2-2-301 requires that an applicant for an ATC or PTO apply Best Available Control Technology (BACT) to any new or modified source that results in an increase in emissions and has emissions of precursor organic compounds, non-precursor organic compounds, NOx, SO_2, PM_{10}, or CO of 10.0 pounds or more per highest day. Based on the estimated emissions from the proposed project, BACT will be required for NOx emissions from the diesel-fueled generator engines.

Rule 2-5 applies to new and modified sources of TAC emissions. BAAQMD evaluates the TAC emissions in order to evaluate potential public exposure and health risk, to mitigate potentially significant health risks resulting from these exposures, and to provide net health risk benefits by improving the level of control when existing sources are modified or replaced. Toxics BACT (or TBACT) is applied to any new or modified source of TACs where the source risk is a cancer risk greater than 1.0 in one million and/or a chronic hazard index greater than 0.20. Permits are not issued for any new or modified source that has risks or net project risks that exceed a cancer risk of 10.0 in one million or a chronic or acute hazard index of 1.0.

Stationary Diesel Airborne Toxic Control Measure

The BAAQMD administers the CARB's Airborne Toxic Control Measure (ACTM) for Stationary Diesel engines (section 93115, title 17 CA Code of Regulations). The project's stationary sources will be new stationary emergency stationary emergency standby diesel engines larger than 50 hp. These limits vary based on maximum engine power. All engines are limited to PM emission rates of 0.15 g/hp-hour, regardless of size. This ACTM limits engine operation 50 hours per year for routine testing and maintenance.

Offsets

Rule 2-2-302 require that offsets be provided for a new or modified source that emits more than 10 tons per year of NOx or precursor organic compounds.

Prohibitory Rules

Regulation 6 pertains to particulate matter and visible emissions. Although the engines will be fueled with diesel, they will be modern, low emission engines. Thus, the engines are expected to comply with Regulation 6.

Rule 6-3 applies to emissions from wood-burning devices. Effective November 1, 2016, no person or builder shall install a wood-burning device in a new building construction.

Rule 9-1 applies to sulfur dioxide. The engines will use ultra-low sulfur diesel fuel (less than 15 ppm sulfur) and will not be a significant source of sulfur dioxide emissions and are expected to comply with the requirements of Rule 9-1.

Rule 9-7 limits the emissions of NOx CO from industrial, institutional and commercial boilers, steam generators and process heaters. This regulation typically applies to boilers with a heat rating of 2 million British Thermal Units (BTU) per hour

Rule 9-8 prescribes NOx and CO emission limits for stationary internal combustion engines. Since the proposed engines will be used with emergency standby generators, Regulation 9-8-110 exempts the engines from the requirements of this Rule, except for the recordkeeping requirements (9-8-530) and limitations on hours of operation for reliability-related operation (maintenance and testing). The engines will not operate more than 50 hours per year, which will satisfy the requirements of 9-8-111.

BACT for Diesel Generator Engines

Since the generators will be used exclusively for emergency use during involuntary loss of power, the BACT levels listed for IC compression engines in the BAAQMD BACT Guidelines would apply. These are provided for two separate size ranges of diesel engines:

> I.C. Engine – Compression Ignition >50hp and <1.000hp: BAAQMD applies BACT 2 emission limits based on the ATCM for stationary emergency standby diesel engines larger than 50 brake-horsepower (BHP). NOx emission factor limit is subject to the CARB ACTM that ranges from 3.0 to 3.5 grams per horsepower hour (g/hp-hr). The PM (PM10 or PM2.5) limit is 0.15 g/hp-hr per CARB's ACTM.
>
> I.C. Engine – Compression Ignition <999hp: BAAQMD applies specific BACT emission limits for stationary emergency standby diesel engines equal or larger than 1,000 brake-horsepower (BHP). NOx emission factor limit is subject to the CARB ACTM that ranges from 0.5 g/hp-hr. The PM (PM10 or PM2.5) limit is 0.02 g/hp-hr. POC (i.e., ROG) limits are 0.14 g/hp-hr.

Daly City 2030 General Plan

The following air resources policies and implementing tasks contained in the Resource Management Element of the Daly City 2030 General Plan[9] are applicable to the proposed project:

Policy RME-5: Assess projected air emissions from new development and associated construction and demolition activities in conformance with the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines, and relative to state and federal standards.

- Task RME-5.1: Amend the Planning Division's development review procedures to include a formal step that would help identify how a development project can incorporate design or functional changes that will minimize air quality impacts.

- Task RME-5.2: Incorporate air quality significance thresholds into the Local Thresholds of Significance document identified in Program RME-1.

- Task RME-5.3: Consider cumulative air quality impacts consistent with the region's Clean Air Plan and State law.

- Task RME-5.4: Require the preparation of a Transportation Systems Management plan for new development that has been determined to contribute to a reduction in location air quality. Daly City 2030 General Plan | Resource Management Element 193

- Task RME-5.5: Consult with BAAQMD to identify stationary and mobile TAC sources and determine the need for and requirements of a health risk assessment for proposed developments. type, size and operations of the facility.

Policy RME-6: Assess projected air emissions from new development and associated construction and demolition activities in conformance with the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines, and relative to state and federal standards.

- Task RME-6.1: For new, expanded, or modified development proposals (including tenant improvements) that are potential sources of objectionable smoke and odor, require an analysis of possible smoke and odor impacts and the provision of smoke and odor minimization and control measures as mitigation. The requirements for such shall be codified within the Daly City Municipal Code.

- Task RME-6.2: Require new residential development projects and projects categorized as sensitive receptors to be located an adequate distance from facilities that are existing and potential sources of odor. An adequate separate distance will be determined based upon the type, size and operations of the facility.

[9] Daly City, 2013. *Daly City 2030 General Plan*. Adopted March 25, 2013.

Significance Thresholds

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA and these significance thresholds were contained in the District's 2011 CEQA Air Quality Guidelines. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The thresholds were challenged through a series of court challenges and were mostly upheld. BAAQMD updated its thresholds in the CEQA Air Quality Guidelines in 2017 and again in 2022 (GHG thresholds only). The latest BAAQMD significance thresholds, which were used in this analysis and are summarized in Table 1. Impacts above the threshold are considered potentially significant.

Table 1. BAAQMD CEQA Air Quality Significance Thresholds

Criteria Air Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 1000-foot zone of influence)**	
Excess Cancer Risk	10 per one million	100 per one million	
Hazard Index	1.0	10.0	
Incremental annual $PM_{2.5}$	0.3 $\mu g/m^3$	0.8 $\mu g/m^3$	
Greenhouse Gas Emissions			
Land Use Projects – (Must Include A or B)	A. Projects must include, at a minimum, the following project design elements: 1. Buildings a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development). b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines. 2. Transportation a. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA: i. Residential projects: 15 percent below the existing VMT per capita ii. Office projects: 15 percent below the existing VMT per employee iii. Retail projects: no net increase in existing VMT b. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2. B. Be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).		
Stationary Sources	10,000 MT/year		

Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. GHG = greenhouse gases.

AIR QUALITY IMPACTS AND MITIGATION MEASURES

Impact AIR-1: Conflict with or obstruct implementation of the applicable air quality plan?

BAAQMD is the regional agency responsible for overseeing compliance with State and federal laws, regulations, and programs within the San Francisco Bay Area Air Basin (SFBAAB). BAAQMD, with assistance from the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC), prepares and implements specific plans to meet the applicable laws, regulations, and programs. The most recent and comprehensive of which is the *Bay Area 2017 Clean Air Plan.*[10] The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate. The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality and GHG impacts. In formulating compliance strategies, BAAQMD relies on the planned land uses identified in local general plans. Land use planning affects vehicle travel, which, in turn, affects region-wide emissions of air pollutants and GHGs.

The 2017 Clean Air Plan, adopted by BAAQMD in April 2017, includes control measures that are intended to reduce air pollutant emissions in the Bay Area either directly or indirectly. General plans must show consistency with the control measures listed within the Clean Air Plan. However, at the project-level, there are no consistency measures or thresholds. The proposed project would not conflict with the latest Clean Air planning efforts since 1) the project would have construction and operational emissions below the BAAQMD thresholds (see Impact 2 below) and 2) the project would be considered urban infill, 3) the project would be located near employment centers, and 4) the project would be located near transit with regional connections.

Impact AIR-2: 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?

The Bay Area is considered a non-attainment area for ground-level O_3 and $PM_{2.5}$ under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM_{10} under the California Clean Air Act, but not the federal act. The area has attained both State and Federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for O_3, $PM_{2.5}$ and PM_{10}, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for O_3 precursor pollutants (ROG and NOx), PM_{10}, and $PM_{2.5}$ and apply to both construction period and operational period impacts.

Construction Period Emissions

The California Emissions Estimator Model (CalEEMod) Online Version 2022.1.1 was used to estimate emissions from on-site construction activity, construction vehicle trips, and evaporative emissions. The project land use types and size, and anticipated construction schedule were input

[10] Bay Area Air Quality Management District (BAAQMD), 2017. *Final 2017 Clean Air Plan.*

to CalEEMod. The CalEEMod model output along with construction inputs are included in *Attachment 2*.

CalEEMod Inputs

Land Uses

The final project design was not known at the time of this analysis. Therefore, CalEEMod modeling was conducted for both the tech office and medical office scenarios. The proposed project land uses for each scenario were entered into CalEEMod as described in Table 2.

Table 2. Summary of Project Land Use Inputs

Project Land Uses	Size	Units	Square Feet (sf)	Acreage
Tech Office Scenario				
General Office Building	280	1,000-sf	280,000	3.2
Enclosed Parking with Elevator	900	Parking Spaces	347,500	
Medical Office Scenario				
Medical Office Building	180	1,000-sf	180,000	3.2
Enclosed Parking with Elevator	900	Parking Spaces	347,500	

Construction Inputs

CalEEMod computes annual emissions for construction that are based on the project type, size, and acreage. The model provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. The construction build-out scenario, including equipment list and schedule, were based on information provided by the project applicant for both scenarios.

The project construction equipment worksheets provided by the applicant included the schedule for each phase of construction (included in *Attachment 2*). Within each construction phase, the quantity of equipment to be used along with the average use hours per day and total number of workdays was provided by the applicant. Since different equipment would have different estimates of the working days per phase, the hours per day for each phase was computed by dividing the total number of hours that the equipment would be used by the total number of days in that phase. The construction schedule assumed that the earliest possible start date would be September 2023 and would be completed over a period of approximately 25 months or 552 construction workdays. The earliest year of operation was assumed to be 2026.

Construction Truck Traffic Emissions

Construction would produce traffic in the form of worker trips and truck traffic. The traffic-related emissions are based on worker and vendor trip estimates produced by CalEEMod and haul trips that were computed based on estimate of demolition material to be exported, soil material imported and/or exported to the site, and the estimate of concrete and asphalt used for construction.

CalEEMod provides daily estimates of worker and vendor trips for each applicable phase. The total trips for those were computed by multiplying the daily trip rate by the number of days in that phase. Daily haul trips for demolition and grading were developed by CalEEMod using the estimated or provided demolition and grading volumes, assuming each truck could carry 10 tons per load. The number of concrete and asphalt total round haul trips were provided for the project and converted to daily one-way trips, assuming two trips per delivery. These values are shown in the project construction equipment worksheets included in *Attachment 2*.

Summary of Computed Construction Period Emissions

Average daily emissions were annualized for each year of construction by dividing the annual construction emissions by the number of active workdays during that year. Table 3 and Table 4 show average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the tech office and medical office scenarios. As indicated in Table 3 and Table 4, predicted construction period emissions would not exceed the BAAQMD significance thresholds for either scenario.

Table 3. Tech Office Scenario Construction Period Emissions

Year	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Construction Emissions Total (Tons)				
2023	0.03	0.70	0.01	0.01
2024	0.21	3.40	0.05	0.05
2025	1.64	2.76	0.04	0.04
Average Daily Construction Emissions (pounds/day)				
2023 (85 construction workdays)	0.71	16.47	0.24	0.24
2024 (262 construction workdays)	1.60	25.95	0.38	0.38
2025 (205 construction workdays)	16.00	26.93	0.39	0.39
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	No	No	No	No

Table 4. Medical Office Scenario Construction Period Emissions

Year	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Construction Emissions Total (Tons)				
2023	0.03	0.70	0.01	0.01
2024	0.19	3.25	0.05	0.05
2025	1.11	2.65	0.04	0.04
Average Daily Construction Emissions (pounds/day)				
2023 (85 construction workdays)	0.71	16.47	0.24	0.24
2024 (262 construction workdays)	1.45	24.81	0.38	0.38
2025 (205 construction workdays)	10.83	25.85	0.39	0.39
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	No	No	No	No

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an

additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less-than-significant if best management practices are implemented to reduce these emissions. *Mitigation Measure AQ-1 would implement BAAQMD-recommended best management practices.*

Mitigation Measure AQ-1: **Include measures to control dust and exhaust during construction.**

During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less-than-significant level. Additional measures are identified to reduce construction equipment exhaust emissions. The contractor shall implement the following best management practices that are required of all projects:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Effectiveness of Mitigation Measure AQ-1

Mitigation Measure AQ-1 represents standard mitigation measures that would reduce on-site fugitive $PM_{2.5}$ emissions. The measures above are consistent with BAAQMD-recommended "best management practices" for reducing fugitive particulate matter that are contained in the BAAQMD CEQA Air Quality Guidelines.

Operational Period Emissions

Operational air emissions from the project would be generated primarily from autos driven by future employees and the diesel-powered emergency generators. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are typical emissions from these types of uses. CalEEMod was used to estimate emissions from operation of the proposed project assuming full build-out.

CalEEMod Inputs

Land Uses

The project land uses for both scenarios were input to CalEEMod as described above for the construction period modeling.

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The earliest year of full operation would be 2026 if construction begins in 2023. Emissions associated with build-out later than 2026 would be lower.

Trip Generation

CalEEMod allows the user to enter specific vehicle trip generation rates. Therefore, the project-specific daily trip generation rate provided by the traffic consultant was entered into the model.[11] When fully operational, the tech office scenario would produce approximately 2,727 daily trips and the medical office scenario would produce approximately 6,264 daily trips. When considering the 793 existing trips generated by the existing office building, the project would result in 1,934 or 5,471 new daily trips, respectively. The daily trip generation was calculated using the size of the project land uses and the total vehicle trips. The Saturday and Sunday trip rates were derived by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips to the default weekday rate with the project-specific daily weekday trip rate. The default trip lengths and trip types specified by CalEEMod were used.

[11] TJKM, *455 Hickey Boulevard Traffic Impact Study,* January 31,2023.

Energy

CalEEMod defaults for energy use were used, which include the 2019 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. CalEEMod has a default emission factor of 0 pounds of CO_2 per megawatt of electricity produced, which is based on Peninsula Clean Energy's 2019 emissions rate. Project data provided by the applicant indicated that the project utilities would be all electric, therefore natural gas use was converted to electricity use.

Project Generators

The project proposes to include one or two stand-by backup generators powered by diesel engines in the event of a power disruption. For the medical office scenario, the standby generator would provide up to 600-kilowatt (kW) and be powered by a 900-horsepower (hp) engine. For the tech office scenario, in addition to a 600-kw generator there would also be a 1,000-kW generator powered by a 1,500-hp engine. The generator(s) for both scenarios would be located on ground level in the building service yard. The generators would be tested periodically and power the buildings in the event of a power failure. For modeling purposes, it was assumed that the generators would be operated primarily for testing and maintenance purposes. CARB and BAAQMD requirements limit these engine operations to 50 hours each per year of non-emergency operation. During testing periods, the engine would typically be run for less than one hour monthly, therefore, the routine testing time would likely be much less than 50 hours per year. The engine would be required to meet CARB and EPA emission standards and consume commercially available California low-sulfur diesel fuel. Additionally, the generator would have to meet BAAQMD BACT requirements for IC Engine-Compression Ignition: Stationary Emergency, non-Agricultural, non-direct drive fire pump sources. These include emission limits similar to U.S. EPA Tier 4 standards for the engines larger than 1,000-hp. The generator emissions were modeled using CalEEMod.

Other Inputs

Default model assumptions for emissions associated with solid waste generation use were applied to the project. Water/wastewater use were changed to 100% aerobic conditions to represent wastewater treatment plant conditions since the project site would not send wastewater to septic tanks or facultative lagoons.

Existing Uses

The existing site is currently developed with a five-story office building totaling 80,652-sf and a 3-level parking garage with a total of 293 parking spaces. The trip generation information for the existing land use was provided, which estimates 793 daily trips. A CalEEMod run was developed to compute emissions from operation of the existing land uses in 2023.

Summary of Computed Operational Period Emissions

Annual emissions were predicted using CalEEMod. The daily emissions were calculated assuming 365 days of operation. Tables 5 and 6 show average daily emissions of ROG, NO_X, total PM_{10}, and total $PM_{2.5}$ during operation of the project for both scenarios. The operational period emissions would not exceed the BAAQMD significance thresholds for either scenario.

Table 5. Tech Office Scenario Operational Period Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2026 Project Operational Emissions (*tons/year*)	2.70	1.05	0.87	0.17
2023 Existing Use Emissions (*tons/year*)	0.82	0.38	0.26	0.06
Net Annual Emissions (*tons/year*)	1.88	0.67	0.61	0.11
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Thresholds?	No	No	No	No
2026 Net Daily Project Operational Emissions (*pounds/day*)[1]	10.30	3.67	3.34	0.60
BAAQMD Thresholds (pounds/day)	*54 lbs.*	*54 lbs.*	*82 lbs.*	*54 lbs.*
Exceed Threshold?	No	No	No	No

Notes: [1] Assumes 365-day operation.

Table 6. Medical Office Scenario Operational Period Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2026 Project Operational Emissions (*tons/year*)	3.38	1.88	1.98	0.38
2023 Existing Use Emissions (*tons/year*)	0.82	0.38	0.26	0.06
Net Annual Emissions (*tons/year*)	2.56	1.50	1.72	0.32
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Thresholds?	No	No	No	No
2026 Net Daily Project Operational Emissions (*pounds/day*)[1]	14.03	8.22	9.42	1.75
BAAQMD Thresholds (pounds/day)	*54 lbs.*	*54 lbs.*	*82 lbs.*	*54 lbs.*
Exceed Threshold?	No	No	No	No

Notes: [1] Assumes 365-day operation.

Impact AIR-3: Expose sensitive receptors to substantial pollutant concentrations?

Project impacts related to increased health risk can occur either by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity or by significantly exacerbating existing cumulative TAC impacts. This project would introduce a new temporary source of TACs during construction (i.e., on-site construction and truck hauling emissions) and operation (i.e., mobile and generator stationery).

Project construction activity would generate dust and equipment exhaust that would affect nearby sensitive receptors. The project would include the installation of emergency generators powered by diesel engines and would generate some traffic consisting of mostly light-duty gasoline-powered vehicles, which would produce TAC and air pollutant emissions.

Project impacts to existing sensitive receptors were addressed for temporary construction activities and long-term operational conditions. There are also several sources of existing TACs and localized air pollutants in the vicinity of the project. The impact of the existing sources of TAC was also assessed in terms of describing the cumulative risk which includes the project contribution.

Health Risk Methodology

The tech office scenario was modeled and analyzed for this health risk assessment since the construction and emergency generators emissions for this scenario are greatest.

Health risk impacts are addressed by predicting increased lifetime cancer risk, the maximum increase in annual $PM_{2.5}$ concentrations, and computing the Hazard Index (HI) for non-cancer health risks. The risk impacts from the project are the combination of risks from construction and operation sources. These sources include on-site construction activity, construction truck hauling, increased traffic from the project, and generator operation. To evaluate the increased cancer risks from the project, a 30-year exposure period was used, per BAAQMD guidance,[12] with the sensitive receptors being exposed to both project construction and operation emissions during this timeframe.

The project increased cancer risk is computed by summing the project construction cancer risk and operation cancer risk contributions. Unlike, the increased maximum cancer risk, the annual $PM_{2.5}$ concentration and HI values are not additive but based on the annual maximum values for the entirety of the project. The project maximally exposed individual (MEI) is identified as the sensitive receptor that is most impacted by the project's construction and operation.

The methodology for computing health risks impacts is contained in *Attachment 1*. This involved the calculation of TAC and $PM_{2.5}$ emissions, dispersion modeling of these emissions, and computations of cancer risk and non-cancer health effects.

Modeled Sensitive Receptors

Receptors for this assessment included locations where sensitive populations would be present for extended periods of time (i.e., chronic exposures). This includes the Junipero Serra Elementary School and the existing residences to the south, southwest, northeast, and northwest of the site as shown in Figure 1. Residential receptors are assumed to include all receptor groups (i.e., third trimester, infants, children, and adults) with almost continuous exposure to project emissions. Health risks were also computed for child receptors at the Junipero Serra Elementary School.

Health Risk from Project Construction

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust emissions pose health risks for sensitive receptors such as

[12] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines.* December 2016.

surrounding residents and school children. The primary health risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$.[13] This assessment included dispersion modeling to predict the offsite concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

Construction Emissions

The CalEEMod model provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages as 0.08 tons (160 pounds). The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. A trip length of half a mile was used to represent vehicle travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod as 0.07 tons (140 pounds) for the overall construction period.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM and $PM_{2.5}$ concentrations at sensitive receptors in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[14] Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive $PM_{2.5}$ dust emissions.

Construction Sources

To represent the construction equipment exhaust emissions, an area source representative of the construction area with emission release height of 20 feet (6 meters) was used for the area sources.[15] The release height incorporates both the physical release height from the construction equipment (i.e., the height of the exhaust pipe) and plume rise after it leaves the exhaust pipe. Plume rise is due to both the high temperature of the exhaust and the high velocity of the exhaust gas. It should be noted that when modeling an area source, plume rise is not calculated by the AERMOD dispersion model as it would be for a point source (exhaust stack). Therefore, the release height from an area source used to represent emissions from sources with plume rise, such as construction equipment, should be based on the height the exhaust plume is expected to achieve, not just the height of the top of the exhaust pipe. Emissions from vehicle travel on- and off-site were distributed among the exhaust emission area sources throughout the site.

[13] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.
[14] Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May.
[15] California Air Resource Board, 2007. *Proposed Regulation for In-Use Off-Road Diesel Vehicles, Appendix D: Health Risk Methodology.* April. Web: https://ww3.arb.ca.gov/regact/2007/ordiesl07/ordiesl07.htm

For modeling fugitive $PM_{2.5}$ emissions, a similar area source but with a near-ground level release height of 7 feet (2 meters) was modeled. Fugitive dust emissions at construction sites come from a variety of sources, including truck and equipment travel, grading activities, truck loading (with loaders) and unloading (rear or bottom dumping), loaders and excavators moving and transferring soil and other materials, etc. All of these activities result in fugitive dust emissions at various heights at the point(s) of generation. Once generated, the dust plume will tend to rise as it moves downwind across the site and exit the site at a higher elevation than when it was generated. For all these reasons, a 7-foot release height was used as the average release height across the construction site. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources.

AERMOD Inputs and Meteorological Data

AERMOD modeling used a five-year data set (2013-2017) of hourly meteorological data from the San Francisco Airport prepared for use with the AERMOD model by BAAQMD. Construction emissions were modeled as occurring daily between 8:00 a.m. to 5:00 p.m., when the majority of construction activity is expected to occur. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2023-2025 period were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptors. Receptor heights of 5 feet (1.5 meters) and 15 feet (4.5 meters) were used to represent the breathing height on the first and second floor of nearby residences.[16] A receptor height of 3 feet (1 meter) was used to represent breathing height of children at the Junipero Serra Elementary School.

Summary of Construction Health Risk Impacts

The maximum increased cancer risks were calculated using the modeled TAC concentrations combined with the Office of Environmental Health Hazard Assessment (OEHHA) guidance for age sensitivity factors and exposure parameters as recommended by BAAQMD (see *Attachment 1)*. Non-cancer health hazards and maximum $PM_{2.5}$ concentrations were also calculated and identified. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. Infant, child, and adult exposures were assumed to occur at all residences during the entire construction period, while child exposures were assumed to occur at the school.

The maximum modeled annual $PM_{2.5}$ concentration was calculated based on combined exhaust and fugitive concentrations. The maximum computed HI value was based on the ratio of the maximum DPM concentration modeled and the chronic inhalation refence exposure level of 5 $\mu g/m^3$.

The maximum modeled annual DPM and $PM_{2.5}$ concentrations were identified at nearby sensitive receptors (as shown in Figure 1) to find the maximally exposed individuals (MEI). Results of this assessment indicated that the construction MEI was located on the first floor (5 feet above ground) of a single-family residence to the southwest of the project. The unmitigated cancer risk exceeds the BAAQMD single-source significance threshold. Table 7 summarizes the maximum cancer risks, $PM_{2.5}$ concentrations, and health hazard indexes for project related construction activities

[16] Bay Area Air Quality Management District, 2012, Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0. May. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en

affecting the construction MEI. *Attachment 3* to this report includes the emission calculations used for the construction area source modeling and the cancer risk calculations.

Additionally, modeling was conducted to predict the maximum cancer risks, non-cancer health hazards, and annual $PM_{2.5}$ concentrations associated with construction activities at the nearby school. The maximum increased cancer risks were adjusted using child exposure parameters. The unmitigated cancer risk, $PM_{2.5}$ concentration, and HI at the nearby school does not exceed their respective BAAQMD single-source significance thresholds. Project construction health risks at the most impacted Junipero Serra Elementary School receptor are shown in Table 7.

Health Risks from Project Operation

Operation of the project would have long-term emissions from mobile sources (i.e., traffic) and stationary sources (i.e., generator). While these emissions would not be as intensive at or near the site as construction activity, they would contribute to long-term effects to sensitive receptors.

Project Traffic

Diesel powered vehicles are the primary concern with local traffic-generated TAC impacts. Per BAAQMD recommended risks and methodology, a road with less than 10,000 total vehicle per day is considered a low-impact source of TACs.[17] This project would generate 1,934 or 5,471 new net daily trips[18] dispersed on the roadway system with a majority of the trips being from light-duty vehicles (i.e., passenger automobiles), which is a fraction of 10,000 daily vehicles. In addition, projects with the potential to cause or contribute to increased cancer risk from traffic include those that have attract high numbers of diesel-powered on road trucks or use off-road diesel equipment on site, such as a warehouse distribution center, a quarry, or a manufacturing facility, may potentially expose existing or future planned receptors to substantial cancer risk levels and/or health hazards. This is not a project of concern for non-BAAQMD permitted mobile sources. Therefore, emissions from project traffic are considered negligible and not included within this analysis.

Project Generators

Under the tech office scenario, the project proposes to include two stand-by emergency diesel generators located on ground level in the building service yard in the event of a power failure. The building generator is expected to be 600-kW powered by a 900-hp diesel engine and the other tenant generator would be a 1,000-kW powered by a 1,500-hp diesel engine. The location of the modeled generators are shown in Figure 1.

Operation of the diesel generators would be a source of TAC emissions. The generators would be operated for testing and maintenance purposes, with a maximum of 50 hours per year of non-emergency operation under normal conditions. During testing periods, the engine would typically

[17] BAAQMD, 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en

[18] TJKM, *455 Hickey Boulevard Traffic Impact Study,* January 31,2023.

be run for less than one hour under light engine loads. The generator engines would be required to meet EPA emission standards and consume commercially available low sulfur diesel fuel. Additionally, the generator engines would have to meet BAAQMD BACT requirements for IC Engine-Compression Ignition: Stationary Emergency, non-Agricultural, non-direct drive fire pump sources. Based on the size of the larger proposed generator, these include emission limits similar to U.S. EPA Tier 4 engines. The emissions from the operation of the generators were calculated using the CalEEMod model.

These diesel engines would be subject to CARB's Stationary Diesel Airborne Toxics Control Measure (ATCM) and require permits from the BAAQMD, since it will be equipped with an engine larger than 50-HP. BACT requirements would apply to these generators that would limit DPM emissions. As part of the BAAQMD permit requirements for toxics screening analysis, the engine emissions will have to meet Best Available Control Technology for Toxics (BACT) and pass the toxic risk screening level of less than ten in a million. The risk assessment would be prepared by BAAQMD. Depending on results, BAAQMD would set limits for DPM emissions (e.g., more restricted engine operation periods). Sources of air pollutant emissions complying with all applicable BAAQMD regulations generally will not be considered to have a significant air quality health risk impact.

Dispersion Modeling

To estimate potential increased cancer risks and $PM_{2.5}$ impacts from operation of the emergency generators at the project MEI, the same AERMOD dispersion model was used to compute the maximum annual DPM concentration at off-site sensitive receptor locations (i.e., nearby residences and school). Emissions of DPM were based on PM_{10} exhaust emissions predicted by CalEEMod for operation of the project generator. The same receptors, breathing heights, and BAAQMD San Francisco Airport meteorological data used in the construction dispersion modeling were used for the generator models. Stack parameters for modeling the generators were based on BAAQMD default parameters (i.e., exhaust gas flowrate, stack diameter, stack height, and exhaust gas temperature) for stand-by diesel generators[19] or provided generator information from the applicant. Annual average DPM and $PM_{2.5}$ concentrations were modeled assuming that generator testing could occur at any time of the day (24 hours per day, 365 days per year).

Computed Risks and Hazards from Project Stationary Sources

Increased cancer risks from use of the generators were calculated using the modeled maximum annual DPM concentrations and BAAQMD recommended risk assessment methods and parameters (*Attachment 1)*. The $PM_{2.5}$ concentration and non-cancerous (i.e., Hazard Index) health risk impacts were also calculated. To calculate the increased cancer risk from the generators at the MEI, the cancer risks were adjusted for exposure duration to account for the MEI being exposed to construction for the first 2 years of the 30-year period. The operational exposure duration would occur over 28 years, following the 2 years of exposure to construction emissions. An exposure

[19] Bay Area Air Quality Management District, San Francisco Department of Public Health, and San Francisco Planning Department, 2012. *The San Francisco Community Risk Reduction Plan: Technical Support Document,* BAAQMD, December. Web: https://www.gsweventcenter.com/Appeal_Response_References/2012_1201_BAAQMD.pdf

duration of 4 years was also used to calculate the increased cancer risk from the project generator at the school receptors. Table 7 lists the community risks from the stand-by diesel generators at the location of MEI and most impacted school receptor. The emissions and health risk calculations for the proposed generators are included in *Attachment 3*.

Summary of Project-Related Health Risks at the Offsite Project MEI

The cumulative risk impacts from a project are the combination of construction and operation sources. These sources include on-site construction activity and the project generators. The project impact is computed by adding the construction cancer risk for an infant/child to the increased cancer risk for the project operational conditions for the generators at the MEI over a 30-year period. The project MEI is identified as the sensitive receptor that is most impacted by the project's construction and operation.

For this project, the sensitive receptor identified in Figure 1 as the construction MEI is also the project MEI (i.e., combined construction and operational exposure). At this location, the MEI would be exposed to emissions from 2 years of construction and 28 years of operation. The cancer risks from construction and operation of the project were summed together. Unlike the increased maximum cancer risk, the annual $PM_{2.5}$ concentration and HI risks are not additive but based on an annual maximum risk for the entirety of the project.

Project risk impacts are shown in Table 7. The unmitigated maximum cancer risks from construction activities at the project residential MEI location would exceed the single-source significance threshold. However, with the incorporation of the *Mitigation Measure AQ-1 and AQ-2*, the mitigated risk would no longer exceed the significance threshold. The unmitigated annual $PM_{2.5}$ concentration and non-cancer hazards from construction and operation activities would be below the single-source significance thresholds. The unmitigated maximum cancer risks, annual $PM_{2.5}$ concentration, and HI from construction and operational activities at the most impacted school receptor locations would be below the single-source significance thresholds.

Table 7. Project Risk Impacts at the Off-Site MEI and School Receptors

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Impact – Off-Site MEI				
Project Construction (Years 0–2)	Unmitigated	**16.05 (infant)**	0.14	0.01
	Mitigated*	6.92 (infant)	0.07	<0.01
Project Generators (Years 3–30)		0.78 (child)	<0.01	<0.01
Total/Maximum Project Impacts (Years 0 – 30)	Unmitigated	**16.83**	0.14	0.01
	Mitigated*	7.70	0.07	<0.01
BAAQMD Single-Source Threshold		***10***	***0.3***	***1.0***
Exceed Threshold?	Unmitigated	***Yes***	*No*	*No*
	Mitigated*	*No*	*No*	*No*
Most Affected School Receptor – Junipero Serra Elementary School				
Project Construction (Years 0–2)	Unmitigated	0.61 (child)	0.01	<0.01
Project Generators (Years 3–6)		0.02 (child)	<0.01	<0.01
Total/Maximum Project Impacts (Years 0 – 6)	Unmitigated	0.63	0.01	<0.01
BAAQMD Single-Source Threshold		***10***	***0.3***	***1.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*

* Construction equipment with Tier 4 interim engines and BMPs as Mitigation Measures.

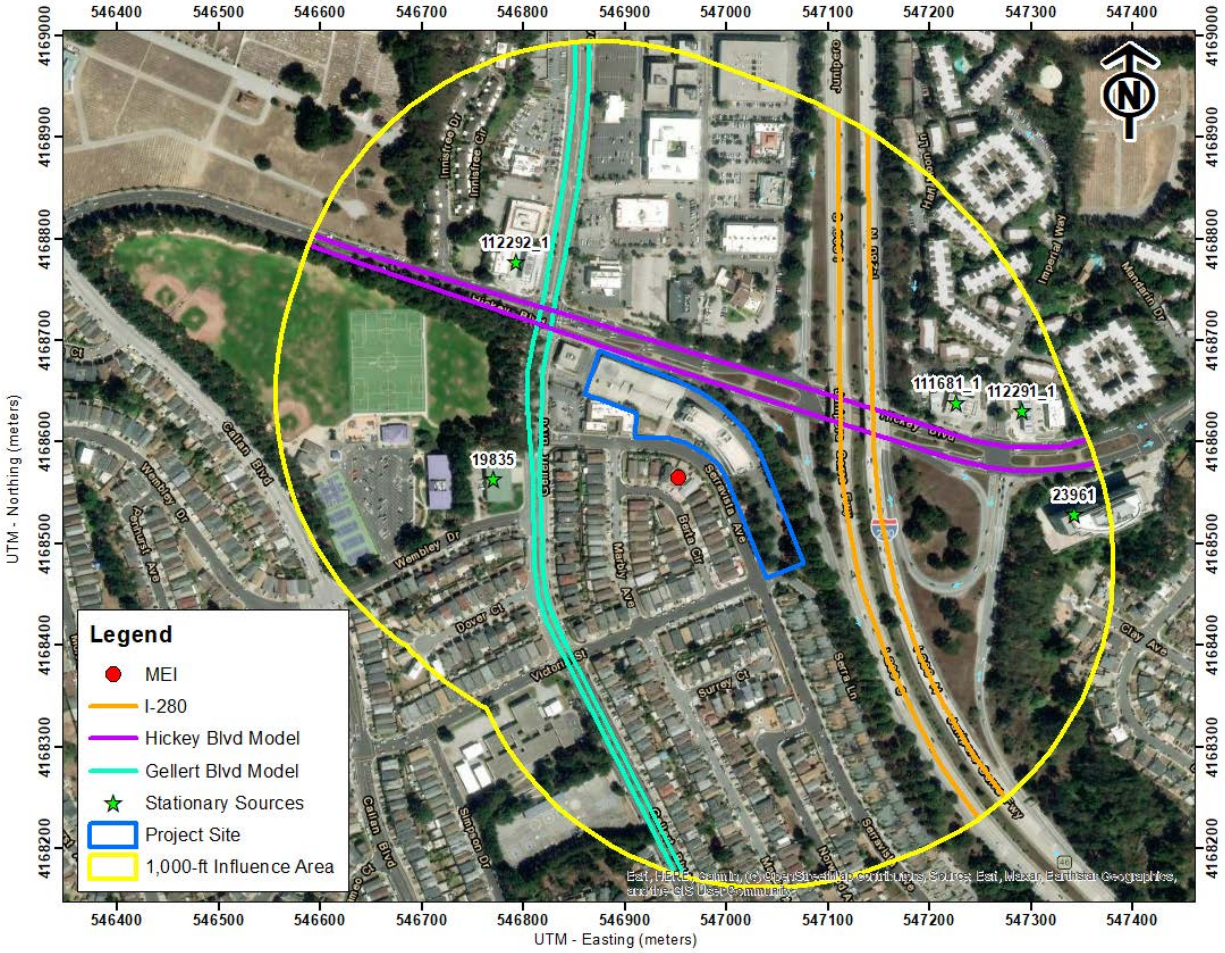
Figure 1. Location of Project Construction Site, Project Generators, Off-Site Sensitive Receptors, and Maximum TAC Impact

Cumulative Health Risks of all TAC Sources at the Offsite Project MEI

Community health risk assessments typically look at all substantial sources of TACs that can affect sensitive receptors that are located within 1,000 feet of a project site (i.e., influence area). These sources include rail lines, highways, busy surface streets, and stationary sources identified by BAAQMD.

A review of the project area based on provided traffic information indicated that traffic on Interstate 280 (I-280), Hickey Boulevard, and Gellert Boulevard would exceed 10,000 vehicles per day. Other nearby streets would have less than 10,000 vehicles per day. A review of BAAQMD's stationary source map website identified five stationary sources with the potential to affect the project MEI. Figure 2 shows the location of the sources affecting the MEI. Health risk impacts from these sources upon the MEI are reported in Table 8. Details of the modeling and health risk calculations are included in *Attachment 4.*

Figure 2. Project Site and Nearby TAC and $PM_{2.5}$ Sources



Highways – I-280

The project MEI is located near I-280. Highway health risk screening data provided by BAAQMD was incorporated into this analysis. BAAQMD developed raster files with cancer risk and $PM_{2.5}$ values for all highways/freeways, roadways (ADT > 30,000), and rail lines within the Bay Area. These raster files were used to screen the I-280 risks and hazards upon the Project MEI. The risk values shown in the raster files were modeled using AERMOD and a 20x20-meter emissions grid. The raster file uses EMFAC2014 data for fleet mix and include the OEHHA 2015 factor.

The I-280 screening level impacts are listed in Table 8 and included in *Attachment 4*. Refined modeling of the highway would have resulted in even lower risk values. Note that BAAQMD has found that non-cancer hazards were found to be minimal, so an HI value is not included.

Local Roadways – Hickey Boulevard and Gellert Boulevard

A refined analysis of potential health impacts from vehicle traffic on Hickey Boulevard and Gellert Boulevard was conducted since the roadways were estimated to have average daily traffic (ADT) exceeding 10,000 vehicles. The refined analysis involved predicting emissions for the traffic

volume and mix of vehicle types on the roadway near the project site and using an atmospheric dispersion model to predict exposure to TACs. The associated cancer risks are then computed based on the modeled exposures. *Attachment 1* includes a description of how health risk impacts, including cancer risk are computed.

Emissions Rates

This analysis involved the development of DPM, organic TACs, and $PM_{2.5}$ emissions for traffic on Hickey Boulevard and Gellert Boulevard using the Caltrans version of the CARB EMFAC2017 emissions model, known as CT-EMFAC2017. CT-EMFAC2017 provides emission factors for mobile source criteria pollutants and TACs, including DPM. Emission processes modeled include running exhaust for DPM, $PM_{2.5}$ and total organic compounds (TOG), running evaporative losses for TOG, and tire and brake wear and fugitive road dust for $PM_{2.5}$. $PM_{2.5}$ emissions from all vehicles were used, rather than just the $PM_{2.5}$ fraction from diesel powered vehicles, because all vehicle types (i.e., gasoline and diesel powered) produce $PM_{2.5}$. Additionally, $PM_{2.5}$ emissions from vehicle tire and brake wear and from re-entrained roadway dust were included in the emissions estimate. DPM emissions are projected to decrease in the future as reflected in the CT-EMFAC2017 emissions data. Inputs to the model include region (San Mateo County), type of road (major/collector), truck percentage for non-state highways in San Mateo County (3.13 percent),[20] traffic mix assigned by CT-EMFAC2017 for the county, year of analysis (2023 – construction start year), and season (annual).

To estimate TAC and $PM_{2.5}$ emissions over the 30-year exposure period used for calculating the increased cancer risks for sensitive receptors at the MEI, the CT-EMFAC2017 model was used to develop vehicle emission factors for the year 2023 (project construction year). Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CT-EMFAC2017. Year 2023 emissions were conservatively assumed as being representative of future conditions over the time period that cancer risks are evaluated since, as discussed above, overall vehicle emissions, and in particular diesel truck emissions, will decrease in the future.

The ADT for Hickey Boulevard and Gellert Boulevard was based on AM and PM peak-hour cumulative plus project traffic volumes for the nearby roadway provided by the project's traffic data.[21] The calculated ADT on Hickey Boulevard was 23,194 vehicles and on and Gellert Boulevard was 18,492 vehicles. Average hourly traffic distributions for San Mateo County roadways were developed using the EMFAC model,[22] which were then applied to the ADT volumes to obtain estimated hourly traffic volumes and emissions for the roadway. For all hours of the day, the average speed of 35 mph on Hickey Boulevard and 30 mph on Gellert Boulevard was assumed for all vehicles based on posted speed limit signs.

[20] Bay Area Air Quality Management District, 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en

[21] TJKM, *455 Hickey Boulevard Traffic Impact Study,* January 31,2023.

[22] The Burden output from EMFAC2007, a previous version of CARB's EMFAC model, was used for this since the current web-based version of EMFAC2021 does not include Burden type output with hour by hour traffic volume information.

Hourly emissions rates were developed for DPM, organic TACs, and $PM_{2.5}$ along the applicable segments of E. Tasman Drive and Zanker Road within 1,000 feet of the project site. TAC and $PM_{2.5}$ concentrations at the construction MEIs location were developed using these emissions rates with an air quality dispersion model (AERMOD). Maximum increased lifetime cancer risks and maximum annual $PM_{2.5}$ concentrations for the construction MEIs receptor were then computed using modeled TAC and $PM_{2.5}$ concentrations and BAAQMD methods and exposure parameters described in *Attachment 1*.

Dispersion Modeling

Dispersion modeling of TAC and $PM_{2.5}$ emissions was conducted using the AERMOD dispersion model, which is recommended by the BAAQMD for this type of analysis.[23] TAC and $PM_{2.5}$ emissions from traffic Hickey Boulevard and Gellert Boulevard within 1,000 feet of the project site were evaluated. Vehicle traffic on the roadways was modeled using a series of volume sources along a line (line volume sources); with line segments used for travel on the roadways in both opposing directions. The same meteorological data and off-site sensitive receptors used in the previous dispersion modeling scenario were used in the roadway modeling. Other inputs to the model included road geometry, hourly traffic emissions, and receptor locations. Annual TAC and $PM_{2.5}$ concentrations using 2023 emissions from traffic on Hickey Boulevard and Gellert Boulevard were calculated using the model. Concentrations were calculated at the Project MEI with receptor heights of 5 feet (1.5 meters) to represent the breathing heights on the first floor of receptors in the single-family residence.

Computed Cancer and Non-Cancer Health Impacts

The cancer risk, $PM_{2.5}$ concentration, and HI impacts from Hickey Boulevard and Gellert Boulevard on the off-site MEI are shown in Table 8. Figure 2 shows the roadway links modeled and receptor locations where concentrations were calculated. Details of the emission calculations, dispersion modeling, and cancer risk calculations for the receptors with the maximum cancer risk from traffic on Hickey Boulevard and Gellert Boulevard are provided in *Attachment 4.*

<u>BAAQMD Permitted Stationary Sources</u>

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2020* GIS website.[24] This mapping tool identifies the location of nearby stationary sources and their estimated risk and hazard impacts, including emissions and adjustments to account for new OEHHA guidance. Five sources were identified using this tool, three are diesel generators and three are gasoline dispensing facilities. The BAAQMD GIS website provided screening risks and hazards for the nearby diesel generator, but a stationary source information form (SSIF) was needed to obtain permitted fuel throughput limits for the nearby gas dispensing facilities. Therefore, a SSIF was submitted to BAAQMD and the throughput limits for

[23] BAAQMD. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May 2012
[24] BAAQMD, https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65

the gas dispensing facilities were provided.[25] BAAQMD indicated Source #19835 was shut down so it was not evaluated in the cumulative health risk impact.

The screening level risks and hazards provided by BAAQMD for the stationary sources were adjusted for distance using BAAQMD's *Distance Adjustment Multiplier Tool for Diesel Internal Combustion Engines* and CARB's *Gasoline Station Risk Screening Tool*. Health risk impacts from the stationary source upon the MEI are reported in Table 8.

Summary of Cumulative Risks at the Project MEI

Table 8 reports both the project and cumulative health risk impacts at the sensitive receptors most affected by construction and operation (i.e., the MEI). The project would have an exceedance with respect to community risk caused by project construction and operation activities, since the maximum unmitigated cancer risk exceed the BAAQMD single-source threshold. With the implementation of *Mitigation Measure AQ-1 and AQ-2*, the project's cancer risk would be lowered to a level below the single-source threshold. The annual $PM_{2.5}$ concentrations and HI risk values, which include unmitigated and mitigated, do not exceed the single-source thresholds. In addition, the combined unmitigated cancer risk, $PM_{2.5}$ concentration, and HI values would not exceed their respective cumulative thresholds.

Table 8. Impacts from Combined Sources at Project MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Impacts				
Total/Maximum Project Impacts (Years 0 – 30)	Unmitigated	**16.83**	0.14	0.01
	Mitigated	7.70	0.07	<0.01
BAAQMD Single-Source Threshold		***10.0***	***0.3***	***1.0***
Exceed Threshold?	Unmitigated	***Yes***	*No*	*No*
	Mitigated	*No*	*No*	*No*
Cumulative Impacts				
I-280 - BAAQMD Raster data		3.20	0.12	-
Hickey Boulevard – 23,194 ADT		0.36	0.04	<0.01
Gellert Boulevard – 18,492 ADT		0.68	0.06	<0.01
Kaiser Foundation Hospital (Facility ID #23961, Generator), MEI at +1,000 feet		0.09	<0.01	<0.01
Chevron Station #94632 (Facility ID #111681_1, Gas Dispensing Facility), MEI at 770 feet		1.59	-	0.04
Hickey Way Shell (Facility ID #112291_1, Gas Dispensing Facility), MEI at +1,000 feet		0.45	-	0.02
Gellert Shell (Facility ID #112292_1, Gas Dispensing Facility), MEI at 720 feet		1.02	-	0.03
Cumulative Total	Unmitigated	24.22	<0.37	<0.13
	Mitigated	15.09	<0.30	<0.13
BAAQMD Cumulative Source Threshold		***100***	***0.8***	***10.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*
	Mitigated	*No*	*No*	*No*

[25] SSIF correspondence with BAAQMD, January 25, 2023.

Mitigation Measure AQ-2: **Use construction equipment that has low diesel particulate matter exhaust emissions.**

Implement a feasible plan to reduce diesel particulate matter emissions by 45 percent such that increased cancer risk and annual $PM_{2.5}$ concentrations from construction would be reduced below TAC significance levels as follows:

1. All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 emission standards for PM (PM_{10} and $PM_{2.5}$), if feasible, otherwise,

    a. If use of Tier 4 equipment is not available, alternatively use equipment that meets U.S. EPA emission standards for Tier 2 or 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve a 45 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment; alternatively (or in combination),

    b. Use of electrical or non-diesel fueled equipment.

2. Alternatively, the applicant may develop another construction operations plan demonstrating that the construction equipment used on-site would achieve a reduction in construction diesel particulate matter emissions by 45 percent or greater. Elements of the plan could include a combination of some of the following measures:
    - Implementation of No. 1 above to use Tier 4 or alternatively fueled equipment,
    - Installation of electric power lines during early construction phases to avoid use of diesel generators and compressors,
    - Use of electrically-powered equipment,
    - Forklifts and aerial lifts used for exterior and interior building construction shall be electric or propane/natural gas powered,
    - Change in construction build-out plans to lengthen phases, and
    - Implementation of different building techniques that result in less diesel equipment usage.

    Such a construction operations plan would be subject to review by an air quality expert and approved by the City prior to construction.

Effectiveness of Mitigation Measure AQ-2

CalEEMod was used to compute emissions associated with this mitigation measure assuming that all equipment met U.S. EPA Tier 4 interim engines standards and BAAQMD best management practices for construction were included. With these measures implemented, the project's cancer risk levels (assuming infant exposure) would be reduced by 55 percent to 7.70 chances per million. As a result, the project's construction risk impacts would be reduced to levels below the BAAQMD single-source threshold.

GREENHOUSE GAS EMISSIONS

Setting

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. The most common GHGs are carbon dioxide (CO_2) and water vapor but there are also several others, most importantly methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO_2, CH_4, and N_2O are byproducts of fossil fuel combustion.
- N_2O is associated with agricultural operations such as fertilization of crops.
- CH_4 is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations.
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and sulfur hexafluoride emissions are commonly created by industries such as aluminum production and semi-conductor manufacturing.

Each GHG has its own potency and effect upon the earth's energy balance. This is expressed in terms of a global warming potential (GWP), with CO_2 being assigned a value of 1 and sulfur hexafluoride being several orders of magnitude stronger. In GHG emission inventories, the weight of each gas is multiplied by its GWP and is measured in units of CO_2 equivalents (CO_2e).

An expanding body of scientific research supports the theory that global climate change is currently affecting changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California are adversely affected by the global warming trend. Increased precipitation and sea level rise will increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution.

Federal and Statewide GHG Emissions

The U.S. EPA reported that in 2022, total gross nationwide GHG emissions were 5,215.6 million metric tons (MMT) carbon dioxide equivalent (CO_2e).[26] These emissions were lower than peak levels of 7,416 MMT that were emitted in 2007. CARB updates the statewide GHG emission

[26] United States Environmental Protection Agency, 2022. *Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2020*. February. Web: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks

inventory on an annual basis where the latest inventory includes 2000 through 2019 emissions.[27] In 2019, GHG emissions from statewide emitting activities were 418.2 MMT CO_2e. The 2019 emissions have decreased by 30 percent since peak levels in 2007 and are 7.2 MMT CO_2e lower than 2018 emissions level and almost 13 MMT CO_2e below the State's 2020 GHG limit of 431 MMT CO_2e. Per capita GHG emissions in California have dropped from a 2001 peak of 14.0 MT CO_2e per person to 10.5 MT CO_2e per person in 2019.

Recent Regulatory Actions for GHG Emissions

Executive Order S-3-05 – California GHG Reduction Targets

Executive Order (EO) S-3-05 was signed by Governor Arnold Schwarzenegger in 2005 to set GHG emission reduction targets for California. The three targets established by this EO are as follows: (1) reduce California's GHG emissions to 2000 levels by 2010, (2) reduce California's GHG emissions to 1990 levels by 2020, and (3) reduce California's GHG emissions by 80 percent below 1990 levels by 2050.

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

Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, codified the State's GHG emissions target by directing CARB to reduce the State's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05, which has a target of reducing GHG emissions 80 percent below 1990 levels.

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State's main strategies to reduce GHGs from business-as-usual emissions projected in 2020 back down to 1990 levels. Business-as-usual (BAU) is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

As directed by AB 32, CARB has also approved a statewide GHG emissions limit. On December 6, 2007, CARB staff resolved an amount of 427 million metric tons (MMT) of CO_2e as the total statewide GHG 1990 emissions level and 2020 emissions limit. The limit is a cumulative statewide limit, not a sector- or facility-specific limit. CARB updated the future 2020 BAU annual emissions forecast, in light of the economic downturn, to 545 MMT of CO_2e. Two GHG emissions reduction measures currently enacted that were not previously included in the 2008 Scoping Plan baseline inventory were included, further reducing the baseline inventory to 507 MMT of CO_2e. Thus, an estimated reduction of 80 MMT of CO_2e is necessary to reduce statewide emissions to meet the AB 32 target by 2020.

[27] CARB. 2021. *California Greenhouse Gas Emission for 2000 to 2019*. Web: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf

Executive Order B-30-15 & Senate Bill 32 GHG Reduction Targets – 2030 GHG Reduction Target

In April 2015, Governor Brown signed EO B-30-15, which extended the goals of AB 32, setting a GHG emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed Senate Bill (SB) 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*.[28] While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

SB 32 was passed in 2016, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels. CARB has drafted a 2022 Scoping Plan Update to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. The 2022 draft 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 or earlier.
- 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 a driving principle.
- Incorporates the contribution of natural and working lands to the state's GHG emissions, as well as its role in achieving carbon neutrality.
- Relies on the most up to date science, including the need to deploy all viable tools, including carbon capture and sequestration as well a direct air capture.
- Evaluates multiple options for achieving our GHG and carbon neutrality targets, as well as the public health benefits and economic impacts associated with each.

The draft Scoping Plan Update was published on May 10, 2022 and, once final, will lay out how the state can get to carbon neutrality by 2045 or earlier. It is also the first Scoping Plan that adds carbon neutrality as a science-based guide and touchstone beyond statutorily established emission reduction targets.[29]

The mid-term 2030 target is considered critical by CARB on the path to obtaining an even deeper GHG emissions target of 80 percent below 1990 levels by 2050, as directed in Executive Order S-3-05. The 2022 Draft Scoping Plan outlines the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure, providing a blueprint to continue driving down GHG emissions and to not only obtain the statewide goals, but cost-effectively achieve carbon-neutrality by 2045 or earlier. In the draft 2022 Scoping Plan, CARB recommends:

[28] California Air Resource Board, 2017. *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Targets.* November. Web: https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/scoping_plan_2017.pdf

[29] https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents

- VMT per capita reduced 12% below 2019 levels by 2030 and 22% below 2019 levels by 2045.
- 100% of Light-duty vehicle sales are zero emissions vehicles (ZEV) by 2035.
- 100% of medium duty/heavy duty vehicle sales are ZEV by 2040.
- 100% of passenger and other locomotive sales are ZEV by 2030.
- 100% of line haul locomotive sales are ZEV by 2035.
- All electric appliances in new residential and commercial building beginning 2026 (residential) and 2029 (commercial).
- 80% of residential appliance sales are electric by 2030 and 100% of residential appliance sales are electric by 2035.
- 80% of commercial appliance sales are electric by 2030 and 100% of commercial appliance sales are electric by 2045.

Executive Order B-55-18 – Carbon Neutrality

In 2018, a new statewide goal was established to achieve carbon neutrality as soon as possible, but no later than 2045, and to maintain net negative emissions thereafter. CARB and other relevant state agencies are tasked with establishing sequestration targets and create policies/programs that would meet this goal.

Senate Bill 375 – California's Regional Transportation and Land Use Planning Efforts (2008)

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 provides incentives for local governments and applicants to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows applicants to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB works with the metropolitan planning organizations (e.g. Association of Bay Area Governments [ABAG] and Metropolitan Transportation Commission [MTC]) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the region's ability to attain its GHG reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

Senate Bill 350 - Renewable Portfolio Standards

In September 2015, the California Legislature passed SB 350, which increases the states Renewables Portfolio Standard (RPS) for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

Senate Bill 100 – Current Renewable Portfolio Standards

In September 2018, SB 100 was signed by Governor Brown to revise California's RPS program goals, furthering California's focus on using renewable energy and carbon-free power sources for its energy needs. The bill would require all California utilities to supply a specific percentage of their retail sales from renewable resources by certain target years. By December 31, 2024, 44 percent of the retails sales would need to be from renewable energy sources, by December 31, 2026 the target would be 40 percent, by December 31, 2017 the target would be 52 percent, and by December 31, 2030 the target would be 60 percent. By December 31, 2045, all California utilities would be required to supply retail electricity that is 100 percent carbon-free and sourced from eligible renewable energy resource to all California end-use customers.

California Building Standards Code – Title 24 Part 11 & Part 6

The California Green Building Standards Code (CALGreen Code) is part of the California Building Standards Code under Title 24, Part 11.[30] The CALGreen Code encourages sustainable construction standards that involve planning/design, energy efficiency, water efficiency resource efficiency, and environmental quality. These green building standard codes are mandatory statewide and are applicable to residential and non-residential developments. The most recent CALGreen Code (2019 California Building Standard Code) was effective as of January 1, 2020.

The California Building Energy Efficiency Standards (California Energy Code) is under Title 24, Part 6 and is overseen by the California Energy Commission (CEC). This code includes design requirements to conserve energy in new residential and non-residential developments, while being cost effective for homeowners. This Energy Code is enforced and verified by cities during the planning and building permit process. The current energy efficiency standards (2019 Energy Code) replaced the 2016 Energy Code as of January 1,2020. Under the 2019 standards, single-family homes are predicted to be 53 percent more efficient than homes built under the 2016 standard due more stringent energy-efficiency standards and mandatory installation of solar photovoltaic systems. For nonresidential developments, it is predicted that these buildings will use 30 percent less energy due to lightening upgrades.[31]

CEC studies have identified the most aggressive electrification scenario as putting the building sector on track to reach the carbon neutrality goal by 2045.[32] Installing new natural gas infrastructure in new buildings will interfere with this goal. To meet the State's goal, communities have been adopting "Reach" codes that prohibit natural gas connections in new and remodeled buildings.

Requirements for electric vehicle (EV) charging infrastructure are set forth in Title 24 of the California Code of Regulations and are regularly updated on a 3-year cycle. The CALGreen standards consist of a set of mandatory standards required for new development, as well as two

[30] See: https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen#:~:text=CALGreen%20is%20the%20first%2Din,to%201990%20levels%20by%202020.
[31] See: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf
[32] California Energy Commission. 2021. F*inal Commission Report: California Building Decarbonization Assessment. Publication Number CEC-400-2021-006-CMF*.August

more voluntary standards known as Tier 1 and Tier 2. The CalGreen standards have recently been updated (2022 version) to require deployment of additional EV chargers in various building types, including multifamily residential and nonresidential land uses. They include requirements for both EV capable parking spaces and the installation of Level 2 EV supply equipment for multifamily residential and nonresidential buildings. The 2022 CALGreen standards include requirements for both EV readiness and the actual installation of EV chargers. The 2022 CALGreen standards include both mandatory requirements and more aggressive voluntary Tier 1 and Tier 2 provisions. Providing EV charging infrastructure that meets current CALGreen requirements will not be sufficient to power the anticipated more extensive level of EV penetration in the future that is needed to meet SB 30 climate goals.

SB 743 Transportation Impacts

Senate Bill 743 required lead agencies to abandon the old "level of service" metric for evaluating a project's transportation impacts, which was based solely on the amount of delay experienced by motor vehicles. In response, the Governor's Office of Planning and Research (OPR) developed a VMT metric that considered other factors such as reducing GHG emissions and developing multimodal transportation[33]. A VMT-per-capita metric was adopted into the CEQA Guidelines Section 15064.3 in November 2017. Given current baseline per-capita VMT levels computed by CARB in the 2030 Scoping Plan of 22.24 miles per day for light-duty vehicles and 24.61 miles per day for all vehicle types, the reductions needed to achieve the 2050 climate goal are 16.8 percent for light-duty vehicles and 14.3 percent for all vehicle types combined. Based on this analysis (as well as other factors), OPR recommended using a 15-percent reduction in per capita VMT as an appropriate threshold of significance for evaluating transportation impacts.

Advanced Clean Cars

The Advanced Clean Cars Program, originally adopted by CARB in 2012, was designed to bring together CARB's traditional passenger vehicle requirements to meet federal air quality standards and also support California's AB 32 goals to develop and implement programs to reduce GHG emissions back down to 1990 levels by 2020, a goal achieved in 2016 as a result of numerous emissions reduction programs.

This recent rule, *Advanced Clean Cars II (ACC II)* is phase two of the original rule. ACC II establishes a year-by-year process, starting in 2026, so all new cars and light trucks sold in California will be zero-emission vehicles by 2035, including plug-in hybrid electric vehicles. The regulation codifies the light-duty vehicle goals set out in Governor Newsom's Executive Order N-79-20. Currently, 16 percent of new light-duty vehicles sold in California are zero emissions or plug-in hybrids. By 2030, 68 percent of new vehicles sold in California would be zero emissions and 100 percent by 2035.

[33] Governor's Office of Planning and Research. 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December.

Daly City "Green Vision" Climate Action Plan

The Daly City "Green Vision" Climate Action Plan (CAP)[34] seeks to reduce the City operation's overall carbon footprint through a series of ten goals by the year 2020. The goals cover topics such as reducing solid waste, recycling and reuse of wastewater, preservation of urban forests, adoption of a master pedestrian and bicycle plan, reuse of biosolids, the use of green building standards, and community education. However, the CAP is not a qualified plan and does not have a specific metric ton GHG threshold for project-level construction or operation. Therefore, the BAAQMD's CEQA Air Quality Guideline's thresholds are used.

BAAQMD GHG Significance Thresholds

For projects with stationary sources, the threshold is 10,000 metric tons per year (MT/yr) of CO_2e. Stationary-source projects include land uses that would accommodate processes and equipment that emit GHG emissions and would require an Air District permit to operate. This includes the generators for the proposed project.

On April 20, 2022, BAAQMD adopted new thresholds of significance for operational GHG emissions from land use projects for projects beginning the CEQA process. The following framework is how BAAQMD will determine GHG significance moving forward.[35] Note BAAQMD intends that the thresholds apply to projects that begin the CEQA process after adoption of the thresholds, unless otherwise directed by the lead agency. The new thresholds of significance are:

A. Projects must include, at a minimum, the following project design elements:
    a. Buildings
        i. The project will not include natural gas appliances or natural gas plumbing (in both residential and non-residential development).
        ii. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.

    b. Transportation
        i. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
            1. Residential Projects: 15 percent below the existing VMT per capita

[34] Daly City, "Daly City's Green Vision" https://www.dalycity.org/DocumentCenter/View/694/Daly-City-Green-Vision-Final-PDF

[35] Justification Report: BAAQMD CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Project and Plans. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en

2. Office Projects: 15 percent below the existing VMT per employee
3. Retail Projects: no net increase in existing VMT

ii. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.[36]

B. Be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

Any new land use project would have to include either section A or B from the above list, not both, to be considered in compliance with BAAQMD's GHG thresholds of significance.

Impact GHG-1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

GHG emissions associated with development of the proposed project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, energy and water usage, and solid waste disposal. Emissions for the proposed project are discussed below and were analyzed using the methodology recommended in the BAAQMD CEQA Air Quality Guidelines.

CalEEMod Modeling

CalEEMod was used to predict GHG emissions from operation of the site assuming full build-out of the project. The project land use types and size and other project-specific information were input to the model, as described above within the construction and operational period emissions. CalEEMod output is included in *Attachment 2*.

Construction GHG Emissions

GHG emissions associated with construction were computed at 3,831 MT of CO_2e for the total construction period of the tech office scenario and at 3,595 MT of CO_2e for the total construction period of the medical office scenario. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable.

Operational GHG Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully-developed site under the proposed project for both scenarios. As shown in Table 9 for informational purposes, annual GHG emissions

[36] 2022 California Green Building Standards Code, Title 24, Part 11 (CALGreen), Table A5.106.5.3.2.

resulting from operation of the proposed tech office and medical office scenarios predicted to be a net of 1,744 MT and 4,772 MT of CO_2e in 2026, respectively.

Table 9. Annual Project GHG Emissions (CO_2e) in Metric Tons

Source Category	Existing Use in 2023	Proposed Tech Office in 2026	Proposed Medical Office in 2026
Mobile	628	2,058	4,717
Area	3	9	8
Energy	196	424	294
Water	24	46	21
Waste	24	81	607
Total (MT CO_2e/year)	874	2,618	5,646
Net Total (MT CO_2e/year)		1,744	4,772

GHG emissions associated with project's stationary sources (i.e., generators) were computed at 46 MT/yr of CO_2e for the tech office scenario and at 17 MT/yr of CO_2e for the medical office scenario. This is well below the 10,000 MT/yr of CO_2e for both scenarios.

Impact GHG-2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The proposed building would be constructed in conformance with CALGreen and the Title 24 Building Code, which requires high-efficiency water fixtures, water-efficient irrigation systems, and compliance with current energy efficacy standards. To avoid interference with statewide GHG reduction measures identified in CARB's Scoping Plan and SB 100 goals, the project should include the following:

1. Avoid construction of new natural gas connections.
    - Conforms – the project will be all electric.
2. Avoid wasteful or inefficient use of electricity,
    - Conforms – the project would meet CALGreen Building Standards Code requirements that are considered to be energy efficient.
3. Include electric vehicle charging infrastructure that meets current Building Code CALGreen Tier 2 compliance, and
    - Conforms – project includes 90 EVSE (electric vehicle supple equipment) spaces, 90 EV Ready spaces, and 270 EV Capable spaces.
4. Reduce VMT per service population by 15 percent over regional average.
    - Conforms – the project's traffic analysis[37] determined the project's VMT impact was less-than-significant because the project is located within a transit priority area.

The project complies with all the BAAQMD GHG thresholds, as shown above.

[37] TJKM, *455 Hickey Boulevard Traffic Impact Study,* January 31,2023.

Supporting Documentation

Attachment 1 is the methodology used to compute health risk impacts, including the methods to compute lifetime cancer risk from exposure to project emissions.

Attachment 2 includes the CalEEMod output for project construction and operation emissions. Also included are any modeling assumptions.

Attachment 3 is the health risk assessment. This includes the summary of the dispersion modeling and the cancer risk calculations for construction. AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format

Attachment 4 includes the cumulative health risk calculations, modeling results, and health risk calculations from sources affecting the construction MEI.

Attachment 1: Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[38] These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods.[39] This HRA used the 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.[40] Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

Potential increased cancer risk from inhalation of TACs is calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency and duration of exposure. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day) or liters per kilogram of body weight per 8-hour period for the case of worker or school child exposures. As recommended by the BAAQMD for residential exposures, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. For children at schools and daycare facilities, BAAQMD recommends using the 95th percentile 8-hour breathing rates. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of

[38] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.
[39] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[40] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

30 years for sources with long-term emissions (e.g., roadways). For workers, assumed to be adults, a 25-year exposure period is recommended by the BAAQMD. For school children a 9-year exposure period is recommended by the BAAQMD.

Under previous OEHHA and BAAQMD HRA guidance, residential receptors are assumed to be at their home 24 hours a day, or 100 percent of the time. In the 2015 Risk Assessment Guidance, OEHHA includes adjustments to exposure duration to account for the fraction of time at home (FAH), which can be less than 100 percent of the time, based on updated population and activity statistics. The FAH factors are age-specific and are: 0.85 for third trimester of pregnancy to less than 2 years old, 0.72 for ages 2 to less than 16 years, and 0.73 for ages 16 to 70 years. Use of the FAH factors are allowed by the BAAQMD if there are no schools in the project vicinity have a cancer risk of one in a million or greater assuming 100 percent exposure (FAH = 1.0).

Functionally, cancer risk is calculated using the following parameters and formulas:

Cancer Risk (per million) = $CPF \times Inhalation\ Dose \times ASF \times ED/AT \times FAH \times 10^6$

Where:

CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = $C_{air} \times DBR^* \times A \times (EF/365) \times 10^{-6}$

Where:

C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
8HrBR = 8-hour breathing rate (L/kg body weight-8 hours)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

* An 8-hour breathing rate (8HrBR) is used for worker and school child exposures.

The health risk parameters used in this evaluation are summarized as follows:

Parameter	*Exposure Type* →	Infant		Child	Adult
	Age Range →	3rd Trimester	0<2	2 < 16	16 - 30
DPM Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$		1.10E+00	1.10E+00	1.10E+00	1.10E+00
Vehicle TOG Exhaust		6.28E-03	6.28E-03	6.28E-03	6.28E-03
Vehicle TOG Evaporative		3.70E-04	3.70E-04	3.70E-04	3.70E-04
Daily Breathing Rate (L/kg-day) 80th Percentile Rate		273	758	572	261
Daily Breathing Rate (L/kg-day) 95th Percentile Rate		361	1,090	745	335
8-hour Breathing Rate (L/kg-8 hours) 95th Percentile Rate		-	1,200	520	240
Inhalation Absorption Factor		1	1	1	1
Averaging Time (years)		70	70	70	70
Exposure Duration (years)		0.25	2	14	14*
Exposure Frequency (days/year)		350	350	350	350*
Age Sensitivity Factor		10	10	3	1
Fraction of Time at Home (FAH)		0.85-1.0	0.85-1.0	0.72-1.0	0.73*

Non-Cancer Hazards

Non-cancer health risk is usually determined by comparing the predicted level of exposure to a chemical to the level of exposure that is not expected to cause any adverse effects (reference exposure level), even to the most susceptible people. Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The total HI is calculated as the sum of the HIs for each TAC evaluated and the total HI is compared to the BAAQMD significance thresholds to determine whether a significant non-cancer health impact from a project would occur.

Typically, for residential projects located near roadways with substantial TAC emissions, the primary TAC of concern with non-cancer health effects is diesel particulate matter (DPM). For DPM, the chronic inhalation REL is 5 micrograms per cubic meter ($\mu g/m^3$).

Annual $PM_{2.5}$ Concentrations

While not a TAC, fine particulate matter ($PM_{2.5}$) has been identified by the BAAQMD as a pollutant with potential non-cancer health effects that should be included when evaluating potential community health impacts under the California Environmental Quality Act (CEQA). The thresholds of significance for $PM_{2.5}$ (project level and cumulative) are in terms of an increase in the annual average concentration. When considering $PM_{2.5}$ impacts, the contribution from all sources of $PM_{2.5}$ emissions should be included. For projects with potential impacts from nearby local roadways, the $PM_{2.5}$ impacts should include those from vehicle exhaust emissions, $PM_{2.5}$ generated from vehicle tire and brake wear, and fugitive emissions from re-suspended dust on the roads.

Attachment 2: CalEEMod Modeling Inputs and Outputs

Tech Office Scenario Construction Criteria Air Pollutants							
Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	PM2.5 Fugitive	**CO2e**	
Year	Tons					MT	
Construction Equipment							
2023	0.03	0.7	0.01	0.01	0.07	300	
2024	0.21	3.4	0.05	0.05	0.15	1,809	
2025	1.64	2.76	0.04	0.04	0.12	1,484	
	Total Construction Emissions						
Tons	1.88	6.86	0.10	0.10		3593.00	
Pounds/Workdays	*Average Daily Emissions*					Workdays	
2023	0.71	16.47	0.24	0.24			**85**
2024	1.60	25.95	0.38	0.38			**262**
2025	16.00	26.93	0.39	0.39			**205**
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**			
	Total Construction Emissions						
Pounds	18.31	69.35	1.01	1.01		0.00	
Average	6.81	24.86	0.36	0.36		0.00	552.00
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**			

Operational Criteria Air Pollutants							
Unmitigated	ROG	NOX	Total PM10	Total PM2.5			
Year	Tons						
Total	2.7	1.05	0.87	0.17			
	Existing Use Emissions						
Total	0.82	0.38	0.26	0.06			
	Net Annual Operational Emissions						
Tons/year	1.88	0.67	0.61	0.11			
Threshold - Tons/year	**10.0**	**10.0**	**15.0**	**10.0**			
	Average Daily Emissions						
Pounds Per Day	10.30	3.67	3.34	0.60			
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**			

Category	**CO2e**			
	Project	Existing	Project 2030	Existing
Mobile	2,058	628.00		
Area	9.2	2.91		
Energy	424	196.00		
Water	45.5	23.90		
Waste	81.3	23.50		
TOTAL	2618.00	874.31	0.00	0.00
Net GHG Emissions		1743.69		0.00
Stationary	45.8			
Service Population	1120.00			
Per Capita Emissions		2.34		

Number of Days Per Year				
2023	9/4/2023	12/31/23	119	85
2024	1/1/24	12/31/24	366	262
2025	1/1/25	10/14/25	287	205
			772	**552** ***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Demolition	9/4/2023	10/2/2023	5	20
Site Preparation	10/3/2023	10/17/2023	5	11
Grading	10/18/2023	12/15/2023	5	43
Building - Superstructure	1/18/2024	10/7/2025	5	449
Building - Cores/Elevator	4/17/2025	9/23/2025	5	114
Sitework	4/17/2025	10/14/2025	5	129
Foundation/Basement W	12/18/2023	1/17/2024	5	23

Med Office Construction Criteria Air Pollutants							
Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	PM2.5 Fugitive	CO2e	
Year	Tons					MT	
Construction Equipment							
2023	0.03	0.7	0.01	0.01	0.07	301	
2024	0.19	3.25	0.05	0.05	0.14	1702.00	
2025	1.11	2.65	0.04	0.04	0.12	1400.00	
	Total Construction Emissions						
Tons	1.33	6.60	0.10	0.10		3403.00	
Pounds/Workdays	*Average Daily Emissions*					Workdays	
2023	0.71	16.47	0.24	0.24			**85**
2024	1.45	24.81	0.38	0.38			**262**
2025	10.83	25.85	0.39	0.39			**205**
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**			
	Total Construction Emissions						
Pounds	12.99	67.13	1.01	1.01		0.00	
Average	4.82	23.91	0.36	0.36		0.00	552.00
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**			

Operational Criteria Air Pollutants							
Unmitigated	ROG	NOX	Total PM10	Total PM2.5			
Year	Tons						
Total	3.38	1.88	1.98	0.38			
	Existing Use Emissions						
Total	0.82	0.38	0.26	0.06			
	Net Annual Operational Emissions						
Tons/year	2.56	1.50	1.72	0.32			
Threshold - Tons/year	**10.0**	**10.0**	**15.0**	**10.0**			
	Average Daily Emissions						
Pounds Per Day	14.03	8.22	9.42	1.75			
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**			

Category	CO2e	
	Project	Existing
Mobile	4717.00	628.00
Area	7.73	2.91
Energy	294.00	196.00
Water	20.60	23.90
Waste	607.00	23.50
TOTAL	5646.33	874.31
Net GHG Emissions		4772.02
Stationary	17.20	
Service Population	515.00	
Per Capita Emissions		10.96

Number of Days Per Year				
2023	9/4/2023	12/31/23	119	85
2024	1/1/24	12/31/24	366	262
2025	1/1/25	10/14/25	287	205
			772	**552** ***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Demolition	9/4/2023	10/2/2023	5	20
Site Preparation	10/3/2023	10/17/2023	5	11
Grading	10/18/2023	12/15/2023	5	43
Building - Superstructure	1/18/2024	10/7/2025	5	449
Building - Cores/Elevator	4/17/2025	9/23/2025	5	114
Sitework	4/17/2025	10/14/2025	5	129
Foundation/Basement W	12/18/2023	1/17/2024	5	23

Air Quality/Noise Construction Information Data Request

Project Name: 455 Hickey Blvd Tech Office

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size

0	Dwelling Units	3.2 total project acres disturbed
0	s.f. residential	
0	s.f. retail	
280,000	s.f. office/commercial	Gen Offiice Building
	s.f. other, specify:	
347,500	s.f. parking garage	900 spaces
	s.f. parking lot	spaces

Construction Hours: 7:00 to 10:00
Monday-Friday AM to PM

Pile Driving? Y/N? - Yes, drilled augercast piles along Hickey

Project include OPERATIONAL GENERATOR OR FIRE PUMP on-site? Y/N? ____

IF YES (if BOTH separate values) --> Yes - the completed building will have a generator and fire pump

Kilowatts/Horsepower: TBD - Pending Engineering_____

Fuel Type: TBD - Pending Engineering_____

Location in project (Plans Desired if Available): See attached floor plans

DO NOT MULTIPLE EQUIPMENT HOURS/DAY BY THE QUANTITY OF EQUIPMENT

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
	Demolition	**Start Date:**	**9/4/2023**	**Total phase:**	**20**			**Overall Import/Export Volumes**
		End Date:	**10/2/2023**					
1	Concrete/Industrial Saws	81	0.73	4	6	1.2	24	**Demolition Volume**
1	Excavators	158	0.38	8	10	4.0	80	Demo of AC Parking Lot (thickness 2"-3") - **88 asphalt demo truck round trips**
1	Rubber-Tired Dozers	247	0.4	5	3	0.8	15	Demo of Existing Sidewalk (thickness 4")
1	Tractors/Loaders/Backhoes	97	0.37	4	10	2.0	40	Demo of existing curb and planter walls
								Demo of Existing Structures - **193,152 sf**
	Site Preparation	**Start Date:**	**10/3/2023**	**Total phase:**	**10**			
		End Date:	**10/17/2023**					
1	Graders	187	0.41	5	10	5.0	50	
1	Rubber Tired Dozers	247	0.4	3	10	3.0	30	
2	Tractors/Loaders/Backhoes	97	0.37	7	10	7.0	140	
	Grading / Excavation	**Start Date:**	**10/18/2023**	**Total phase:**	**43**			
		End Date:	**12/15/2023**					**Soil Hauling Volume**
2	Excavators	158	0.38	7	35	5.7	490	Export volume = 12,458 CY
1	Graders	187	0.41	2	35	1.6	70	Import volume = No Import
1	Rubber Tired Dozers	247	0.4	4	30	2.8	120	
2	Concrete/Industrial Saws	81	0.73	8	8	1.5	128	
1	Tractors/Loaders/Backhoes	97	0.37	4	30	2.8	120	
	Foundation/Basement Walls	**Start Date:**	**12/18/2023**	**Total phase:**	**21**			
		End Date:	**1/17/2024**					
1	Tractor/Loader/Backhoe	97	0.37	4	10	1.9	40	Assume 5 days drilling at 12 trucks per day. (5*12*2=120)
1	Excavators	158	0.38	7	15	5.0	105	
2	Cranes	231	0.29	8	5	0.1	80	774 truck round trips
774	Cement and Mortar Mixers	9	0.56	8	4	0.2	24768	We will have cement truck, no onsite mixers
	Building - Superstructure/Exterior	**Start Date:**	**1/18/2024**	**Total phase:**	**449**			Cement Trucks = **25,525 CY/2,552 trips**
		End Date:	**10/6/2025**					
2	Cranes	231	0.29	8	350	6.2	5600	Tower cranes will be electric
2	Forklifts	89	0.2	4	225	2.0	1800	Forklifts will be diesel
1	Generator Sets	84	0.74	8	35	0.6	280	
5	Aerial Lifts	63	0.31	5	250	2.8	6250	
2552	Cement and Mortar Mixers	9	0.56	8	62	3.8	1265792	We will have cement truck, no onsite mixers
	Building - Cores/Elevators	**Start Date:**	**4/17/2025**	**Total phase:**	**114**			
		End Date:	**9/22/2025**					
2	Industrial Saws	81	0.73	4	90	3.2	720	
5	Aerial Lift	62	0.31	4	100	3.5	2000	
	Sitework	**Start Date:**	**4/17/2025**	**Total phase:**	**129**			New paving at roads. New building will take up existing parking lot. Some minor misc paving anticipated at cit street areas/patchwork
		Start Date:	**10/14/2025**					New sitework to consist of planters, walking paths & landscape
200	Cement and Mortar Mixers	9	0.56	8	10	0.6	16000	We will have cement truck, no onsite mixers
1	Paving Equipment	132	0.36	8	8	0.5	64	**200 truck round trips**
1	Rollers	80	0.38	8	4	0.2	32	
1	Tractors/Loaders/Backhoes	97	0.37	4	50	1.6	200	

Equipment types listed in "Equipment Types" worksheet tab.

Equipment listed in this sheet is to provide an example of inputs
It is assumed that water trucks would be used during grading
Add or subtract phases and equipment, as appropriate
Modify horepower or load factor, as appropriate

Complete one sheet for each project component

Air Quality/Noise Construction Information Data Request

Project Name: 455 Hickey Blvd Med Office

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size

0	Dwelling Units	3.2	total project acres disturbed
0	s.f. residential		
0	s.f. retail		
180,000	s.f. office/commercial	Med Offiice Building	
	s.f. other, specify:		
347,500	s.f. parking garage	900	spaces
	s.f. parking lot		spaces

Construction Hours: 7:00 to 10:00
Monday-Friday AM to PM

Pile Driving? Y/N? - Yes, drilled augercast piles along Hickey

Project include OPERATIONAL GENERATOR OR FIRE PUMP on-site? Y/N? ____

IF YES (if BOTH separate values) --> Yes - the completed building will have a generator and fire pump

Kilowatts/Horsepower: TBD - Pending Engineering_____

Fuel Type: TBD - Pending Engineering_____

Location in project (Plans Desired if Available): See attached floor plans

DO NOT MULTIPLE EQUIPMENT HOURS/DAY BY THE QUANTITY OF EQUIPMENT

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
	Demolition	**Start Date:**	**9/4/2023**	**Total phase:**	**20**			**Overall Import/Export Volumes**
		End Date:	**10/2/2023**					
1	Concrete/Industrial Saws	81	0.73	4	6	1.2	24	**Demolition Volume**
1	Excavators	158	0.38	8	10	4.0	80	Demo of AC Parking Lot (thickness 2"-3") - **88 asphalt demo truck round trips**
1	Rubber-Tired Dozers	247	0.4	5	3	0.8	15	Demo of Existing Sidewalk (thickness 4")
1	Tractors/Loaders/Backhoes	97	0.37	4	10	2.0	40	Demo of existing curb and planter walls
								Demo of Existing Structures - **193,152 sf**
	Site Preparation	**Start Date:**	**10/3/2023**	**Total phase:**	**10**			
		End Date:	**10/17/2023**					
1	Graders	187	0.41	5	10	5.0	50	
1	Rubber Tired Dozers	247	0.4	3	10	3.0	30	
2	Tractors/Loaders/Backhoes	97	0.37	7	10	7.0	140	
	Grading / Excavation	**Start Date:**	**10/18/2023**	**Total phase:**	**43**			
		End Date:	**12/15/2023**					**Soil Hauling Volume**
2	Excavators	158	0.38	7	35	5.7	490	Export volume = 12,458 CY
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1	Rubber Tired Dozers	247	0.4	4	30	2.8	120	
2	Concrete/Industrial Saws	81	0.73	8	8	1.5	128	
1	Tractors/Loaders/Backhoes	97	0.37	4	30	2.8	120	
	Foundation/Basement Walls	**Start Date:**	**12/18/2023**	**Total phase:**	**21**			
		End Date:	**1/17/2024**					
1	Tractor/Loader/Backhoe	97	0.37	4	10	1.9	40	Assume 5 days drilling at 12 trucks per day. (5*2*12=120)
1	Excavators	158	0.38	7	15	5.0	105	
2	Cranes	231	0.29	8	5	0.1	80	774 truck round trips
774	Cement and Mortar Mixers	9	0.56	8	4	0.2	24768	We will have cement truck, no onsite mixers
	Building - Superstructure/Exterior	**Start Date:**	**1/18/2024**	**Total phase:**	**449**			Cement Trucks = **25,525 CY/2,552 trips**
		End Date:	**10/6/2025**					
2	Cranes	231	0.29	8	350	6.2	5600	Tower cranes will be electric
2	Forklifts	89	0.2	4	225	2.0	1800	Forklifts will be diesel
1	Generator Sets	84	0.74	8	35	0.6	280	
5	Aerial Lifts	63	0.31	5	250	2.8	6250	
2552	Cement and Mortar Mixers	9	0.56	8	62	3.8	1265792	We will have cement truck, no onsite mixers
	Building - Cores/Elevators	**Start Date:**	**4/17/2025**	**Total phase:**	**114**			
		End Date:	**9/22/2025**					
2	Industrial Saws	81	0.73	4	90	3.2	720	
5	Aerial Lift	62	0.31	4	100	3.5	2000	
	Sitework	**Start Date:**	**4/17/2025**	**Total phase:**	**129**			New paving at roads. New building will take up existing parking lot. Some minor misc paving anticipated at cit street areas/patchwork
		Start Date:	**10/14/2025**					New sitework to consist of planters, walking paths & landscape
200	Cement and Mortar Mixers	9	0.56	8	10	0.6	16000	We will have cement truck, no onsite mixers
1	Paving Equipment	132	0.36	8	8	0.5	64	**200 truck round trips**
1	Rollers	80	0.38	8	4	0.2	32	
1	Tractors/Loaders/Backhoes	97	0.37	4	50	1.6	200	

Equipment types listed in "Equipment Types" worksheet tab.

Equipment listed in this sheet is to provide an example of inputs
It is assumed that water trucks would be used during grading
Add or subtract phases and equipment, as appropriate
Modify horepower or load factor, as appropriate

Complete one sheet for each project component

4.0 EXISTING PLUS PROJECT CONDITIONS

This analysis scenario presents the impacts of the proposed project at 455 Hickey Boulevard on the study intersections. This scenario is similar to Existing Conditions, but with the addition of projected traffic from the proposed development.

4.1 PROJECT TRIP GENERATION

TJKM developed estimated project trip generation for the proposed project based on published trip generation rates from the Institute of Transportation Engineers (ITE) publication *Trip Generation 10th Edition*. For the proposed project, TJKM used published trip rates for the ITE land uses General Office Building (ITE Code 710) and Medical-Dental Office Building (ITE Code 720). The project site is currently occupied by an existing 81,460 square foot office building that would be replaced. Trips generated by the existing uses were estimated with trip rates for General Office Building (ITE Code 710). Estimated existing trips were deducted from the project trip generation for each project alternative for the purpose of level of service impact as these trips already exist on the roadway network.

As shown in **Table 5a**, the proposed Alternative 1 is expected to generate 5,471 net new daily trips, including 406 net new a.m. peak hour trips (309 in, 97 out) and 529 net new p.m. peak hour trips (159 in, 370 out). As shown in **Table 5b**, the proposed Alternative 2 is expected to generate 1,934 net new daily trips, including 231 net new a.m. peak hour trips (199 in, 32 out) and 228 net new p.m. peak hour trips (36 in, 192 out).

Table 5a: Project Net Trip Generation – Project Alternative 1

Land Use (ITE Code)[1]	Size (ksf)	Daily		A.M. Peak					P.M. Peak				
		Rate	Trips	Rate	In:Out	In	Out	Total	Rate	In:Out	In	Out	Total
Proposed Uses													
Medical-Dental Office Building (720)	180	34.80	6,264	2.78	78:22	390	110	500	3.46	28:72	174	449	623
Proposed Subtotal			6,264			390	110	500			174	449	623
Existing Uses													
General Office Building (710)	81.46	9.74	793	1.16	86:14	81	13	94	1.15	16:84	15	79	94
Net New Trips			**5,471**			**309**	**97**	**406**			**159**	**370**	**529**

Notes:
[1] Source: ITE *Trip Generation 10th Edition*

Table 5b: Project Net Trip Generation – Project Alternative 2

Land Use (ITE Code)[1]	Size (ksf)	Daily		A.M. Peak					P.M. Peak				
		Rate	Trips	Rate	In:Out	In	Out	Total	Rate	In:Out	In	Out	Total
Proposed Uses													
General Office Building (710)	280	9.74	2727	1.16	86:14	280	45	325	1.15	16:84	52	270	322
Proposed Subtotal			2,727			280	45	325			51	271	322
Existing Uses													
General Office Building (710)	81.46	9.74	793	1.16	86:14	81	13	94	1.15	16:84	15	79	94
Net New Trips			**1,934**			**199**	**32**	**231**			**36**	**192**	**228**

Notes:
[1] Source: ITE *Trip Generation 10th Edition*

455 Hickey Blvd, Daly City (Tech Office Scenario) v2 Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	455 Hickey Blvd, Daly City (Tech Office Scenario) v2
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.60
Precipitation (days)	43.0
Location	455 Hickey Blvd, Daly City, CA 94015, USA
County	San Mateo
City	Daly City
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1219
EDFZ	1
Electric Utility	Peninsula Clean Energy
Gas Utility	Pacific Gas & Electric

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
General Office Building	280	1000sqft	3.20	280,000	0.00	0.00	—	—
Enclosed Parking with Elevator	900	Space	0.00	347,500	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-A	Water Exposed Surfaces
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	27.8	30.0	32.1	0.15	0.47	10.5	10.6	0.44	1.62	1.82	34.3	18,096
Mit.	27.2	30.0	35.8	0.15	0.35	10.5	10.6	0.34	1.62	1.72	34.3	18,096
% Reduced	2%	> -0.5%	-12%	—	24%	—	< 0.5%	23%	—	5%	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.63	72.2	44.0	0.46	0.50	10.5	10.6	0.49	2.59	3.09	2.09	43,911
Mit.	1.15	72.3	44.0	0.46	0.48	10.5	10.6	0.48	2.59	3.07	2.09	43,911
% Reduced	30%	> -0.5%	> -0.5%	—	4%	—	< 0.5%	3%	—	1%	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.98	18.6	17.5	0.09	0.29	3.11	3.40	0.27	0.80	1.07	9.29	10,923
Mit.	8.67	17.4	19.6	0.09	0.16	3.11	3.27	0.15	0.80	0.95	9.29	10,923
% Reduced	3%	7%	-12%	—	44%	—	4%	43%	—	11%	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	1.64	3.40	3.19	0.02	0.05	0.57	0.62	0.05	0.15	0.20	1.54	1,809
Mit.	1.58	3.17	3.58	0.02	0.03	0.57	0.60	0.03	0.15	0.17	1.54	1,809
% Reduced	3%	7%	-12%	—	44%	—	4%	43%	—	11%	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.25	3.06	2.75	0.01	0.09	10.5	10.6	0.08	1.62	1.70	1.68	1,088
2024	1.62	23.3	24.3	0.11	0.39	4.21	4.61	0.37	1.07	1.44	27.6	14,010
2025	27.8	30.0	32.1	0.15	0.47	5.40	5.87	0.44	1.38	1.82	34.3	18,096
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.06	72.2	44.0	0.46	0.50	10.5	10.6	0.49	2.59	3.09	2.09	43,911
2024	1.60	68.8	43.7	0.46	0.49	9.48	9.98	0.49	2.59	3.08	2.08	43,155
2025	1.63	28.2	26.9	0.15	0.42	5.01	5.44	0.40	1.29	1.69	0.86	17,060
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.17	3.82	2.86	0.02	0.07	1.30	1.37	0.07	0.36	0.43	1.32	1,810
2024	1.13	18.6	17.5	0.09	0.29	3.11	3.40	0.27	0.80	1.07	9.29	10,923
2025	8.98	15.1	15.2	0.08	0.23	2.65	2.88	0.22	0.68	0.90	7.45	8,964
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.03	0.70	0.52	< 0.005	0.01	0.24	0.25	0.01	0.07	0.08	0.22	300
2024	0.21	3.40	3.19	0.02	0.05	0.57	0.62	0.05	0.15	0.20	1.54	1,809
2025	1.64	2.76	2.78	0.01	0.04	0.48	0.53	0.04	0.12	0.16	1.23	1,484

2.3. 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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.08	2.39	2.46	0.01	0.03	10.5	10.6	0.03	1.62	1.65	1.68	1,088
2024	1.12	21.5	27.4	0.11	0.20	4.21	4.41	0.20	1.07	1.27	27.6	14,010
2025	27.2	30.0	35.8	0.15	0.35	5.40	5.76	0.34	1.38	1.72	34.3	18,096
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.98	72.3	44.0	0.46	0.48	10.5	10.6	0.48	2.59	3.07	2.09	43,911
2024	1.11	68.9	43.8	0.46	0.48	9.48	9.96	0.48	2.59	3.07	2.08	43,155
2025	1.15	27.0	30.2	0.15	0.24	5.01	5.26	0.24	1.29	1.53	0.86	17,060
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.07	3.33	2.72	0.02	0.03	1.07	1.10	0.03	0.25	0.28	1.32	1,810
2024	0.78	17.4	19.6	0.09	0.15	3.11	3.27	0.15	0.80	0.95	9.29	10,923
2025	8.67	14.8	17.1	0.08	0.16	2.65	2.81	0.15	0.68	0.83	7.45	8,964
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.01	0.61	0.50	< 0.005	0.01	0.20	0.20	0.01	0.05	0.05	0.22	300
2024	0.14	3.17	3.58	0.02	0.03	0.57	0.60	0.03	0.15	0.17	1.54	1,809
2025	1.58	2.71	3.13	0.01	0.03	0.48	0.51	0.03	0.12	0.15	1.23	1,484

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	18.5	5.05	87.1	0.17	0.13	6.13	6.26	0.13	1.07	1.21	51.8	20,581

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.9	5.68	59.2	0.16	0.09	6.13	6.22	0.08	1.07	1.16	2.01	19,695
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.8	5.78	57.8	0.12	0.14	4.64	4.78	0.14	0.81	0.95	17.4	16,088
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.70	1.05	10.6	0.02	0.03	0.85	0.87	0.03	0.15	0.17	2.88	2,664

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.20	4.82	59.8	0.17	0.09	6.13	6.22	0.08	1.07	1.16	51.1	17,142
Area	11.3	0.23	27.3	< 0.005	0.04	—	0.04	0.05	—	0.05	—	113
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	2,559
Water	—	—	—	—	—	—	—	—	—	—	—	275
Waste	—	—	—	—	—	—	—	—	—	—	—	491
Refrig.	—	—	—	—	—	—	—	—	—	—	0.68	0.68
Stationary	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	18.5	5.05	87.1	0.17	0.13	6.13	6.26	0.13	1.07	1.21	51.8	20,581
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.08	5.68	59.2	0.16	0.09	6.13	6.22	0.08	1.07	1.16	1.32	16,369
Area	6.79	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	2,559
Water	—	—	—	—	—	—	—	—	—	—	—	275

Waste	—	—	—	—	—	—	—	—	—	—	—	491
Refrig.	—	—	—	—	—	—	—	—	—	—	0.68	0.68
Stationary	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	13.9	5.68	59.2	0.16	0.09	6.13	6.22	0.08	1.07	1.16	2.01	19,695
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.27	4.06	43.0	0.12	0.07	4.64	4.71	0.06	0.81	0.88	16.7	12,430
Area	9.00	0.11	13.5	< 0.005	0.02	—	0.02	0.02	—	0.02	—	55.5
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	2,559
Water	—	—	—	—	—	—	—	—	—	—	—	275
Waste	—	—	—	—	—	—	—	—	—	—	—	491
Refrig.	—	—	—	—	—	—	—	—	—	—	0.68	0.68
Stationary	0.54	1.61	1.38	< 0.005	0.05	—	0.05	0.05	—	0.05	—	277
Total	14.8	5.78	57.8	0.12	0.14	4.64	4.78	0.14	0.81	0.95	17.4	16,088
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.96	0.74	7.84	0.02	0.01	0.85	0.86	0.01	0.15	0.16	2.76	2,058
Area	1.64	0.02	2.46	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.20
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	424
Water	—	—	—	—	—	—	—	—	—	—	—	45.5
Waste	—	—	—	—	—	—	—	—	—	—	—	81.3
Refrig.	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Stationary	0.10	0.29	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.8
Total	2.70	1.05	10.6	0.02	0.03	0.85	0.87	0.03	0.15	0.17	2.88	2,664

2.6. Operations Emissions by Sector, Mitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.20	4.82	59.8	0.17	0.09	6.13	6.22	0.08	1.07	1.16	51.1	17,142
Area	11.3	0.23	27.3	< 0.005	0.04	—	0.04	0.05	—	0.05	—	113
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	2,559
Water	—	—	—	—	—	—	—	—	—	—	—	275
Waste	—	—	—	—	—	—	—	—	—	—	—	491
Refrig.	—	—	—	—	—	—	—	—	—	—	0.68	0.68
Stationary	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	18.5	5.05	87.1	0.17	0.13	6.13	6.26	0.13	1.07	1.21	51.8	20,581
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.08	5.68	59.2	0.16	0.09	6.13	6.22	0.08	1.07	1.16	1.32	16,369
Area	6.79	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	2,559
Water	—	—	—	—	—	—	—	—	—	—	—	275
Waste	—	—	—	—	—	—	—	—	—	—	—	491
Refrig.	—	—	—	—	—	—	—	—	—	—	0.68	0.68
Stationary	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	13.9	5.68	59.2	0.16	0.09	6.13	6.22	0.08	1.07	1.16	2.01	19,695
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.27	4.06	43.0	0.12	0.07	4.64	4.71	0.06	0.81	0.88	16.7	12,430
Area	9.00	0.11	13.5	< 0.005	0.02	—	0.02	0.02	—	0.02	—	55.5
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	2,559
Water	—	—	—	—	—	—	—	—	—	—	—	275
Waste	—	—	—	—	—	—	—	—	—	—	—	491
Refrig.	—	—	—	—	—	—	—	—	—	—	0.68	0.68
Stationary	0.54	1.61	1.38	< 0.005	0.05	—	0.05	0.05	—	0.05	—	277

Total	14.8	5.78	57.8	0.12	0.14	4.64	4.78	0.14	0.81	0.95	17.4	16,088
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.96	0.74	7.84	0.02	0.01	0.85	0.86	0.01	0.15	0.16	2.76	2,058
Area	1.64	0.02	2.46	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.20
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	424
Water	—	—	—	—	—	—	—	—	—	—	—	45.5
Waste	—	—	—	—	—	—	—	—	—	—	—	81.3
Refrig.	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Stationary	0.10	0.29	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.8
Total	2.70	1.05	10.6	0.02	0.03	0.85	0.87	0.03	0.15	0.17	2.88	2,664

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	1.83	1.72	< 0.005	0.08	—	0.08	0.07	—	0.07	—	246
Demolition	—	—	—	—	—	10.3	10.3	—	1.56	1.56	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	1.83	1.72	< 0.005	0.08	—	0.08	0.07	—	0.07	—	246
Demolition	—	—	—	—	—	10.3	10.3	—	1.56	1.56	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.10	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.5
Demolition	—	—	—	—	—	0.56	0.56	—	0.09	0.09	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.23
Demolition	—	—	—	—	—	0.10	0.10	—	0.02	0.02	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.28	0.00	0.00	0.06	0.06	0.00	0.01	0.01	0.26	65.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.20	0.75	0.01	0.01	0.17	0.17	0.01	0.05	0.05	1.42	776
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.26	0.00	0.00	0.06	0.06	0.00	0.01	0.01	0.01	61.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.27	0.75	0.01	0.01	0.17	0.17	0.01	0.05	0.05	0.04	775
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	3.40
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.07	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.03	42.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.56

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	7.03

3.2. Demolition (2023) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	1.17	1.43	< 0.005	0.03	—	0.03	0.02	—	0.02	—	246
Demolition	—	—	—	—	—	10.3	10.3	—	1.56	1.56	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	1.17	1.43	< 0.005	0.03	—	0.03	0.02	—	0.02	—	246
Demolition	—	—	—	—	—	10.3	10.3	—	1.56	1.56	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.06	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.5
Demolition	—	—	—	—	—	0.56	0.56	—	0.09	0.09	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.23
Demolition	—	—	—	—	—	0.10	0.10	—	0.02	0.02	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.28	0.00	0.00	0.06	0.06	0.00	0.01	0.01	0.26	65.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.20	0.75	0.01	0.01	0.17	0.17	0.01	0.05	0.05	1.42	776
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.26	0.00	0.00	0.06	0.06	0.00	0.01	0.01	0.01	61.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.27	0.75	0.01	0.01	0.17	0.17	0.01	0.05	0.05	0.04	775
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	3.40
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.07	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.03	42.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.56
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	7.03

3.3. Site Preparation (2023) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	8.90	9.11	0.01	0.43	—	0.43	0.40	—	0.40	—	1,384
Dust From Material Movement	—	—	—	—	—	2.79	2.79	—	1.30	1.30	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.27	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	41.7
Dust From Material Movement	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.05	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.91
Dust From Material Movement	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.34	0.00	0.00	0.08	0.08	0.00	0.02	0.02	0.01	82.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	2.49
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.41
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2023) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	4.75	8.55	0.01	0.03	—	0.03	0.03	—	0.03	—	1,384
Dust From Material Movement	—	—	—	—	—	1.09	1.09	—	0.51	0.51	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.14	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	41.7
Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.91
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.34	0.00	0.00	0.08	0.08	0.00	0.02	0.02	0.01	82.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	2.49
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.41
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2023) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	7.09	6.81	0.01	0.31	—	0.31	0.29	—	0.29	—	994
Dust From Material Movement	—	—	—	—	—	2.43	2.43	—	1.20	1.20	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.83	0.80	< 0.005	0.04	—	0.04	0.03	—	0.03	—	117
Dust From Material Movement	—	—	—	—	—	0.29	0.29	—	0.14	0.14	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	19.4
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.03	0.03	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.60	0.00	0.00	0.14	0.14	0.00	0.03	0.03	0.02	144
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.07	5.09	3.03	0.03	0.03	0.67	0.70	0.03	0.18	0.22	0.15	3,119
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	0.03	17.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.59	0.36	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	0.29	368
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	2.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.11	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.05	60.9

3.6. Grading (2023) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	4.33	5.92	0.01	0.08	—	0.08	0.07	—	0.07	—	994
Dust From Material Movement	—	—	—	—	—	0.95	0.95	—	0.47	0.47	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.51	0.70	< 0.005	0.01	—	0.01	0.01	—	0.01	—	117

Dust From Material Movement	—	—	—	—	—	0.11	0.11	—	0.05	0.05	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.09	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.4
Dust From Material Movement	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.60	0.00	0.00	0.14	0.14	0.00	0.03	0.03	0.02	144
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	5.09	3.03	0.03	0.03	0.67	0.70	0.03	0.18	0.22	0.15	3,119
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	0.03	17.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.59	0.36	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	0.29	368
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	2.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.11	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.05	60.9

3.7. Building Construction (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	7.93	6.82	0.02	0.28	—	0.28	0.26	—	0.26	—	1,884
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	7.93	6.82	0.02	0.28	—	0.28	0.26	—	0.26	—	1,884
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	5.41	4.66	0.01	0.19	—	0.19	0.18	—	0.18	—	1,286
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.99	0.85	< 0.005	0.04	—	0.04	0.03	—	0.03	—	213
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.62	0.50	8.00	0.00	0.00	1.95	1.95	0.00	0.46	0.46	7.25	2,015
Vendor	0.12	4.48	2.67	0.02	0.04	0.74	0.78	0.04	0.20	0.24	7.41	3,161
Hauling	0.15	10.4	6.83	0.07	0.07	1.52	1.59	0.07	0.42	0.49	12.9	6,951
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.61	0.65	7.40	0.00	0.00	1.95	1.95	0.00	0.46	0.46	0.19	1,898
Vendor	0.12	4.71	2.71	0.02	0.04	0.74	0.78	0.04	0.20	0.24	0.19	3,153
Hauling	0.15	11.0	6.83	0.07	0.07	1.52	1.59	0.07	0.42	0.49	0.34	6,937
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.41	0.39	4.89	0.00	0.00	1.29	1.29	0.00	0.30	0.30	2.14	1,302
Vendor	0.08	3.17	1.83	0.01	0.03	0.50	0.52	0.03	0.13	0.16	2.18	2,156
Hauling	0.10	7.38	4.65	0.05	0.05	1.02	1.07	0.05	0.28	0.33	3.81	4,742
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.89	0.00	0.00	0.24	0.24	0.00	0.06	0.06	0.35	216
Vendor	0.01	0.58	0.33	< 0.005	< 0.005	0.09	0.10	< 0.005	0.02	0.03	0.36	357
Hauling	0.02	1.35	0.85	0.01	0.01	0.19	0.19	0.01	0.05	0.06	0.63	785

3.8. Building Construction (2024) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	6.13	9.94	0.02	0.09	—	0.09	0.09	—	0.09	—	1,884
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	6.13	9.94	0.02	0.09	—	0.09	0.09	—	0.09	—	1,884
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.16	4.18	6.79	0.01	0.06	—	0.06	0.06	—	0.06	—	1,286
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.76	1.24	< 0.005	0.01	—	0.01	0.01	—	0.01	—	213
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.62	0.50	8.00	0.00	0.00	1.95	1.95	0.00	0.46	0.46	7.25	2,015
Vendor	0.12	4.48	2.67	0.02	0.04	0.74	0.78	0.04	0.20	0.24	7.41	3,161
Hauling	0.15	10.4	6.83	0.07	0.07	1.52	1.59	0.07	0.42	0.49	12.9	6,951
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.61	0.65	7.40	0.00	0.00	1.95	1.95	0.00	0.46	0.46	0.19	1,898
Vendor	0.12	4.71	2.71	0.02	0.04	0.74	0.78	0.04	0.20	0.24	0.19	3,153
Hauling	0.15	11.0	6.83	0.07	0.07	1.52	1.59	0.07	0.42	0.49	0.34	6,937
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.41	0.39	4.89	0.00	0.00	1.29	1.29	0.00	0.30	0.30	2.14	1,302
Vendor	0.08	3.17	1.83	0.01	0.03	0.50	0.52	0.03	0.13	0.16	2.18	2,156
Hauling	0.10	7.38	4.65	0.05	0.05	1.02	1.07	0.05	0.28	0.33	3.81	4,742
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.89	0.00	0.00	0.24	0.24	0.00	0.06	0.06	0.35	216
Vendor	0.01	0.58	0.33	< 0.005	< 0.005	0.09	0.10	< 0.005	0.02	0.03	0.36	357
Hauling	0.02	1.35	0.85	0.01	0.01	0.19	0.19	0.01	0.05	0.06	0.63	785

3.9. Building Construction (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.70	7.37	6.76	0.02	0.26	—	0.26	0.24	—	0.24	—	1,884
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.70	7.37	6.76	0.02	0.26	—	0.26	0.24	—	0.24	—	1,884
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	4.04	3.70	0.01	0.14	—	0.14	0.13	—	0.13	—	1,032
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.74	0.68	< 0.005	0.03	—	0.03	0.02	—	0.02	—	171
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.57	0.43	7.34	0.00	0.00	1.95	1.95	0.00	0.46	0.46	6.41	1,952
Vendor	0.10	4.23	2.59	0.02	0.04	0.74	0.78	0.04	0.20	0.24	7.38	3,100
Hauling	0.15	9.92	6.73	0.07	0.07	1.52	1.59	0.07	0.42	0.49	12.8	6,794
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.56	0.58	6.80	0.00	0.00	1.95	1.95	0.00	0.46	0.46	0.17	1,857
Vendor	0.10	4.42	2.63	0.02	0.04	0.74	0.78	0.04	0.20	0.24	0.19	3,092
Hauling	0.15	10.4	6.73	0.07	0.07	1.52	1.59	0.07	0.42	0.49	0.33	6,780
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.28	3.61	0.00	0.00	1.04	1.04	0.00	0.24	0.24	1.52	1,022
Vendor	0.05	2.40	1.42	0.01	0.02	0.40	0.42	0.02	0.11	0.13	1.75	1,696
Hauling	0.08	5.62	3.70	0.04	0.04	0.82	0.86	0.04	0.22	0.26	3.03	3,718
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.66	0.00	0.00	0.19	0.19	0.00	0.04	0.04	0.25	169
Vendor	0.01	0.44	0.26	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	0.29	281
Hauling	0.02	1.03	0.67	0.01	0.01	0.15	0.16	0.01	0.04	0.05	0.50	616

3.10. Building Construction (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	6.13	9.94	0.02	0.09	—	0.09	0.09	—	0.09	—	1,884
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	6.13	9.94	0.02	0.09	—	0.09	0.09	—	0.09	—	1,884
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.13	3.36	5.45	0.01	0.05	—	0.05	0.05	—	0.05	—	1,032
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.61	0.99	< 0.005	0.01	—	0.01	0.01	—	0.01	—	171
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.57	0.43	7.34	0.00	0.00	1.95	1.95	0.00	0.46	0.46	6.41	1,952
Vendor	0.10	4.23	2.59	0.02	0.04	0.74	0.78	0.04	0.20	0.24	7.38	3,100
Hauling	0.15	9.92	6.73	0.07	0.07	1.52	1.59	0.07	0.42	0.49	12.8	6,794
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.56	0.58	6.80	0.00	0.00	1.95	1.95	0.00	0.46	0.46	0.17	1,857
Vendor	0.10	4.42	2.63	0.02	0.04	0.74	0.78	0.04	0.20	0.24	0.19	3,092
Hauling	0.15	10.4	6.73	0.07	0.07	1.52	1.59	0.07	0.42	0.49	0.33	6,780
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.28	3.61	0.00	0.00	1.04	1.04	0.00	0.24	0.24	1.52	1,022
Vendor	0.05	2.40	1.42	0.01	0.02	0.40	0.42	0.02	0.11	0.13	1.75	1,696
Hauling	0.08	5.62	3.70	0.04	0.04	0.82	0.86	0.04	0.22	0.26	3.03	3,718
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.66	0.00	0.00	0.19	0.19	0.00	0.04	0.04	0.25	169
Vendor	0.01	0.44	0.26	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	0.29	281
Hauling	0.02	1.03	0.67	0.01	0.01	0.15	0.16	0.01	0.04	0.05	0.50	616

3.11. Paving (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.32	0.53	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.5
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.32	0.53	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.5
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.11	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.5
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.71
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.23	0.00	0.00	0.06	0.06	0.00	0.01	0.01	0.20	62.1

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	4.84	3.28	0.04	0.04	0.74	0.78	0.04	0.20	0.24	6.23	3,314
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.06	0.06	0.00	0.01	0.01	0.01	59.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	5.08	3.28	0.04	0.04	0.74	0.78	0.04	0.20	0.24	0.16	3,307
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	0.03	21.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	1.77	1.16	0.01	0.01	0.26	0.27	0.01	0.07	0.08	0.95	1,170
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	3.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.32	0.21	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	0.16	194

3.12. Paving (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.34	0.56	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	80.5
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.34	0.56	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	80.5
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.12	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.5
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.71
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.23	0.00	0.00	0.06	0.06	0.00	0.01	0.01	0.20	62.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	4.84	3.28	0.04	0.04	0.74	0.78	0.04	0.20	0.24	6.23	3,314
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.06	0.06	0.00	0.01	0.01	0.01	59.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	5.08	3.28	0.04	0.04	0.74	0.78	0.04	0.20	0.24	0.16	3,307
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	0.03	21.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	1.77	1.16	0.01	0.01	0.26	0.27	0.01	0.07	0.08	0.95	1,170

Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	3.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.32	0.21	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	0.16	194

3.13. Architectural Coating (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	2.82	3.18	0.01	0.05	—	0.05	0.04	—	0.04	—	520
Architectural Coatings	25.8	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.87	0.98	< 0.005	0.01	—	0.01	0.01	—	0.01	—	161
Architectural Coatings	8.00	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.16	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.7
Architectural Coatings	1.46	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	1.47	0.00	0.00	0.39	0.39	0.00	0.09	0.09	1.28	390
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.41	0.00	0.00	0.12	0.12	0.00	0.03	0.03	0.17	115
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	0.01	0.01	0.03	19.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	4.05	3.65	0.01	0.12	—	0.12	0.11	—	0.11	—	520
Architectural Coatings	25.8	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	1.25	1.13	< 0.005	0.04	—	0.04	0.03	—	0.03	—	161
Architectural Coatings	8.00	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.23	0.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.7
Architectural Coatings	1.46	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	1.47	0.00	0.00	0.39	0.39	0.00	0.09	0.09	1.28	390
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.41	0.00	0.00	0.12	0.12	0.00	0.03	0.03	0.17	115
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	0.01	0.01	0.03	19.1

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Trenching (2023) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.95	1.17	< 0.005	0.04	—	0.04	0.04	—	0.04	—	183
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.01
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.83
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.34	0.00	0.00	0.08	0.08	0.00	0.02	0.02	0.01	82.4

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.93	71.3	42.4	0.46	0.46	9.40	9.86	0.46	2.57	3.03	2.08	43,646
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	2.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	1.92	1.16	0.01	0.01	0.25	0.26	0.01	0.07	0.08	0.95	1,197
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.38
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.35	0.21	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	0.16	198

3.16. Trenching (2023) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	1.03	1.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	183
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.01
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.83
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.34	0.00	0.00	0.08	0.08	0.00	0.02	0.02	0.01	82.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.93	71.3	42.4	0.46	0.46	9.40	9.86	0.46	2.57	3.03	2.08	43,646
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	2.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	1.92	1.16	0.01	0.01	0.25	0.26	0.01	0.07	0.08	0.95	1,197
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.38
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.35	0.21	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	0.16	198

3.17. Trenching (2024) - Unmitigated

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

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

Off-Road Equipment	0.10	0.91	1.17	< 0.005	0.03	—	0.03	0.03	—	0.03	—	183
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.09
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.31	0.00	0.00	0.08	0.08	0.00	0.02	0.02	0.01	80.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.93	67.8	42.3	0.46	0.46	9.40	9.86	0.46	2.57	3.03	2.07	42,892
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	2.69
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	2.22	1.40	0.02	0.01	0.31	0.32	0.01	0.08	0.10	1.15	1,428
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.41	0.26	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	0.19	236

3.18. Trenching (2024) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	1.03	1.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	183
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.09
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.31	0.00	0.00	0.08	0.08	0.00	0.02	0.02	0.01	80.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.93	67.8	42.3	0.46	0.46	9.40	9.86	0.46	2.57	3.03	2.07	42,892
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	2.69
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	2.22	1.40	0.02	0.01	0.31	0.32	0.01	0.08	0.10	1.15	1,428
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.41	0.26	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	0.19	236

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	7.20	4.82	59.8	0.17	0.09	6.13	6.22	0.08	1.07	1.16	51.1	17,142
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	7.20	4.82	59.8	0.17	0.09	6.13	6.22	0.08	1.07	1.16	51.1	17,142
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	7.08	5.68	59.2	0.16	0.09	6.13	6.22	0.08	1.07	1.16	1.32	16,369

Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	7.08	5.68	59.2	0.16	0.09	6.13	6.22	0.08	1.07	1.16	1.32	16,369
Annual	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.96	0.74	7.84	0.02	0.01	0.85	0.86	0.01	0.15	0.16	2.76	2,058
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.96	0.74	7.84	0.02	0.01	0.85	0.86	0.01	0.15	0.16	2.76	2,058

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	7.20	4.82	59.8	0.17	0.09	6.13	6.22	0.08	1.07	1.16	51.1	17,142
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	7.20	4.82	59.8	0.17	0.09	6.13	6.22	0.08	1.07	1.16	51.1	17,142
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	7.08	5.68	59.2	0.16	0.09	6.13	6.22	0.08	1.07	1.16	1.32	16,369
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Total	7.08	5.68	59.2	0.16	0.09	6.13	6.22	0.08	1.07	1.16	1.32	16,369
Annual	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.96	0.74	7.84	0.02	0.01	0.85	0.86	0.01	0.15	0.16	2.76	2,058
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.96	0.74	7.84	0.02	0.01	0.85	0.86	0.01	0.15	0.16	2.76	2,058

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2,201
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	358
Total	—	—	—	—	—	—	—	—	—	—	—	2,559
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2,201
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	358

Total	—	—	—	—	—	—	—	—	—	—	—	2,559
Annual	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	364
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	59.3
Total	—	—	—	—	—	—	—	—	—	—	—	424

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2,201
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	358
Total	—	—	—	—	—	—	—	—	—	—	—	2,559
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2,201
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	358
Total	—	—	—	—	—	—	—	—	—	—	—	2,559
Annual	—	—	—	—	—	—	—	—	—	—	—	—

General Office Building	—	—	—	—	—	—	—	—	—	—	—	364
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	59.3
Total	—	—	—	—	—	—	—	—	—	—	—	424

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00

Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00

Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	5.99	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.80	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	4.48	0.23	27.3	< 0.005	0.04	—	0.04	0.05	—	0.05	—	113
Total	11.3	0.23	27.3	< 0.005	0.04	—	0.04	0.05	—	0.05	—	113
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	5.99	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.80	—	—	—	—	—	—	—	—	—	—	—
Total	6.79	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.09	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.15	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.40	0.02	2.46	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.20
Total	1.64	0.02	2.46	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.20

4.3.1. Mitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	5.99	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.80	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	4.48	0.23	27.3	< 0.005	0.04	—	0.04	0.05	—	0.05	—	113
Total	11.3	0.23	27.3	< 0.005	0.04	—	0.04	0.05	—	0.05	—	113
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	5.99	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.80	—	—	—	—	—	—	—	—	—	—	—
Total	6.79	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.09	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.15	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.40	0.02	2.46	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.20
Total	1.64	0.02	2.46	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.20

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	275
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	275
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	275
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	275
Annual	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	45.5
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	45.5

4.4.1. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	275
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	275
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	275
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	275
Annual	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	45.5
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	45.5

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	491
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	491
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	491
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	491
Annual	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	81.3
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	81.3

4.5.1. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	491
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	491
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	491
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	491
Annual	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	81.3
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	81.3

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.68	0.68
Total	—	—	—	—	—	—	—	—	—	—	0.68	0.68
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.68	0.68
Total	—	—	—	—	—	—	—	—	—	—	0.68	0.68
Annual	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Total	—	—	—	—	—	—	—	—	—	—	0.11	0.11

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.68	0.68
Total	—	—	—	—	—	—	—	—	—	—	0.68	0.68
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—

General Office Building	—	—	—	—	—	—	—	—	—	—	0.68	0.68
Total	—	—	—	—	—	—	—	—	—	—	0.68	0.68
Annual	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Total	—	—	—	—	—	—	—	—	—	—	0.11	0.11

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.7.2. Mitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.10	0.29	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.8
Total	0.10	0.29	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.8

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.10	0.29	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.8
Total	0.10	0.29	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.8

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	9/4/2023	10/2/2023	5.00	20.0	—
Site Preparation	Site Preparation	10/3/2023	10/17/2023	5.00	11.0	—

Grading	Grading	10/18/2023	12/15/2023	5.00	43.0	—
Building - Superstructure/Exterior	Building Construction	1/18/2024	10/7/2025	5.00	449	—
Sitework	Paving	4/17/2025	10/14/2025	5.00	129	—
Building - Cores/Elevators	Architectural Coating	4/17/2025	9/22/2025	5.00	113	—
Foundation/Basement Walls	Trenching	12/18/2023	1/17/2024	5.00	23.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	1.20	33.0	0.73
Demolition	Excavators	Diesel	Average	1.00	4.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	0.80	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	3.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	5.70	36.0	0.38
Grading	Graders	Diesel	Average	1.00	1.60	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	2.80	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	2.80	84.0	0.37
Building - Superstructure/Exterior	Cranes	Diesel	Average	2.00	6.20	367	0.29
Building - Superstructure/Exterior	Forklifts	Diesel	Average	2.00	2.00	82.0	0.20
Building - Superstructure/Exterior	Generator Sets	Diesel	Average	1.00	0.60	14.0	0.74

Sitework	Paving Equipment	Diesel	Average	1.00	0.50	89.0	0.36
Sitework	Rollers	Diesel	Average	1.00	0.20	36.0	0.38
Sitework	Tractors/Loaders/Backhoes	Diesel	Average	1.00	1.60	84.0	0.37
Building - Cores/Elevators	Aerial Lifts	Diesel	Average	5.00	3.50	46.0	0.31
Site Preparation	Graders	Diesel	Average	1.00	5.00	148	0.41
Grading	Concrete/Industrial Saws	Diesel	Average	2.00	1.50	33.0	0.73
Building - Superstructure/Exterior	Aerial Lifts	Diesel	Average	5.00	2.80	46.0	0.31
Building - Cores/Elevators	Concrete/Industrial Saws	Diesel	Average	2.00	3.20	33.0	0.73
Foundation/Basement Walls	Tractors/Loaders/Backhoes	Diesel	Average	1.00	1.90	84.0	0.37
Foundation/Basement Walls	Excavators	Diesel	Average	1.00	5.00	36.0	0.38
Foundation/Basement Walls	Cranes	Diesel	Average	2.00	0.10	367	0.29

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Interim	1.00	1.20	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Interim	1.00	4.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	0.80	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	3.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	2.00	7.00	84.0	0.37
Grading	Excavators	Diesel	Tier 4 Interim	2.00	5.70	36.0	0.38
Grading	Graders	Diesel	Tier 4 Interim	1.00	1.60	148	0.41

Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	2.80	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	2.80	84.0	0.37
Building - Superstructure/Exterior	Cranes	Diesel	Tier 4 Interim	2.00	6.20	367	0.29
Building - Superstructure/Exterior	Forklifts	Diesel	Tier 4 Interim	2.00	2.00	82.0	0.20
Building - Superstructure/Exterior	Generator Sets	Diesel	Average	1.00	0.60	14.0	0.74
Sitework	Paving Equipment	Diesel	Tier 4 Interim	1.00	0.50	89.0	0.36
Sitework	Rollers	Diesel	Tier 4 Interim	1.00	0.20	36.0	0.38
Sitework	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	1.60	84.0	0.37
Building - Cores/Elevators	Aerial Lifts	Diesel	Tier 4 Interim	5.00	3.50	46.0	0.31
Site Preparation	Graders	Diesel	Tier 4 Interim	1.00	5.00	148	0.41
Grading	Concrete/Industrial Saws	Diesel	Tier 4 Interim	2.00	1.50	33.0	0.73
Building - Superstructure/Exterior	Aerial Lifts	Diesel	Tier 4 Interim	5.00	2.80	46.0	0.31
Building - Cores/Elevators	Concrete/Industrial Saws	Diesel	Tier 4 Interim	2.00	3.20	33.0	0.73
Foundation/Basement Walls	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	1.90	84.0	0.37
Foundation/Basement Walls	Excavators	Diesel	Tier 4 Interim	1.00	5.00	36.0	0.38
Foundation/Basement Walls	Cranes	Diesel	Tier 4 Interim	2.00	0.10	367	0.29

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	7.50	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	9.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	10.0	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	17.5	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	36.2	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building - Superstructure/Exterior	—	—	—	—
Building - Superstructure/Exterior	Worker	236	11.7	LDA,LDT1,LDT2
Building - Superstructure/Exterior	Vendor	103	8.40	HHDT,MHDT
Building - Superstructure/Exterior	Hauling	82.0	20.0	HHDT
Building - Superstructure/Exterior	Onsite truck	—	—	HHDT
Sitework	—	—	—	—
Sitework	Worker	7.50	11.7	LDA,LDT1,LDT2
Sitework	Vendor	—	8.40	HHDT,MHDT
Sitework	Hauling	40.0	20.0	HHDT
Sitework	Onsite truck	—	—	HHDT
Building - Cores/Elevators	—	—	—	—

Building - Cores/Elevators	Worker	47.1	11.7	LDA,LDT1,LDT2
Building - Cores/Elevators	Vendor	—	8.40	HHDT,MHDT
Building - Cores/Elevators	Hauling	0.00	20.0	HHDT
Building - Cores/Elevators	Onsite truck	—	—	HHDT
Foundation/Basement Walls	—	—	—	—
Foundation/Basement Walls	Worker	10.0	11.7	LDA,LDT1,LDT2
Foundation/Basement Walls	Vendor	—	8.40	HHDT,MHDT
Foundation/Basement Walls	Hauling	507	20.0	HHDT
Foundation/Basement Walls	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	7.50	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	9.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	10.0	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	17.5	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	36.2	20.0	HHDT
Grading	Onsite truck	—	—	HHDT

Building - Superstructure/Exterior	—	—	—	—
Building - Superstructure/Exterior	Worker	236	11.7	LDA,LDT1,LDT2
Building - Superstructure/Exterior	Vendor	103	8.40	HHDT,MHDT
Building - Superstructure/Exterior	Hauling	82.0	20.0	HHDT
Building - Superstructure/Exterior	Onsite truck	—	—	HHDT
Sitework	—	—	—	—
Sitework	Worker	7.50	11.7	LDA,LDT1,LDT2
Sitework	Vendor	—	8.40	HHDT,MHDT
Sitework	Hauling	40.0	20.0	HHDT
Sitework	Onsite truck	—	—	HHDT
Building - Cores/Elevators	—	—	—	—
Building - Cores/Elevators	Worker	47.1	11.7	LDA,LDT1,LDT2
Building - Cores/Elevators	Vendor	—	8.40	HHDT,MHDT
Building - Cores/Elevators	Hauling	0.00	20.0	HHDT
Building - Cores/Elevators	Onsite truck	—	—	HHDT
Foundation/Basement Walls	—	—	—	—
Foundation/Basement Walls	Worker	10.0	11.7	LDA,LDT1,LDT2
Foundation/Basement Walls	Vendor	—	8.40	HHDT,MHDT
Foundation/Basement Walls	Hauling	507	20.0	HHDT
Foundation/Basement Walls	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Building - Cores/Elevators	0.00	0.00	420,000	140,000	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	193,152	—
Site Preparation	—	—	5.50	0.00	—
Grading	—	12,458	11.8	0.00	—
Sitework	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Office Building	0.00	0%
Enclosed Parking with Elevator	0.00	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	100.0	0.03	< 0.005
2024	0.00	100.0	0.03	< 0.005
2025	0.00	100.0	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Office Building	2,727	619	196	753,506	22,440	5,092	1,613	6,199,937
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Office Building	2,727	619	196	753,506	22,440	5,092	1,613	6,199,937
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	420,000	140,000	—

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Office Building	7,876,164	100.0	0.0330	0.0040	0.00
Enclosed Parking with Elevator	1,282,772	100.0	0.0330	0.0040	0.00

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Office Building	7,876,164	100.0	0.0330	0.0040	0.00
Enclosed Parking with Elevator	1,282,772	100.0	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Office Building	49,765,449	0.00
Enclosed Parking with Elevator	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Office Building	49,765,449	0.00
Enclosed Parking with Elevator	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Office Building	260	0.00
Enclosed Parking with Elevator	0.00	0.00

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Office Building	260	0.00
Enclosed Parking with Elevator	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.15.2. Mitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	0.00	50.0	900	0.73
Emergency Generator	Diesel	1.00	0.00	50.0	1,500	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. 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	6.11	annual days of extreme heat
Extreme Precipitation	10.2	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	23.3	annual hectares burned

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

6.2. Initial Climate Risk Scores

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

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

6.3. Adjusted Climate Risk Scores

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

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	10.6
AQ-PM	24.8
AQ-DPM	66.8
Drinking Water	66.9
Lead Risk Housing	24.9
Pesticides	0.00
Toxic Releases	31.7
Traffic	86.0
Effect Indicators	—
CleanUp Sites	58.2
Groundwater	49.8
Haz Waste Facilities/Generators	58.3
Impaired Water Bodies	12.5
Solid Waste	9.67
Sensitive Population	—
Asthma	47.4
Cardio-vascular	35.6

Low Birth Weights	59.2
Socioeconomic Factor Indicators	—
Education	32.2
Housing	41.4
Linguistic	74.4
Poverty	31.3
Unemployment	6.30

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	86.48787373
Employed	84.92236623
Median HI	86.26972924
Education	—
Bachelor's or higher	67.56063134
High school enrollment	14.67984088
Preschool enrollment	89.68304889
Transportation	—
Auto Access	38.0341332
Active commuting	76.86385218
Social	—
2-parent households	91.35121263
Voting	60.05389452
Neighborhood	—
Alcohol availability	71.14076736

Park access	28.93622482
Retail density	79.87937893
Supermarket access	75.01604004
Tree canopy	88.93879122
Housing	—
Homeownership	63.91633517
Housing habitability	35.24958296
Low-inc homeowner severe housing cost burden	48.97985371
Low-inc renter severe housing cost burden	36.99473887
Uncrowded housing	44.45014757
Health Outcomes	—
Insured adults	79.19928141
Arthritis	68.4
Asthma ER Admissions	54.2
High Blood Pressure	59.9
Cancer (excluding skin)	47.4
Asthma	99.2
Coronary Heart Disease	81.5
Chronic Obstructive Pulmonary Disease	94.6
Diagnosed Diabetes	52.6
Life Expectancy at Birth	75.9
Cognitively Disabled	76.7
Physically Disabled	33.4
Heart Attack ER Admissions	69.5
Mental Health Not Good	96.5
Chronic Kidney Disease	79.8
Obesity	98.5

Pedestrian Injuries	44.7
Physical Health Not Good	90.6
Stroke	80.6
Health Risk Behaviors	—
Binge Drinking	96.4
Current Smoker	95.4
No Leisure Time for Physical Activity	59.1
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	29.7
Elderly	19.2
English Speaking	43.3
Foreign-born	89.1
Outdoor Workers	81.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	60.1
Traffic Density	90.0
Traffic Access	62.7
Other Indices	—
Hardship	25.0
Other Decision Support	—
2016 Voting	50.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	39.0

Healthy Places Index Score for Project Location (b)	85.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	Peninsula Clean Energy is Daly City's default clean power provider.
Land Use	Total square footage and parking spaces provided by applicant in construction worksheet. Total lot acreage from provided plans and pd.
Construction: Construction Phases	Construction phases/dates from provided construction worksheet.
Construction: Off-Road Equipment	Construction equipment from provided construction worksheet filled out by applicant.
Construction: Trips and VMT	Demolition = Estimated 88 asphalt demo truck round trips, Foundation/Basement Wals = 60 drilling truck round trips assuming 5 days of drilling @12 trucks per day, 774 concrete truck round trips, Building - Superstructure/Exterior = 2552 concrete truck round trips, Sitework = 200 concrete truck round trips.
Operations: Vehicle Data	Provided trip gen.
Operations: Energy Use	Building will be all electric according to applicant.
Operations: Water and Waste Water	Wastewater - 100% aerobic, no septic tanks or lagoons.
Operations: Generators + Pumps EF	Tier 4/BACT emissions factors for generators (NOx, PM10, PM2.5)

455 Hickey Blvd, Daly City (Medical Office Building Scenario) v2 Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	455 Hickey Blvd, Daly City (Medical Office Building Scenario) v2
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.60
Precipitation (days)	43.0
Location	455 Hickey Blvd, Daly City, CA 94015, USA
County	San Mateo
City	Daly City
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1219
EDFZ	1
Electric Utility	Peninsula Clean Energy
Gas Utility	Pacific Gas & Electric

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
Medical Office Building	180	1000sqft	3.20	180,000	0.00	0.00	—	—
Enclosed Parking with Elevator	900	Space	0.00	347,500	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-A	Water Exposed Surfaces
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	18.5	29.0	30.9	0.15	0.45	10.5	10.6	0.43	1.63	1.73	31.9	17,150
Mit.	17.9	31.0	37.4	0.15	0.37	10.5	10.6	0.36	1.63	1.66	31.9	17,548
% Reduced	3%	-7%	-21%	-2%	18%	—	1%	17%	—	4%	—	-2%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.54	72.2	44.0	0.46	0.50	10.5	10.6	0.49	2.59	3.09	2.09	43,919
Mit.	1.12	72.3	44.0	0.46	0.49	10.5	10.6	0.49	2.59	3.08	2.09	43,919
% Reduced	28%	> -0.5%	> -0.5%	—	1%	—	1%	1%	—	< 0.5%	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.06	17.8	16.7	0.09	0.28	2.91	3.19	0.26	0.75	1.01	8.59	10,280
Mit.	5.77	16.6	18.8	0.09	0.16	2.91	3.06	0.16	0.75	0.89	8.59	10,280
% Reduced	5%	7%	-13%	—	41%	—	4%	40%	—	12%	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	1.11	3.25	3.04	0.02	0.05	0.53	0.58	0.05	0.14	0.18	1.42	1,702
Mit.	1.05	3.03	3.43	0.02	0.03	0.53	0.56	0.03	0.14	0.16	1.42	1,702
% Reduced	5%	7%	-13%	—	41%	—	4%	40%	—	12%	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.28	3.38	3.35	0.01	0.10	10.5	10.6	0.09	1.63	1.72	1.80	1,191
2024	1.52	22.2	23.1	0.11	0.38	3.91	4.29	0.36	0.99	1.36	25.2	13,060
2025	18.5	29.0	30.9	0.15	0.45	5.09	5.54	0.43	1.30	1.73	31.9	17,150
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.07	72.2	44.0	0.46	0.50	10.5	10.6	0.49	2.59	3.09	2.09	43,919
2024	1.50	68.8	43.8	0.46	0.49	9.49	9.98	0.49	2.59	3.08	2.08	43,163
2025	1.54	27.1	25.8	0.14	0.41	4.72	5.13	0.39	1.21	1.60	0.80	16,142
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.18	3.83	2.90	0.02	0.07	1.30	1.37	0.07	0.36	0.43	1.32	1,817
2024	1.05	17.8	16.7	0.09	0.28	2.91	3.19	0.26	0.75	1.01	8.59	10,280
2025	6.06	14.5	14.6	0.07	0.23	2.48	2.71	0.22	0.63	0.85	6.90	8,453
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.03	0.70	0.53	< 0.005	0.01	0.24	0.25	0.01	0.07	0.08	0.22	301
2024	0.19	3.25	3.04	0.02	0.05	0.53	0.58	0.05	0.14	0.18	1.42	1,702
2025	1.11	2.65	2.66	0.01	0.04	0.45	0.49	0.04	0.12	0.16	1.14	1,400

2.3. 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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.10	2.70	3.09	0.01	0.04	10.5	10.6	0.03	1.63	1.66	1.80	1,191
2024	1.02	20.4	26.2	0.11	0.19	3.91	4.10	0.19	0.99	1.18	25.2	13,060
2025	17.9	31.0	37.4	0.15	0.37	5.09	5.46	0.36	1.30	1.66	31.9	17,548
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.00	72.3	44.0	0.46	0.49	10.5	10.6	0.49	2.59	3.08	2.09	43,919
2024	1.00	68.9	43.8	0.46	0.49	9.49	9.98	0.49	2.59	3.08	2.08	43,163
2025	1.12	27.9	31.8	0.15	0.26	4.72	4.98	0.25	1.21	1.47	0.80	16,540
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.07	3.35	2.76	0.02	0.03	1.07	1.10	0.03	0.25	0.28	1.32	1,817
2024	0.71	16.6	18.8	0.09	0.15	2.91	3.06	0.14	0.75	0.89	8.59	10,280
2025	5.77	14.9	17.5	0.07	0.16	2.48	2.64	0.16	0.63	0.79	6.90	8,594
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.01	0.61	0.50	< 0.005	0.01	0.20	0.20	0.01	0.05	0.05	0.22	301
2024	0.13	3.03	3.43	0.02	0.03	0.53	0.56	0.03	0.14	0.16	1.42	1,702
2025	1.05	2.72	3.19	0.01	0.03	0.45	0.48	0.03	0.12	0.14	1.14	1,423

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	24.7	11.3	160	0.38	0.24	14.1	14.3	0.24	2.46	2.70	122	45,041

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	20.6	13.1	136	0.37	0.21	14.1	14.3	0.19	2.46	2.66	7.64	43,169
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	18.5	10.3	110	0.28	0.20	10.6	10.8	0.20	1.86	2.06	42.9	34,208
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.38	1.88	20.1	0.05	0.04	1.94	1.98	0.04	0.34	0.38	7.10	5,664

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	16.5	11.1	137	0.38	0.21	14.1	14.3	0.19	2.46	2.66	117	39,378
Area	8.13	0.19	22.9	< 0.005	0.03	—	0.03	0.04	—	0.04	—	94.7
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,773
Water	—	—	—	—	—	—	—	—	—	—	—	125
Waste	—	—	—	—	—	—	—	—	—	—	—	3,666
Refrig.	—	—	—	—	—	—	—	—	—	—	4.60	4.60
Stationary	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	24.7	11.3	160	0.38	0.24	14.1	14.3	0.24	2.46	2.70	122	45,041
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	16.3	13.1	136	0.37	0.21	14.1	14.3	0.19	2.46	2.66	3.04	37,601
Area	4.37	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,773
Water	—	—	—	—	—	—	—	—	—	—	—	125

Waste	—	—	—	—	—	—	—	—	—	—	—	3,666
Refrig.	—	—	—	—	—	—	—	—	—	—	4.60	4.60
Stationary	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	20.6	13.1	136	0.37	0.21	14.1	14.3	0.19	2.46	2.66	7.64	43,169
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.1	9.30	98.5	0.28	0.16	10.6	10.8	0.15	1.86	2.01	38.3	28,490
Area	6.22	0.10	11.3	< 0.005	0.02	—	0.02	0.02	—	0.02	—	46.7
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,773
Water	—	—	—	—	—	—	—	—	—	—	—	125
Waste	—	—	—	—	—	—	—	—	—	—	—	3,666
Refrig.	—	—	—	—	—	—	—	—	—	—	4.60	4.60
Stationary	0.20	0.90	0.52	< 0.005	0.03	—	0.03	0.03	—	0.03	—	104
Total	18.5	10.3	110	0.28	0.20	10.6	10.8	0.20	1.86	2.06	42.9	34,208
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.20	1.70	18.0	0.05	0.03	1.94	1.97	0.03	0.34	0.37	6.34	4,717
Area	1.14	0.02	2.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.73
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	294
Water	—	—	—	—	—	—	—	—	—	—	—	20.6
Waste	—	—	—	—	—	—	—	—	—	—	—	607
Refrig.	—	—	—	—	—	—	—	—	—	—	0.76	0.76
Stationary	0.04	0.17	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	17.2
Total	3.38	1.88	20.1	0.05	0.04	1.94	1.98	0.04	0.34	0.38	7.10	5,664

2.6. Operations Emissions by Sector, Mitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	16.5	11.1	137	0.38	0.21	14.1	14.3	0.19	2.46	2.66	117	39,378
Area	8.13	0.19	22.9	< 0.005	0.03	—	0.03	0.04	—	0.04	—	94.7
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,773
Water	—	—	—	—	—	—	—	—	—	—	—	125
Waste	—	—	—	—	—	—	—	—	—	—	—	3,666
Refrig.	—	—	—	—	—	—	—	—	—	—	4.60	4.60
Stationary	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	24.7	11.3	160	0.38	0.24	14.1	14.3	0.24	2.46	2.70	122	45,041
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	16.3	13.1	136	0.37	0.21	14.1	14.3	0.19	2.46	2.66	3.04	37,601
Area	4.37	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,773
Water	—	—	—	—	—	—	—	—	—	—	—	125
Waste	—	—	—	—	—	—	—	—	—	—	—	3,666
Refrig.	—	—	—	—	—	—	—	—	—	—	4.60	4.60
Stationary	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	20.6	13.1	136	0.37	0.21	14.1	14.3	0.19	2.46	2.66	7.64	43,169
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.1	9.30	98.5	0.28	0.16	10.6	10.8	0.15	1.86	2.01	38.3	28,490
Area	6.22	0.10	11.3	< 0.005	0.02	—	0.02	0.02	—	0.02	—	46.7
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,773
Water	—	—	—	—	—	—	—	—	—	—	—	125
Waste	—	—	—	—	—	—	—	—	—	—	—	3,666
Refrig.	—	—	—	—	—	—	—	—	—	—	4.60	4.60
Stationary	0.20	0.90	0.52	< 0.005	0.03	—	0.03	0.03	—	0.03	—	104

Total	18.5	10.3	110	0.28	0.20	10.6	10.8	0.20	1.86	2.06	42.9	34,208
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.20	1.70	18.0	0.05	0.03	1.94	1.97	0.03	0.34	0.37	6.34	4,717
Area	1.14	0.02	2.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.73
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	294
Water	—	—	—	—	—	—	—	—	—	—	—	20.6
Waste	—	—	—	—	—	—	—	—	—	—	—	607
Refrig.	—	—	—	—	—	—	—	—	—	—	0.76	0.76
Stationary	0.04	0.17	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	17.2
Total	3.38	1.88	20.1	0.05	0.04	1.94	1.98	0.04	0.34	0.38	7.10	5,664

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	2.15	2.20	< 0.005	0.09	—	0.09	0.09	—	0.09	—	319
Demolition	—	—	—	—	—	10.3	10.3	—	1.56	1.56	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	2.15	2.20	< 0.005	0.09	—	0.09	0.09	—	0.09	—	319
Demolition	—	—	—	—	—	10.3	10.3	—	1.56	1.56	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.12	0.12	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	17.5
Demolition	—	—	—	—	—	0.56	0.56	—	0.09	0.09	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.89
Demolition	—	—	—	—	—	0.10	0.10	—	0.02	0.02	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.40	0.00	0.00	0.09	0.09	0.00	0.02	0.02	0.38	95.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.20	0.75	0.01	0.01	0.17	0.17	0.01	0.05	0.05	1.42	776
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.37	0.00	0.00	0.09	0.09	0.00	0.02	0.02	0.01	90.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.27	0.75	0.01	0.01	0.17	0.17	0.01	0.05	0.05	0.04	775
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	4.96
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.07	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.03	42.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.82

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	7.03

3.2. Demolition (2023) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	1.47	1.94	< 0.005	0.03	—	0.03	0.03	—	0.03	—	319
Demolition	—	—	—	—	—	10.3	10.3	—	1.56	1.56	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	1.47	1.94	< 0.005	0.03	—	0.03	0.03	—	0.03	—	319
Demolition	—	—	—	—	—	10.3	10.3	—	1.56	1.56	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.5
Demolition	—	—	—	—	—	0.56	0.56	—	0.09	0.09	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.89
Demolition	—	—	—	—	—	0.10	0.10	—	0.02	0.02	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.40	0.00	0.00	0.09	0.09	0.00	0.02	0.02	0.38	95.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.20	0.75	0.01	0.01	0.17	0.17	0.01	0.05	0.05	1.42	776
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.37	0.00	0.00	0.09	0.09	0.00	0.02	0.02	0.01	90.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.27	0.75	0.01	0.01	0.17	0.17	0.01	0.05	0.05	0.04	775
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	4.96
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.07	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.03	42.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	7.03

3.3. Site Preparation (2023) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	8.90	9.11	0.01	0.43	—	0.43	0.40	—	0.40	—	1,384
Dust From Material Movement	—	—	—	—	—	2.79	2.79	—	1.30	1.30	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.27	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	41.7
Dust From Material Movement	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.05	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.91
Dust From Material Movement	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.37	0.00	0.00	0.09	0.09	0.00	0.02	0.02	0.01	90.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	2.73
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2023) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	4.75	8.55	0.01	0.03	—	0.03	0.03	—	0.03	—	1,384
Dust From Material Movement	—	—	—	—	—	1.09	1.09	—	0.51	0.51	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.14	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	41.7
Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.91
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.37	0.00	0.00	0.09	0.09	0.00	0.02	0.02	0.01	90.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	2.73
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2023) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	7.09	6.81	0.01	0.31	—	0.31	0.29	—	0.29	—	994
Dust From Material Movement	—	—	—	—	—	2.43	2.43	—	1.20	1.20	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.83	0.80	< 0.005	0.04	—	0.04	0.03	—	0.03	—	117
Dust From Material Movement	—	—	—	—	—	0.29	0.29	—	0.14	0.14	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	19.4
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.03	0.03	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.06	0.64	0.00	0.00	0.16	0.16	0.00	0.04	0.04	0.02	158
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.07	5.09	3.03	0.03	0.03	0.67	0.70	0.03	0.18	0.22	0.15	3,119
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	0.03	18.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.59	0.36	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	0.29	368
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	3.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.11	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.05	60.9

3.6. Grading (2023) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	4.33	5.92	0.01	0.08	—	0.08	0.07	—	0.07	—	994
Dust From Material Movement	—	—	—	—	—	0.95	0.95	—	0.47	0.47	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.51	0.70	< 0.005	0.01	—	0.01	0.01	—	0.01	—	117

Dust From Material Movement	—	—	—	—	—	0.11	0.11	—	0.05	0.05	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.09	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.4
Dust From Material Movement	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.06	0.64	0.00	0.00	0.16	0.16	0.00	0.04	0.04	0.02	158
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	5.09	3.03	0.03	0.03	0.67	0.70	0.03	0.18	0.22	0.15	3,119
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	0.03	18.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.59	0.36	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	0.29	368
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	3.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.11	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.05	60.9

3.7. Building Construction (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	7.93	6.82	0.02	0.28	—	0.28	0.26	—	0.26	—	1,884
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	7.93	6.82	0.02	0.28	—	0.28	0.26	—	0.26	—	1,884
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	5.41	4.66	0.01	0.19	—	0.19	0.18	—	0.18	—	1,286
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.99	0.85	< 0.005	0.04	—	0.04	0.03	—	0.03	—	213
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.54	0.46	7.44	0.00	0.00	1.84	1.84	0.00	0.43	0.43	6.87	1,904
Vendor	0.09	3.39	2.03	0.01	0.03	0.54	0.57	0.03	0.15	0.17	5.41	2,322
Hauling	0.15	10.4	6.83	0.07	0.07	1.52	1.59	0.07	0.42	0.49	12.9	6,951
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.53	0.60	6.82	0.00	0.00	1.84	1.84	0.00	0.43	0.43	0.18	1,793
Vendor	0.09	3.56	2.06	0.01	0.03	0.54	0.57	0.03	0.15	0.17	0.14	2,316
Hauling	0.15	11.0	6.83	0.07	0.07	1.52	1.59	0.07	0.42	0.49	0.34	6,937
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.35	0.36	4.52	0.00	0.00	1.22	1.22	0.00	0.29	0.29	2.03	1,230
Vendor	0.06	2.39	1.39	0.01	0.02	0.36	0.38	0.02	0.10	0.12	1.59	1,584
Hauling	0.10	7.38	4.65	0.05	0.05	1.02	1.07	0.05	0.28	0.33	3.81	4,742
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.07	0.82	0.00	0.00	0.22	0.22	0.00	0.05	0.05	0.34	204
Vendor	0.01	0.44	0.25	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	0.26	262
Hauling	0.02	1.35	0.85	0.01	0.01	0.19	0.19	0.01	0.05	0.06	0.63	785

3.8. Building Construction (2024) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	6.13	9.94	0.02	0.09	—	0.09	0.09	—	0.09	—	1,884
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	6.13	9.94	0.02	0.09	—	0.09	0.09	—	0.09	—	1,884
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.16	4.18	6.79	0.01	0.06	—	0.06	0.06	—	0.06	—	1,286
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.76	1.24	< 0.005	0.01	—	0.01	0.01	—	0.01	—	213
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.54	0.46	7.44	0.00	0.00	1.84	1.84	0.00	0.43	0.43	6.87	1,904
Vendor	0.09	3.39	2.03	0.01	0.03	0.54	0.57	0.03	0.15	0.17	5.41	2,322
Hauling	0.15	10.4	6.83	0.07	0.07	1.52	1.59	0.07	0.42	0.49	12.9	6,951
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.53	0.60	6.82	0.00	0.00	1.84	1.84	0.00	0.43	0.43	0.18	1,793
Vendor	0.09	3.56	2.06	0.01	0.03	0.54	0.57	0.03	0.15	0.17	0.14	2,316
Hauling	0.15	11.0	6.83	0.07	0.07	1.52	1.59	0.07	0.42	0.49	0.34	6,937
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.35	0.36	4.52	0.00	0.00	1.22	1.22	0.00	0.29	0.29	2.03	1,230
Vendor	0.06	2.39	1.39	0.01	0.02	0.36	0.38	0.02	0.10	0.12	1.59	1,584
Hauling	0.10	7.38	4.65	0.05	0.05	1.02	1.07	0.05	0.28	0.33	3.81	4,742
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.07	0.82	0.00	0.00	0.22	0.22	0.00	0.05	0.05	0.34	204
Vendor	0.01	0.44	0.25	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	0.26	262
Hauling	0.02	1.35	0.85	0.01	0.01	0.19	0.19	0.01	0.05	0.06	0.63	785

3.9. Building Construction (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.70	7.37	6.76	0.02	0.26	—	0.26	0.24	—	0.24	—	1,884
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.70	7.37	6.76	0.02	0.26	—	0.26	0.24	—	0.24	—	1,884
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	4.04	3.70	0.01	0.14	—	0.14	0.13	—	0.13	—	1,032
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.74	0.68	< 0.005	0.03	—	0.03	0.02	—	0.02	—	171
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.50	0.40	6.83	0.00	0.00	1.84	1.84	0.00	0.43	0.43	6.07	1,844
Vendor	0.08	3.20	1.97	0.01	0.03	0.54	0.57	0.03	0.15	0.17	5.39	2,277
Hauling	0.15	9.92	6.73	0.07	0.07	1.52	1.59	0.07	0.42	0.49	12.8	6,794
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.49	0.53	6.26	0.00	0.00	1.84	1.84	0.00	0.43	0.43	0.16	1,755
Vendor	0.08	3.35	2.00	0.01	0.03	0.54	0.57	0.03	0.15	0.17	0.14	2,271
Hauling	0.15	10.4	6.73	0.07	0.07	1.52	1.59	0.07	0.42	0.49	0.33	6,780
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.26	3.33	0.00	0.00	0.98	0.98	0.00	0.23	0.23	1.44	966
Vendor	0.04	1.81	1.08	0.01	0.02	0.29	0.31	0.02	0.08	0.09	1.28	1,246
Hauling	0.08	5.62	3.70	0.04	0.04	0.82	0.86	0.04	0.22	0.26	3.03	3,718
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.61	0.00	0.00	0.18	0.18	0.00	0.04	0.04	0.24	160
Vendor	0.01	0.33	0.20	< 0.005	< 0.005	0.05	0.06	< 0.005	0.01	0.02	0.21	206
Hauling	0.02	1.03	0.67	0.01	0.01	0.15	0.16	0.01	0.04	0.05	0.50	616

3.10. Building Construction (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	6.13	9.94	0.02	0.09	—	0.09	0.09	—	0.09	—	1,884
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	6.13	9.94	0.02	0.09	—	0.09	0.09	—	0.09	—	1,884
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.13	3.36	5.45	0.01	0.05	—	0.05	0.05	—	0.05	—	1,032
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.61	0.99	< 0.005	0.01	—	0.01	0.01	—	0.01	—	171
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.50	0.40	6.83	0.00	0.00	1.84	1.84	0.00	0.43	0.43	6.07	1,844
Vendor	0.08	3.20	1.97	0.01	0.03	0.54	0.57	0.03	0.15	0.17	5.39	2,277
Hauling	0.15	9.92	6.73	0.07	0.07	1.52	1.59	0.07	0.42	0.49	12.8	6,794
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.49	0.53	6.26	0.00	0.00	1.84	1.84	0.00	0.43	0.43	0.16	1,755
Vendor	0.08	3.35	2.00	0.01	0.03	0.54	0.57	0.03	0.15	0.17	0.14	2,271
Hauling	0.15	10.4	6.73	0.07	0.07	1.52	1.59	0.07	0.42	0.49	0.33	6,780
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.26	3.33	0.00	0.00	0.98	0.98	0.00	0.23	0.23	1.44	966
Vendor	0.04	1.81	1.08	0.01	0.02	0.29	0.31	0.02	0.08	0.09	1.28	1,246
Hauling	0.08	5.62	3.70	0.04	0.04	0.82	0.86	0.04	0.22	0.26	3.03	3,718
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.61	0.00	0.00	0.18	0.18	0.00	0.04	0.04	0.24	160
Vendor	0.01	0.33	0.20	< 0.005	< 0.005	0.05	0.06	< 0.005	0.01	0.02	0.21	206
Hauling	0.02	1.03	0.67	0.01	0.01	0.15	0.16	0.01	0.04	0.05	0.50	616

3.11. Paving (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.32	0.53	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.5
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.32	0.53	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.5
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.11	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.5
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.71
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.25	0.00	0.00	0.07	0.07	0.00	0.02	0.02	0.22	68.0

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	4.84	3.28	0.04	0.04	0.74	0.78	0.04	0.20	0.24	6.23	3,314
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.23	0.00	0.00	0.07	0.07	0.00	0.02	0.02	0.01	64.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	5.08	3.28	0.04	0.04	0.74	0.78	0.04	0.20	0.24	0.16	3,307
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	0.03	22.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	1.77	1.16	0.01	0.01	0.26	0.27	0.01	0.07	0.08	0.95	1,170
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	3.80
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.32	0.21	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	0.16	194

3.12. Paving (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	2.34	3.33	< 0.005	0.03	—	0.03	0.03	—	0.03	—	479
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.07	2.34	3.33	< 0.005	0.03	—	0.03	0.03	—	0.03	—	479
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.83	1.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	169
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.15	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.0
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.25	0.00	0.00	0.07	0.07	0.00	0.02	0.02	0.22	68.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	4.84	3.28	0.04	0.04	0.74	0.78	0.04	0.20	0.24	6.23	3,314
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.23	0.00	0.00	0.07	0.07	0.00	0.02	0.02	0.01	64.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	5.08	3.28	0.04	0.04	0.74	0.78	0.04	0.20	0.24	0.16	3,307
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	0.03	22.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	1.77	1.16	0.01	0.01	0.26	0.27	0.01	0.07	0.08	0.95	1,170

Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	3.80
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.32	0.21	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	0.16	194

3.13. Architectural Coating (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	2.82	3.18	0.01	0.05	—	0.05	0.04	—	0.04	—	520
Architectural Coatings	16.6	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.87	0.98	< 0.005	0.01	—	0.01	0.01	—	0.01	—	161
Architectural Coatings	5.14	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.16	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.7
Architectural Coatings	0.94	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.08	1.37	0.00	0.00	0.37	0.37	0.00	0.09	0.09	1.21	369
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.38	0.00	0.00	0.11	0.11	0.00	0.03	0.03	0.16	109
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	0.03	18.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	4.05	3.65	0.01	0.12	—	0.12	0.11	—	0.11	—	520
Architectural Coatings	16.6	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	1.25	1.13	< 0.005	0.04	—	0.04	0.03	—	0.03	—	161
Architectural Coatings	5.14	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.23	0.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.7
Architectural Coatings	0.94	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.08	1.37	0.00	0.00	0.37	0.37	0.00	0.09	0.09	1.21	369
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.38	0.00	0.00	0.11	0.11	0.00	0.03	0.03	0.16	109
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	0.03	18.1

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Trenching (2023) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.95	1.17	< 0.005	0.04	—	0.04	0.04	—	0.04	—	183
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.01
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.83
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.37	0.00	0.00	0.09	0.09	0.00	0.02	0.02	0.01	90.1

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.93	71.3	42.4	0.46	0.46	9.40	9.86	0.46	2.57	3.03	2.08	43,646
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	2.48
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	1.92	1.16	0.01	0.01	0.25	0.26	0.01	0.07	0.08	0.95	1,197
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.41
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.35	0.21	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	0.16	198

3.16. Trenching (2023) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.05	1.19	< 0.005	0.03	—	0.03	0.03	—	0.03	—	183
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.01
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.83
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.37	0.00	0.00	0.09	0.09	0.00	0.02	0.02	0.01	90.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.93	71.3	42.4	0.46	0.46	9.40	9.86	0.46	2.57	3.03	2.08	43,646
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	2.48
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	1.92	1.16	0.01	0.01	0.25	0.26	0.01	0.07	0.08	0.95	1,197
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.41
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.35	0.21	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	0.16	198

3.17. Trenching (2024) - Unmitigated

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

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

Off-Road Equipment	0.10	0.91	1.17	< 0.005	0.03	—	0.03	0.03	—	0.03	—	183
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.09
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	0.01	88.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.93	67.8	42.3	0.46	0.46	9.40	9.86	0.46	2.57	3.03	2.07	42,892
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	2.94
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	2.22	1.40	0.02	0.01	0.31	0.32	0.01	0.08	0.10	1.15	1,428
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.49
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.41	0.26	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	0.19	236

3.18. Trenching (2024) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	1.03	1.20	< 0.005	0.03	—	0.03	0.03	—	0.03	—	183
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.09
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.33	0.00	0.00	0.09	0.09	0.00	0.02	0.02	0.01	88.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.93	67.8	42.3	0.46	0.46	9.40	9.86	0.46	2.57	3.03	2.07	42,892
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	2.94
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	2.22	1.40	0.02	0.01	0.31	0.32	0.01	0.08	0.10	1.15	1,428
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.49
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.41	0.26	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	0.19	236

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	16.5	11.1	137	0.38	0.21	14.1	14.3	0.19	2.46	2.66	117	39,378
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	16.5	11.1	137	0.38	0.21	14.1	14.3	0.19	2.46	2.66	117	39,378
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	16.3	13.1	136	0.37	0.21	14.1	14.3	0.19	2.46	2.66	3.04	37,601
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Total	16.3	13.1	136	0.37	0.21	14.1	14.3	0.19	2.46	2.66	3.04	37,601
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	2.20	1.70	18.0	0.05	0.03	1.94	1.97	0.03	0.34	0.37	6.34	4,717
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.20	1.70	18.0	0.05	0.03	1.94	1.97	0.03	0.34	0.37	6.34	4,717

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	16.5	11.1	137	0.38	0.21	14.1	14.3	0.19	2.46	2.66	117	39,378
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	16.5	11.1	137	0.38	0.21	14.1	14.3	0.19	2.46	2.66	117	39,378
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	16.3	13.1	136	0.37	0.21	14.1	14.3	0.19	2.46	2.66	3.04	37,601
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	16.3	13.1	136	0.37	0.21	14.1	14.3	0.19	2.46	2.66	3.04	37,601
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	2.20	1.70	18.0	0.05	0.03	1.94	1.97	0.03	0.34	0.37	6.34	4,717

Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.20	1.70	18.0	0.05	0.03	1.94	1.97	0.03	0.34	0.37	6.34	4,717

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	1,415
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	358
Total	—	—	—	—	—	—	—	—	—	—	—	1,773
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	1,415
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	358
Total	—	—	—	—	—	—	—	—	—	—	—	1,773
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	234
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	59.3

Total	—	—	—	—	—	—	—	—	—	—	—	294

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	1,415
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	358
Total	—	—	—	—	—	—	—	—	—	—	—	1,773
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	1,415
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	358
Total	—	—	—	—	—	—	—	—	—	—	—	1,773
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	234
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	59.3
Total	—	—	—	—	—	—	—	—	—	—	—	294

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

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

Medical Office Building	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	3.85	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	0.51	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	3.77	0.19	22.9	< 0.005	0.03	—	0.03	0.04	—	0.04	—	94.7
Total	8.13	0.19	22.9	< 0.005	0.03	—	0.03	0.04	—	0.04	—	94.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	3.85	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.51	—	—	—	—	—	—	—	—	—	—	—
Total	4.37	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.70	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.09	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.34	0.02	2.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.73
Total	1.14	0.02	2.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.73

4.3.1. Mitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	3.85	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.51	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipment	3.77	0.19	22.9	< 0.005	0.03	—	0.03	0.04	—	0.04	—	94.7
Total	8.13	0.19	22.9	< 0.005	0.03	—	0.03	0.04	—	0.04	—	94.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	3.85	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.51	—	—	—	—	—	—	—	—	—	—	—
Total	4.37	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.70	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.09	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.34	0.02	2.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.73
Total	1.14	0.02	2.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.73

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	125
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	125
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	125
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	125
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	20.6
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	20.6

4.4.1. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	125
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	125
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	125
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	125
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	20.6
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	20.6

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	3,666
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3,666
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	3,666

Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3,666
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	607
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	607

4.5.1. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	3,666
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3,666
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	3,666
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3,666

Annual	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	607
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	607

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	4.60	4.60
Total	—	—	—	—	—	—	—	—	—	—	4.60	4.60
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	4.60	4.60
Total	—	—	—	—	—	—	—	—	—	—	4.60	4.60
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	0.76	0.76
Total	—	—	—	—	—	—	—	—	—	—	0.76	0.76

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	4.60	4.60
Total	—	—	—	—	—	—	—	—	—	—	4.60	4.60
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	4.60	4.60
Total	—	—	—	—	—	—	—	—	—	—	4.60	4.60
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	0.76	0.76
Total	—	—	—	—	—	—	—	—	—	—	0.76	0.76

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Emergency Generator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.04	0.17	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	17.2
Total	0.04	0.17	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	17.2

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.04	0.17	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	17.2
Total	0.04	0.17	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	17.2

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	9/4/2023	10/2/2023	5.00	20.0	—
Site Preparation	Site Preparation	10/3/2023	10/17/2023	5.00	11.0	—
Grading	Grading	10/18/2023	12/15/2023	5.00	43.0	—
Building-Superstructure/Exterior	Building Construction	1/18/2024	10/7/2025	5.00	449	—
Sitework	Paving	4/17/2025	10/14/2025	5.00	129	—
Building - Cores/Elevators	Architectural Coating	4/17/2025	9/22/2025	5.00	113	—
Foundation/Basement Walls	Trenching	12/18/2023	1/17/2024	5.00	23.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	1.20	33.0	0.73
Demolition	Excavators	Diesel	Average	1.00	4.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	0.80	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	3.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	5.70	36.0	0.38
Grading	Graders	Diesel	Average	1.00	1.60	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	2.80	367	0.40

Grading	Tractors/Loaders/Backh	Diesel	Average	1.00	2.80	84.0	0.37
Building-Superstructure/Exterior	Cranes	Diesel	Average	2.00	6.20	367	0.29
Building-Superstructure/Exterior	Forklifts	Diesel	Average	2.00	2.00	82.0	0.20
Building-Superstructure/Exterior	Generator Sets	Diesel	Average	1.00	0.60	14.0	0.74
Sitework	Paving Equipment	Diesel	Average	1.00	0.50	89.0	0.36
Sitework	Rollers	Diesel	Average	1.00	0.20	36.0	0.38
Sitework	Tractors/Loaders/Backhoes	Diesel	Average	1.00	1.60	84.0	0.37
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	1.00	2.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	5.00	148	0.41
Grading	Concrete/Industrial Saws	Diesel	Average	2.00	1.50	33.0	0.73
Building-Superstructure/Exterior	Aerial Lifts	Diesel	Average	5.00	2.80	46.0	0.31
Building - Cores/Elevators	Aerial Lifts	Diesel	Average	5.00	3.50	46.0	0.31
Building - Cores/Elevators	Concrete/Industrial Saws	Diesel	Average	2.00	3.20	33.0	0.73
Foundation/Basement Walls	Tractors/Loaders/Backhoes	Diesel	Average	1.00	1.90	84.0	0.37
Foundation/Basement Walls	Excavators	Diesel	Average	1.00	5.00	36.0	0.38
Foundation/Basement Walls	Cranes	Diesel	Average	2.00	0.10	367	0.29

5.2.2. Mitigated

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

Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Interim	1.00	1.20	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Interim	1.00	4.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	0.80	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	3.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	2.00	7.00	84.0	0.37
Grading	Excavators	Diesel	Tier 4 Interim	2.00	5.70	36.0	0.38
Grading	Graders	Diesel	Tier 4 Interim	1.00	1.60	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	2.80	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	2.80	84.0	0.37
Building-Superstructure/Exterior	Cranes	Diesel	Tier 4 Interim	2.00	6.20	367	0.29
Building-Superstructure/Exterior	Forklifts	Diesel	Tier 4 Interim	2.00	2.00	82.0	0.20
Building-Superstructure/Exterior	Generator Sets	Diesel	Average	1.00	0.60	14.0	0.74
Sitework	Paving Equipment	Diesel	Tier 4 Interim	1.00	0.50	89.0	0.36
Sitework	Rollers	Diesel	Tier 4 Interim	1.00	6.00	36.0	0.38
Sitework	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Sitework	Rollers	Diesel	Tier 4 Interim	1.00	0.20	36.0	0.38
Sitework	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	1.60	84.0	0.37
Demolition	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	2.00	84.0	0.37
Site Preparation	Graders	Diesel	Tier 4 Interim	1.00	5.00	148	0.41
Grading	Concrete/Industrial Saws	Diesel	Tier 4 Interim	2.00	1.50	33.0	0.73
Building-Superstructure/Exterior	Aerial Lifts	Diesel	Tier 4 Interim	5.00	2.80	46.0	0.31

Building - Cores/Elevators	Aerial Lifts	Diesel	Tier 4 Interim	5.00	3.50	46.0	0.31
Building - Cores/Elevators	Concrete/Industrial Saws	Diesel	Tier 4 Interim	2.00	3.20	33.0	0.73
Foundation/Basement Walls	Tractors/Loaders/Backhoes	Diesel	Average	1.00	1.90	84.0	0.37
Foundation/Basement Walls	Excavators	Diesel	Tier 4 Interim	1.00	5.00	36.0	0.38
Foundation/Basement Walls	Cranes	Diesel	Tier 4 Interim	2.00	0.10	367	0.29

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	12.8	LDA,LDT1,LDT2
Demolition	Vendor	—	7.30	HHDT,MHDT
Demolition	Hauling	9.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	10.0	12.8	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.30	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	17.5	12.8	LDA,LDT1,LDT2
Grading	Vendor	—	7.30	HHDT,MHDT
Grading	Hauling	36.2	20.0	HHDT

Grading	Onsite truck	—	—	HHDT
Building- Superstructure/Exterior	—	—	—	—
Building- Superstructure/Exterior	Worker	204	12.8	LDA,LDT1,LDT2
Building- Superstructure/Exterior	Vendor	86.5	7.30	HHDT,MHDT
Building- Superstructure/Exterior	Hauling	82.0	20.0	HHDT
Building- Superstructure/Exterior	Onsite truck	—	—	HHDT
Sitework	—	—	—	—
Sitework	Worker	7.50	12.8	LDA,LDT1,LDT2
Sitework	Vendor	—	7.30	HHDT,MHDT
Sitework	Hauling	40.0	20.0	HHDT
Sitework	Onsite truck	—	—	HHDT
Building - Cores/Elevators	—	—	—	—
Building - Cores/Elevators	Worker	40.7	12.8	LDA,LDT1,LDT2
Building - Cores/Elevators	Vendor	—	7.30	HHDT,MHDT
Building - Cores/Elevators	Hauling	0.00	20.0	HHDT
Building - Cores/Elevators	Onsite truck	—	—	HHDT
Foundation/Basement Walls	—	—	—	—
Foundation/Basement Walls	Worker	10.0	12.8	LDA,LDT1,LDT2
Foundation/Basement Walls	Vendor	—	7.30	HHDT,MHDT
Foundation/Basement Walls	Hauling	507	20.0	HHDT
Foundation/Basement Walls	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	12.8	LDA,LDT1,LDT2
Demolition	Vendor	—	7.30	HHDT,MHDT

Demolition	Hauling	9.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	10.0	12.8	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.30	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	17.5	12.8	LDA,LDT1,LDT2
Grading	Vendor	—	7.30	HHDT,MHDT
Grading	Hauling	36.2	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building- Superstructure/Exterior	—	—	—	—
Building- Superstructure/Exterior	Worker	204	12.8	LDA,LDT1,LDT2
Building- Superstructure/Exterior	Vendor	86.5	7.30	HHDT,MHDT
Building- Superstructure/Exterior	Hauling	82.0	20.0	HHDT
Building- Superstructure/Exterior	Onsite truck	—	—	HHDT
Sitework	—	—	—	—
Sitework	Worker	7.50	12.8	LDA,LDT1,LDT2
Sitework	Vendor	—	7.30	HHDT,MHDT
Sitework	Hauling	40.0	20.0	HHDT
Sitework	Onsite truck	—	—	HHDT
Building - Cores/Elevators	—	—	—	—
Building - Cores/Elevators	Worker	40.7	12.8	LDA,LDT1,LDT2
Building - Cores/Elevators	Vendor	—	7.30	HHDT,MHDT
Building - Cores/Elevators	Hauling	0.00	20.0	HHDT
Building - Cores/Elevators	Onsite truck	—	—	HHDT

Foundation/Basement Walls	—	—	—	—
Foundation/Basement Walls	Worker	10.0	12.8	LDA,LDT1,LDT2
Foundation/Basement Walls	Vendor	—	7.30	HHDT,MHDT
Foundation/Basement Walls	Hauling	507	20.0	HHDT
Foundation/Basement Walls	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Building - Cores/Elevators	0.00	0.00	270,000	90,000	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	193,152	—
Site Preparation	—	—	5.50	0.00	—
Grading	—	12,458	11.8	0.00	—
Sitework	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Medical Office Building	0.00	0%
Enclosed Parking with Elevator	0.00	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	100.0	0.03	< 0.005
2024	0.00	100.0	0.03	< 0.005
2025	0.00	100.0	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Medical Office Building	6,265	1,543	256	1,727,041	51,546	12,693	2,103	14,210,297
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Medical Office Building	6,265	1,543	256	1,727,041	51,546	12,693	2,103	14,210,297
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	270,000	90,000	—

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

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

Medical Office Building	5,063,248	100.0	0.0330	0.0040	0.00
Enclosed Parking with Elevator	1,282,772	100.0	0.0330	0.0040	0.00

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Medical Office Building	5,063,248	100.0	0.0330	0.0040	0.00
Enclosed Parking with Elevator	1,282,772	100.0	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Medical Office Building	22,586,497	0.00
Enclosed Parking with Elevator	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Medical Office Building	22,586,497	0.00
Enclosed Parking with Elevator	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Medical Office Building	1,944	0.00
Enclosed Parking with Elevator	0.00	0.00

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Medical Office Building	1,944	0.00
Enclosed Parking with Elevator	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Medical Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Medical Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Medical Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Medical Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.15.2. Mitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	0.00	50.0	900	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. 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	6.11	annual days of extreme heat
Extreme Precipitation	10.2	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	23.3	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

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

6.2. Initial Climate Risk Scores

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

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

6.3. Adjusted Climate Risk Scores

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

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	10.6
AQ-PM	24.8
AQ-DPM	66.8
Drinking Water	66.9
Lead Risk Housing	24.9
Pesticides	0.00
Toxic Releases	31.7
Traffic	86.0
Effect Indicators	—
CleanUp Sites	58.2
Groundwater	49.8

Haz Waste Facilities/Generators	58.3
Impaired Water Bodies	12.5
Solid Waste	9.67
Sensitive Population	—
Asthma	47.4
Cardio-vascular	35.6
Low Birth Weights	59.2
Socioeconomic Factor Indicators	—
Education	32.2
Housing	41.4
Linguistic	74.4
Poverty	31.3
Unemployment	6.30

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	86.48787373
Employed	84.92236623
Median HI	86.26972924
Education	—
Bachelor's or higher	67.56063134
High school enrollment	14.67984088
Preschool enrollment	89.68304889
Transportation	—
Auto Access	38.0341332

Active commuting	76.86385218
Social	—
2-parent households	91.35121263
Voting	60.05389452
Neighborhood	—
Alcohol availability	71.14076736
Park access	28.93622482
Retail density	79.87937893
Supermarket access	75.01604004
Tree canopy	88.93879122
Housing	—
Homeownership	63.91633517
Housing habitability	35.24958296
Low-inc homeowner severe housing cost burden	48.97985371
Low-inc renter severe housing cost burden	36.99473887
Uncrowded housing	44.45014757
Health Outcomes	—
Insured adults	79.19928141
Arthritis	68.4
Asthma ER Admissions	54.2
High Blood Pressure	59.9
Cancer (excluding skin)	47.4
Asthma	99.2
Coronary Heart Disease	81.5
Chronic Obstructive Pulmonary Disease	94.6
Diagnosed Diabetes	52.6
Life Expectancy at Birth	75.9

Cognitively Disabled	76.7
Physically Disabled	33.4
Heart Attack ER Admissions	69.5
Mental Health Not Good	96.5
Chronic Kidney Disease	79.8
Obesity	98.5
Pedestrian Injuries	44.7
Physical Health Not Good	90.6
Stroke	80.6
Health Risk Behaviors	—
Binge Drinking	96.4
Current Smoker	95.4
No Leisure Time for Physical Activity	59.1
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	29.7
Elderly	19.2
English Speaking	43.3
Foreign-born	89.1
Outdoor Workers	81.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	60.1
Traffic Density	90.0
Traffic Access	62.7
Other Indices	—
Hardship	25.0

Other Decision Support	—
2016 Voting	50.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	39.0
Healthy Places Index Score for Project Location (b)	85.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	Daly City default clean energy provider is Peninsula Clean Energy.
Land Use	Total square footage and parking spaces provided by applicant in construction worksheet. Total lot acreage from provided plans and project description.
Construction: Construction Phases	Construction phases/dates from provided construction worksheet.
Construction: Off-Road Equipment	Construction equipment from provided construction worksheet filled out by applicant.

Construction: Trips and VMT	Demolition = Estimated 88 asphalt demo truck round trips, Foundation/Basement Walls = 60 drilling truck round trips and 774 concrete truck round trips, Building-Superstructure/Exterior = 2552 concrete truck round trips, Sitework = 200 concrete truck round trips.
Operations: Vehicle Data	Provided trip gen.
Operations: Energy Use	Project all-electric, no natural gas according to filled out data request sheet.
Operations: Water and Waste Water	Wastewater treatment = 100% aerobic, no septic tanks or lagoons.

455 Hickey Blvd, Daly City Existing Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	455 Hickey Blvd, Daly City Existing
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.60
Precipitation (days)	43.0
Location	455 Hickey Blvd, Daly City, CA 94015, USA
County	San Mateo
City	Daly City
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1219
EDFZ	1
Electric Utility	Peninsula Clean Energy
Gas Utility	Pacific Gas & Electric

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
General Office Building	81.0	1000sqft	1.86	81,460	0.00	0.00	—	—
Unenclosed Parking Structure	293	Space	2.64	112,500	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.86	2.40	29.1	0.05	0.08	1.77	1.85	0.08	0.31	0.39	21.0	6,746
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.43	2.66	20.6	0.05	0.07	1.77	1.84	0.07	0.31	0.38	0.74	6,465
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.50	2.08	19.2	0.04	0.07	1.34	1.41	0.07	0.23	0.30	6.98	5,283
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.82	0.38	3.50	0.01	0.01	0.24	0.26	0.01	0.04	0.06	1.16	875

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.45	1.81	20.3	0.05	0.03	1.77	1.80	0.03	0.31	0.34	20.8	5,238
Area	3.38	0.07	8.43	< 0.005	0.01	—	0.01	0.02	—	0.02	—	35.7

Energy	0.03	0.52	0.44	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,186
Water	—	—	—	—	—	—	—	—	—	—	—	144
Waste	—	—	—	—	—	—	—	—	—	—	—	142
Refrig.	—	—	—	—	—	—	—	—	—	—	0.20	0.20
Total	5.86	2.40	29.1	0.05	0.08	1.77	1.85	0.08	0.31	0.39	21.0	6,746
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.40	2.14	20.2	0.05	0.03	1.77	1.80	0.03	0.31	0.34	0.54	4,992
Area	2.00	—	—	—	—	—	—	—	—	—	—	—
Energy	0.03	0.52	0.44	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,186
Water	—	—	—	—	—	—	—	—	—	—	—	144
Waste	—	—	—	—	—	—	—	—	—	—	—	142
Refrig.	—	—	—	—	—	—	—	—	—	—	0.20	0.20
Total	4.43	2.66	20.6	0.05	0.07	1.77	1.84	0.07	0.31	0.38	0.74	6,465
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.79	1.53	14.6	0.04	0.02	1.34	1.36	0.02	0.23	0.26	6.78	3,792
Area	2.68	0.04	4.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	17.6
Energy	0.03	0.52	0.44	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,186
Water	—	—	—	—	—	—	—	—	—	—	—	144
Waste	—	—	—	—	—	—	—	—	—	—	—	142
Refrig.	—	—	—	—	—	—	—	—	—	—	0.20	0.20
Total	4.50	2.08	19.2	0.04	0.07	1.34	1.41	0.07	0.23	0.30	6.98	5,283
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.33	0.28	2.66	0.01	< 0.005	0.24	0.25	< 0.005	0.04	0.05	1.12	628
Area	0.49	0.01	0.76	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.91
Energy	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	196
Water	—	—	—	—	—	—	—	—	—	—	—	23.9
Waste	—	—	—	—	—	—	—	—	—	—	—	23.5

Refrig.	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	0.82	0.38	3.50	0.01	0.01	0.24	0.26	0.01	0.04	0.06	1.16	875

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	2.45	1.81	20.3	0.05	0.03	1.77	1.80	0.03	0.31	0.34	20.8	5,238
Unenclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.45	1.81	20.3	0.05	0.03	1.77	1.80	0.03	0.31	0.34	20.8	5,238
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	2.40	2.14	20.2	0.05	0.03	1.77	1.80	0.03	0.31	0.34	0.54	4,992
Unenclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.40	2.14	20.2	0.05	0.03	1.77	1.80	0.03	0.31	0.34	0.54	4,992
Annual	—	—	—	—	—	—	—	—	—	—	—	—

General Office Building	0.33	0.28	2.66	0.01	< 0.005	0.24	0.25	< 0.005	0.04	0.05	1.12	628
Unenclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.33	0.28	2.66	0.01	< 0.005	0.24	0.25	< 0.005	0.04	0.05	1.12	628

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	482
Unenclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	82.6
Total	—	—	—	—	—	—	—	—	—	—	—	565
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	482
Unenclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	82.6
Total	—	—	—	—	—	—	—	—	—	—	—	565
Annual	—	—	—	—	—	—	—	—	—	—	—	—

General Office Building	—	—	—	—	—	—	—	—	—	—	—	79.8
Unenclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	13.7
Total	—	—	—	—	—	—	—	—	—	—	—	93.5

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.03	0.52	0.44	< 0.005	0.04	—	0.04	0.04	—	0.04	—	622
Unenclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.03	0.52	0.44	< 0.005	0.04	—	0.04	0.04	—	0.04	—	622
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.03	0.52	0.44	< 0.005	0.04	—	0.04	0.04	—	0.04	—	622
Unenclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.03	0.52	0.44	< 0.005	0.04	—	0.04	0.04	—	0.04	—	622
Annual	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	103

Unenclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Total	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	103

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.75	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.25	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.38	0.07	8.43	< 0.005	0.01	—	0.01	0.02	—	0.02	—	35.7
Total	3.38	0.07	8.43	< 0.005	0.01	—	0.01	0.02	—	0.02	—	35.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.75	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.25	—	—	—	—	—	—	—	—	—	—	—
Total	2.00	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.32	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.05	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipment	0.12	0.01	0.76	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.91
Total	0.49	0.01	0.76	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.91

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	144
Unenclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	144
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	144
Unenclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	144
Annual	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	23.9

Unenclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	23.9

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	142
Unenclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	142
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	142
Unenclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	142
Annual	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	23.5

Unenclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	23.5

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.20	0.20
Total	—	—	—	—	—	—	—	—	—	—	0.20	0.20
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.20	0.20
Total	—	—	—	—	—	—	—	—	—	—	0.20	0.20
Annual	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	0.03	0.03

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Office Building	788	179	56.7	217,767	6,485	1,473	467	1,791,816
Unenclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	127,359	41,304	6,892

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Office Building	1,724,397	100.0	0.0330	0.0040	1,934,699
Unenclosed Parking Structure	295,650	100.0	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Office Building	14,396,434	0.00

Unenclosed Parking Structure	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Office Building	75.3	0.00
Unenclosed Parking Structure	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	6.11	annual days of extreme heat
Extreme Precipitation	10.2	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	23.3	annual hectares burned

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

6.2. Initial Climate Risk Scores

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

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

6.3. Adjusted Climate Risk Scores

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	10.6

AQ-PM	24.8
AQ-DPM	66.8
Drinking Water	66.9
Lead Risk Housing	24.9
Pesticides	0.00
Toxic Releases	31.7
Traffic	86.0
Effect Indicators	—
CleanUp Sites	58.2
Groundwater	49.8
Haz Waste Facilities/Generators	58.3
Impaired Water Bodies	12.5
Solid Waste	9.67
Sensitive Population	—
Asthma	47.4
Cardio-vascular	35.6
Low Birth Weights	59.2
Socioeconomic Factor Indicators	—
Education	32.2
Housing	41.4
Linguistic	74.4
Poverty	31.3
Unemployment	6.30

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	86.48787373
Employed	84.92236623
Median HI	86.26972924
Education	—
Bachelor's or higher	67.56063134
High school enrollment	14.67984088
Preschool enrollment	89.68304889
Transportation	—
Auto Access	38.0341332
Active commuting	76.86385218
Social	—
2-parent households	91.35121263
Voting	60.05389452
Neighborhood	—
Alcohol availability	71.14076736
Park access	28.93622482
Retail density	79.87937893
Supermarket access	75.01604004
Tree canopy	88.93879122
Housing	—
Homeownership	63.91633517
Housing habitability	35.24958296
Low-inc homeowner severe housing cost burden	48.97985371
Low-inc renter severe housing cost burden	36.99473887
Uncrowded housing	44.45014757
Health Outcomes	—

Insured adults	79.19928141
Arthritis	68.4
Asthma ER Admissions	54.2
High Blood Pressure	59.9
Cancer (excluding skin)	47.4
Asthma	99.2
Coronary Heart Disease	81.5
Chronic Obstructive Pulmonary Disease	94.6
Diagnosed Diabetes	52.6
Life Expectancy at Birth	75.9
Cognitively Disabled	76.7
Physically Disabled	33.4
Heart Attack ER Admissions	69.5
Mental Health Not Good	96.5
Chronic Kidney Disease	79.8
Obesity	98.5
Pedestrian Injuries	44.7
Physical Health Not Good	90.6
Stroke	80.6
Health Risk Behaviors	—
Binge Drinking	96.4
Current Smoker	95.4
No Leisure Time for Physical Activity	59.1
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	29.7

Elderly	19.2
English Speaking	43.3
Foreign-born	89.1
Outdoor Workers	81.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	60.1
Traffic Density	90.0
Traffic Access	62.7
Other Indices	—
Hardship	25.0
Other Decision Support	—
2016 Voting	50.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	39.0
Healthy Places Index Score for Project Location (b)	85.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	Assumed existing electricity provider.
Land Use	Existing building square footage from provided trip gen. Total parking spaces from project description, parking structure square footage from project correspondence.
Operations: Vehicle Data	Provided trip gen.

Attachment 3: Project Emissions and Health Risk Calculations

Construction Health Risk Assessment and Calculations

455 Hickey Boulevard (Tech Office), Daly City, CA

DPM Emissions and Modeling Emission Rates - Unmitigated

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2023	Construction	0.01	CON_DPM	20.0	0.00609	7.67E-04	13114	5.85E-08
2024	Construction	0.04	CON_DPM	80.0	0.02435	3.07E-03	13114	2.34E-07
2025	Construction	0.03	CON_DPM	60.0	0.01826	2.30E-03	13114	1.75E-07
Total		***0.08***		***160.0***	***0.0487***	***0.0061***		

Construction Hours

hr/day =	9	(8am - 5pm)
days/yr =	365	
hours/year =	3285	

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2023	Construction	0.01	CON_DPM	10.0	0.00304	3.84E-04	13114	2.92E-08
2024	Construction	0.01	CON_DPM	20.0	0.00609	7.67E-04	13114	5.85E-08
2025	Construction	0.02	CON_DPM	40.0	0.01218	1.53E-03	13114	1.17E-07
Total		***0.035***		***70.0***	***0.0213***	***0.0027***		

Construction Hours

hr/day =	9	(8am - 5pm)
days/yr =	365	
hours/year =	3285	

455 Hickey Boulevard (Tech Office), Daly City, CA

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2023	Construction	CON_FUG	0.05	100.0	0.03044	3.84E-03	13,114	2.92E-07
2024	Construction	CON_FUG	0.01	20.0	0.00609	7.67E-04	13,114	5.85E-08
2025	Construction	CON_FUG	0.01	20.0	0.00609	7.67E-04	13,114	5.85E-08
Total			***0.07***	***140.0***	***0.0426***	***0.0054***		

Construction Hours

hr/day =	9	(8am - 5pm)
days/yr =	365	
hours/year =	3285	

PM2.5 Fugitive Dust Construction Emissions for Modeling - With Mitigation

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2023	Construction	CON_FUG	0.03	60.0	0.01826	2.30E-03	13,114	1.75E-07
2024	Construction	CON_FUG	0.01	20.0	0.00609	7.67E-04	13,114	5.85E-08
2025	Construction	CON_FUG	0.01	20.0	0.00609	7.67E-04	13,114	5.85E-08
Total			***0.05***	***100.0***	***0.0304***	***0.0038***		

Construction Hours

hr/day =	9	(8am - 5pm)
days/yr =	365	
hours/year =	3285	

455 Hickey Boulevard (Tech Office), Daly City, CA - Construction Health Impact Summary

Maximum Impacts at MEI Residential Location - Without Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Infant/Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2023-2024*	0.0581	0.0825	10.34	0.17	0.012	0.14
2025	0.0348	0.0138	5.71	0.10	0.007	0.05
Total	-	-	**16.05**	**0.27**	-	-
Maximum	0.0581	0.0825	**-**	**-**	**0.012**	**0.14**

* Includes 2023 (four months of construction)

Maximum Impacts at MEI Residential Location - With Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Infant/Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2023-2024*	0.0174	0.0550	3.10	0.05	0.003	0.07
2025	0.0233	0.0138	3.82	0.07	0.005	0.04
Total	-	-	**6.92**	**0.12**	-	-
Maximum	0.0233	0.0550	**-**	**-**	**0.005**	**0.07**

* Includes 2023 (four months of construction)

- Tier 4 Interim Engines and BMPs Mitigation

Maximum Impacts at Junipero Serra Elementary School - Without Mitigation

Construction Year	Unmitigated Emissions: Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Unmitigated Emissions: Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Child Cancer Risk (per million)	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2023-2024*	0.0061	0.0076	0.38	0.001	0.01
2025	0.0037	0.0013	0.23	0.001	0.005
Total	-	-	**0.61**	-	-
Maximum	0.0061	0.0076	**-**	**0.001**	**0.01**

455 Hickey Boulevard (Tech Office), Daly City, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site Residential MEI Location - 1.5 meter receptor height (1st Floor Level)

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information				Maximum		
			DPM Conc (ug/m3)		Age	Infant/Child	Modeled DPM Conc (ug/m3)		Age	Adult			
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Hazard Index**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	2023-2024**	0.0581	10	0.79	2023-2024**	0.0581	-	-			
1	1	0 - 1	2023-2024**	0.0581	10	9.55	2023-2024**	0.0581	1	0.17	0.01	0.08	0.14
2	1	1 - 2	2025	0.0348	10	5.71	2025	0.0348	1	0.10	0.01	0.01	0.05
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00			
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**16.05**				**0.27**			

* Third trimester of pregnancy

** Includes 2023 (four months of construction)

455 Hickey Boulevard (Tech Office), Daly City, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site Residential MEI Location - 4.5 meter receptor height (2nd Floor Level)

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age –>	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information				Maximum		
			DPM Conc (ug/m3)		Age	Infant/Child	Modeled DPM Conc (ug/m3)		Age	Adult			
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Hazard Index**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	2023-2024**	0.0065	10	0.09	2023-2024**	0.0065	-	-			
1	1	0 - 1	2023-2024**	0.0065	10	1.06	2023-2024**	0.0065	1	0.02	0.001	0.01	0.01
2	1	1 - 2	2025	0.0039	10	0.64	2025	0.0039	1	0.01	0.001	0.001	0.01
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00			
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**1.79**				**0.03**			

* Third trimester of pregnancy

** Includes 2023 (four months of construction)

455 Hickey Boulevard (Tech Office), Daly City, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Junipero Serra Elementary School (+5 Years) - 1 meter - Child Exposure

Student Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)

Inhalation Dose = C_{air} x SAF x 8-Hr BR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
SCAF = School Child Adjustment Factor (unitless) for source operation and exposures different than 8 hours/day
= (24/SHR) x (7days/SDay) x (SCHR/8 hrs)
SHR = Hours/day of emission source operation
SDay = Number of days per week of source operation
SCHR = School operation hours while emission source in operation
8-Hr BR = Eight-hour breathing rate (L/kg body weight-per 8 hrs)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant	School Child
Age -->	**0 - <2**	**2 - <16**
Parameter		
ASF =	10	3
DPM CPF =	1.10E+00	1.10E+00
8-Hr BR* =	1200	520
SCHR =	8	8
SHR =	9	9
SDay =	5	5
A =	1	1
EF =	250	250
AT =	70	70
SCAF =	3.73	3.73

* 95th percentile 8-hr breathing rates for moderate intensity activities

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Child - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age* Sensitivity Factor	Child Cancer Risk (per million)
1	1	5 - 6	2023-2024**	0.0061	3	0.38
2	1	6 - 7	2025	0.0037	3	0.23
Total Increased Cancer Risk						**0.61**

Maximum Hazard Index	Maximum Fugitive PM2.5	Maximum Total PM2.5
0.001	0.01	0.01
0.001	0.001	0.005

* Children assumed to be 5 years and older with 2 years of Construction Exposure

** Includes 2023 (four months of construction)

455 Hickey Boulevard (Tech Office), Daly City, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site Residential MEI Location - 1.5 meter receptor height (1st Floor Level)

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age –>	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information				Maximum		
			DPM Conc (ug/m3)		Age	Infant/Child	Modeled DPM Conc (ug/m3)		Age	Adult			
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Hazard Index**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	2023-2024**	0.0174	10	0.24	2023-2024**	0.0174	-	-			
1	1	0 - 1	2023-2024**	0.0174	10	2.86	2023-2024**	0.0174	1	0.05	0.003	0.05	0.07
2	1	1 - 2	2025	0.0233	10	3.82	2025	0.0233	1	0.07	0.00	0.01	0.04
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00			
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**6.92**				**0.12**			

* Third trimester of pregnancy

** Includes 2023 (four months of construction)

Project Generators Health Risk Assessment and Calculations

455 Hickey Boulevard (Tech Office), Daly City, CA

Standby Emergency Generator Impacts

Off-Site Sensitive Receptors

MEI Location = 1.5m receptor height

DPM Emission Rates		
	DPM Emissions per Generator	
	Max Daily	Annual
Source Type	(lb/day)	(lb/year)
One, 600-kW, 900-hp Generator	0.030	10.95
CalEEMod DPM Emissions	0.0055	tons/year

Modeling Information	
Model	AERMOD
Source	Diesel Generator Engine
Source Type	Point
Meteorological Data	2013-207 San Francisco Airport Meterological Data
Point Source Stack Parameters	
Generator Engine Size (hp)	900
Stack Height (ft) *	11.00
Stack Diameter (ft)**	0.60
Exhaust Gas Flowrate (CFM)*	4044.00
Stack Exit Velocity (ft/sec)*	238.38
Exhaust Temperature (˚F)**	923.00
Emissions Rate (lb/hr)	0.0013

* Generator Specs

**BAAQMD default generator parameters

455 Hickey Boulevard (Tech Office), Daly City, CA

Standby Emergency Generator Impacts

Off-Site Sensitive Receptors

MEI Location = 1.5m receptor height

DPM Emission Rates		
	DPM Emissions per Generator	
Source Type	Max Daily (lb/day)	Annual (lb/year)
One, 1,000-kW, 1,500-hp w/ Tier 4 Generator	0.020	7.30
CalEEMod DPM Emissions	0.0037	tons/year

Modeling Information		
Model	AERMOD	
Source	Diesel Generator Engine	
Source Type	Point	
Meteorological Data	2013-207 San Francisco Airport Meterological Data	
Point Source Stack Parameters		
Generator Engine Size (hp)	1500	
Stack Height (ft)	11.00	1st Level Exhaust Release
Stack Diameter (ft)**	0.60	
Exhaust Gas Flowrate (CFM)*	2527.73	
Stack Exit Velocity (ft/sec)**	149.00	
Exhaust Temperature (˚F)**	872.00	
Emissions Rate (lb/hr)	0.0008	

* AERMOD default

**BAAQMD default generator parameters

455 Hickey Boulevard (Tech Office), Daly City, CA - Project Generator Impacts
Maximum DPM Cancer Risk and PM2.5 Calculations
Impacts at Construction MEI Receptor, 28-Year Exposure - 1.5m Receptor Height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Project Generators Operation Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information					
Exposure Year	**Exposure Duration (years)**	**Age**	**DPM Conc (ug/m3) Year**	**Annual**	**Age Sensitivity Factor**	**Cancer Risk (per million)**	**Hazard Index**	**Total PM2.5**
0	0.25	-0.25 - 0*	2023-2024**	0.0000	10	0.00		
1	1	0 - 1	2023-2024**	0.0000	10	0.00		
2	1	1 - 2	2025	0.0000	10	0.00		
3	1	2 - 3	2026	0.0020	3	0.05	0.0004	0.002
4	1	3 - 4	2027	0.0020	3	0.05		
5	1	4 - 5	2028	0.0020	3	0.05		
6	1	5 - 6	2029	0.0020	3	0.05		
7	1	6 - 7	2030	0.0020	3	0.05		
8	1	7 - 8	2031	0.0020	3	0.05		
9	1	8 - 9	2032	0.0020	3	0.05		
10	1	9 - 10	2033	0.0020	3	0.05		
11	1	10 - 11	2034	0.0020	3	0.05		
12	1	11 - 12	2035	0.0020	3	0.05		
13	1	12 - 13	2036	0.0020	3	0.05		
14	1	13 - 14	2037	0.0020	3	0.05		
15	1	14 - 15	2038	0.0020	3	0.05		
16	1	15 - 16	2039	0.0020	3	0.05		
17	1	16-17	2040	0.0020	1	0.01		
18	1	17-18	2041	0.0020	1	0.01		
19	1	18-19	2042	0.0020	1	0.01		
20	1	19-20	2043	0.0020	1	0.01		
21	1	20-21	2044	0.0020	1	0.01		
22	1	21-22	2045	0.0020	1	0.01		
23	1	22-23	2046	0.0020	1	0.01		
24	1	23-24	2047	0.0020	1	0.01		
25	1	24-25	2048	0.0020	1	0.01		
26	1	25-26	2049	0.0020	1	0.01		
27	1	26-27	2050	0.0020	1	0.01		
28	1	27-28	2051	0.0020	1	0.01		
29	1	28-29	2052	0.0020	1	0.01		
30	1	29-30	2053	0.0020	1	0.01		
Total Increased Cancer Risk						**0.78**		

* Third trimester of pregnancy

** Includes 2023 (four months of construction)

455 Hickey Boulevard (Tech Office), Daly City, CA - Project Generator Impacts
Maximum DPM Cancer Risk and PM2.5 Calculations
Impacts at Junipero Serra Elementary School (+5 years) - 1 meter - 4 Years Child Exposure

Student Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)

Inhalation Dose = C_{air} x SAF x 8-Hr BR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
SCAF = School Child Adjustment Factor (unitless) for source operation and exposures different than 8 hours/day
= (24/SHR) x (7days/SDay) x (SCHR/8 hrs)
SHR = Hours/day of emission source operation
SDay = Number of days per week of source operation
SCHR = School operation hours while emission source in operation
8-Hr BR = Eight-hour breathing rate (L/kg body weight-per 8 hrs)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant	School Child
Age -->	**0 - <2**	**2 - <16**
Parameter		
ASF =	10	3
DPM CPF =	1.10E+00	1.10E+00
8-Hr BR* =	1200	520
SCHR =	9	9
SHR =	24	24
SDay =	7	7
A =	1	1
EF =	250	250
AT =	70	70
SAF =	1.13	1.13

* 95th percentile 8-hr breathing rates for moderate intensity activities

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Child - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age* Sensitivity Factor	Child Cancer Risk (per million)	Hazard Index	Total PM2.5
1	1	5 - 6	2023-2024**	0.0000	3	0.00		
2	1	6 - 7	2025	0.0000	3	0.00		
3	1	7 - 8	2025	0.0003	3	0.01	0.0001	0.000
4	1	8 - 9	2026	0.0003	3	0.01		
5	1	9 - 10	2027	0.0003	3	0.01		
6	1	10 - 11	2028	0.0003	3	0.01		
Total Increased Cancer Risk						**0.02**		

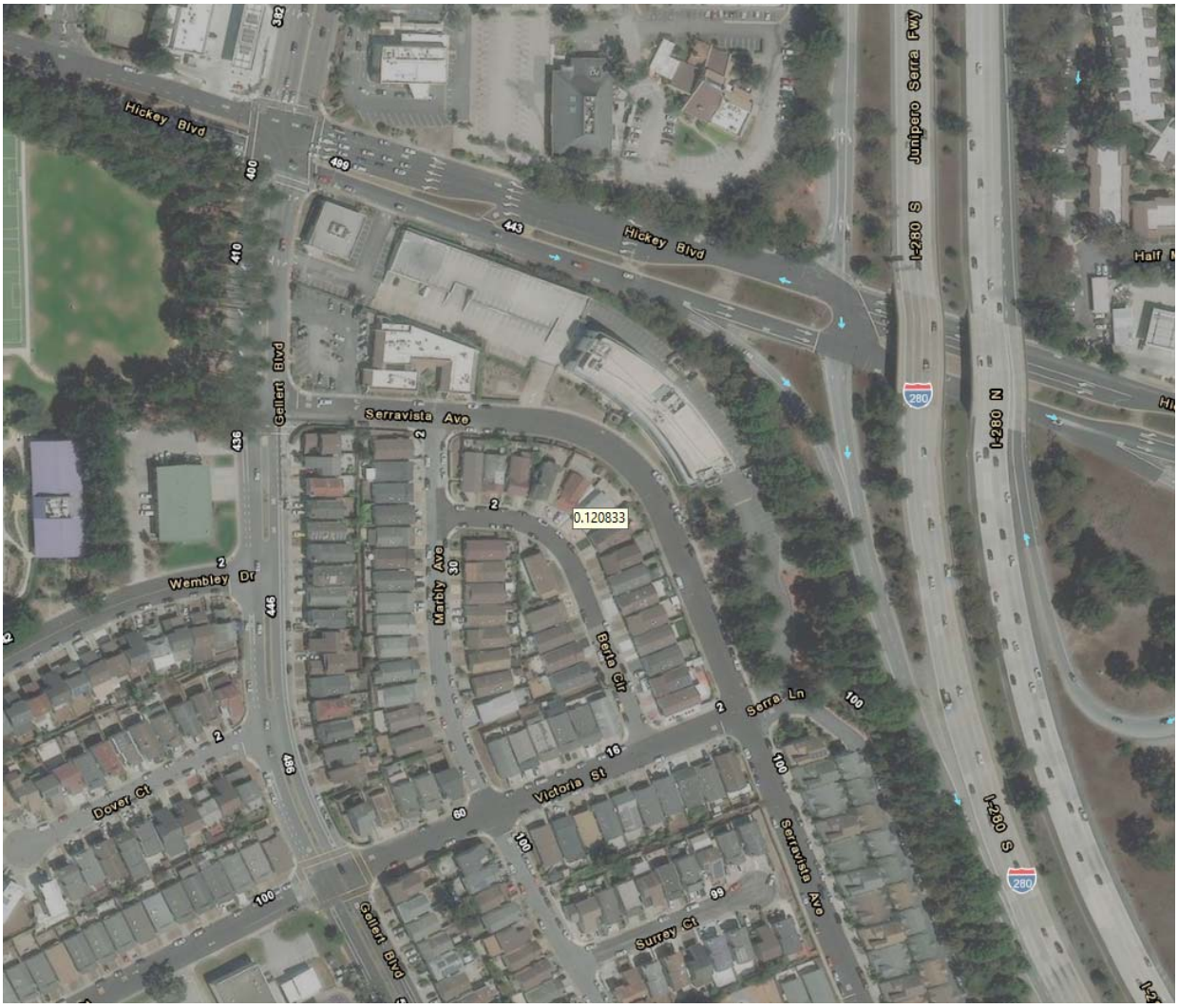
* Children assumed to be 5-11 years of age and older (K-5th Grades) with 4 years of Generator Exposure

** Includes 2023 (four months of construction)

Attachment 4: Health Risk Modeling Information and Calculations

BAAQMD RASTER Screening Data – Highway Cancer Risk Impacts at MEI

BAAQMD RASTER Screening Data – Highway $PM_{2.5}$ Concentration Impacts at MEI



CT-EMFAC2017 Emissions Factors for San Mateo County 2023

File Name: 455 Hickey Blvd - San Mateo (SF) - 2023 - Annual.EF
CT-EMFAC2017 Version: 1.0.2.27401
Run Date: 3/8/2023 9:34
Area: San Mateo (SF)
Analysis Year: 2023
Season: Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.017	0.482	0.518
Truck 2	0.014	0.87	0.113
Non-Truck	0.969	0.017	0.96

Road Type: Major/Collector
Silt Loading Factor: CARB 0.032 g/m2
Precipitation Correction: CARB P = 60 days N = 365 days

Fleet Average Running Exhaust Emission Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph
PM2.5	0.008953	0.00577	0.0039	0.002777	0.002092	0.001668	0.001407	0.001256	0.001185
TOG	0.230055	0.150169	0.101137	0.071679	0.054124	0.043117	0.036109	0.031777	0.029382
Diesel PM	0.000664	0.000547	0.000427	0.000342	0.000291	0.000264	0.000253	0.000256	0.000271

Fleet Average Running Loss Emission Factors (grams/veh-hour)

Pollutant Name	Emission Factor
TOG	1.192095

Fleet Average Tire Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.002046

Fleet Average Brake Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.016805

Fleet Average Road Dust Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.014874

==========END==========

Hickey Blvd Traffic Emissions and Health Risk Calculations

Analysis Year = ***2023***

Vehicle Type	2035 Caltrans Vehicles (veh/day)	2023 Vehicles (veh/day)
Total	**26,356**	**23,194**

Increase From 2035	0.88
Vehicles/Direction	**11,597**
Avg Vehicles/Hour/Direction	483

Traffic Data Year = ***2035***

Project Traffic Data - Cumulative Plus Project ADT	AADT Total	Total Truck
Hickey Blvd & Gellert Blvd	26,356	825
	Percent of Total Vehicles	3.13%

Traffic Increase per Year (%) = *1.00%*

455 Hickey Boulevard (Tech Office), Daly City, CA - Cumulative Roadway Modeling
Cumulative Operation - Hickey Boulevard
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = **2023**

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
DPM_EB_HIC	Hickey Blvd Eastbound	EB	2	811.8	0.50	13.3	43.7	3.4	35	11,597
DPM_WB_HIC	Hickey Blvd Westbound	WB	2	795.5	0.49	13.3	43.7	3.4	35	11,597
									Total	23,194

Emission Factors - DPM

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle (g/VMT)	0.00025			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and DPM Emissions - DPM_EB_HIC

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.81%	442	1.57E-05	9	6.66%	772	2.74E-05	17	6.50%	754	2.67E-05
2	3.15%	365	1.29E-05	10	8.16%	946	3.35E-05	18	3.85%	446	1.58E-05
3	2.32%	269	9.54E-06	11	6.33%	734	2.60E-05	19	2.35%	273	9.66E-06
4	1.00%	116	4.11E-06	12	7.66%	888	3.15E-05	20	1.19%	138	4.89E-06
5	1.00%	116	4.11E-06	13	6.83%	792	2.81E-05	21	3.02%	350	1.24E-05
6	2.16%	250	8.88E-06	14	6.66%	772	2.74E-05	22	5.01%	581	2.06E-05
7	4.67%	542	1.92E-05	15	6.00%	696	2.47E-05	23	3.32%	385	1.36E-05
8	3.35%	388	1.38E-05	16	4.34%	503	1.78E-05	24	0.66%	77	2.71E-06
								Total		11,597	

2023 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_WB_HIC

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.81%	442	1.53E-05	9	6.66%	772	2.68E-05	17	6.50%	754	2.62E-05
2	3.15%	365	1.27E-05	10	8.16%	946	3.29E-05	18	3.85%	446	1.55E-05
3	2.32%	269	9.35E-06	11	6.33%	734	2.55E-05	19	2.35%	273	9.47E-06
4	1.00%	116	4.03E-06	12	7.66%	888	3.09E-05	20	1.19%	138	4.79E-06
5	1.00%	116	4.03E-06	13	6.83%	792	2.75E-05	21	3.02%	350	1.22E-05
6	2.16%	250	8.70E-06	14	6.66%	772	2.68E-05	22	5.01%	581	2.02E-05
7	4.67%	542	1.88E-05	15	6.00%	696	2.42E-05	23	3.32%	385	1.34E-05
8	3.35%	388	1.35E-05	16	4.34%	503	1.75E-05	24	0.66%	77	2.66E-06
								Total		11,597	

455 Hickey Boulevard (Tech Office), Daly City, CA - Cumulative Roadway Modeling
Cumulative Operation - Hickey Boulevard
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
PM25_EB_HIC	Hickey Blvd Eastbound	EB	2	811.8	0.50	13.3	44	1.3	35	11,597
PM25_WB_HIC	Hickey Blvd Westbound	WB	2	795.5	0.49	13.3	44	1.3	35	11,597
									Total	23,194

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle (g/VMT)	0.001407			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and PM2.5 Emissions - PM25_EB_HIC

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	130	2.56E-05	9	7.12%	826	1.63E-04	17	7.43%	862	1.70E-04
2	0.41%	48	9.37E-06	10	4.37%	507	9.99E-05	18	8.24%	956	1.88E-04
3	0.37%	43	8.46E-06	11	4.65%	539	1.06E-04	19	5.72%	663	1.31E-04
4	0.17%	20	3.89E-06	12	5.89%	683	1.35E-04	20	4.30%	499	9.83E-05
5	0.46%	53	1.05E-05	13	6.17%	716	1.41E-04	21	3.25%	377	7.43E-05
6	0.85%	99	1.94E-05	14	6.05%	702	1.38E-04	22	3.31%	384	7.57E-05
7	3.73%	433	8.53E-05	15	7.06%	819	1.61E-04	23	2.48%	288	5.67E-05
8	7.77%	901	1.78E-04	16	7.19%	834	1.64E-04	24	1.87%	217	4.28E-05
								Total		11,594	

2023 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM25_WB_HIC

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	130	2.51E-05	9	7.12%	826	1.60E-04	17	7.43%	862	1.66E-04
2	0.41%	48	9.19E-06	10	4.37%	507	9.79E-05	18	8.24%	956	1.85E-04
3	0.37%	43	8.29E-06	11	4.65%	539	1.04E-04	19	5.72%	663	1.28E-04
4	0.17%	20	3.81E-06	12	5.89%	683	1.32E-04	20	4.30%	499	9.63E-05
5	0.46%	53	1.03E-05	13	6.17%	716	1.38E-04	21	3.25%	377	7.28E-05
6	0.85%	99	1.90E-05	14	6.05%	702	1.36E-04	22	3.31%	384	7.42E-05
7	3.73%	433	8.36E-05	15	7.06%	819	1.58E-04	23	2.48%	288	5.56E-05
8	7.77%	901	1.74E-04	16	7.19%	834	1.61E-04	24	1.87%	217	4.19E-05
								Total		11,594	

455 Hickey Boulevard (Tech Office), Daly City, CA - Cumulative Roadway Modeling
Cumulative Operation - Hickey Boulevard
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEXH_EB_HIC	Hickey Blvd Eastbound	EB	2	811.8	0.50	13.3	44	1.3	35	11,597
TEXH_WB_HIC	Hickey Blvd Westbound	WB	2	795.5	0.49	13.3	44	1.3	35	11,597
									Total	23,194

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle (g/VMT)	0.03611			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_EB_HIC

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	130	6.57E-04	9	7.12%	826	4.18E-03	17	7.43%	862	4.36E-03
2	0.41%	48	2.41E-04	10	4.37%	507	2.56E-03	18	8.24%	956	4.83E-03
3	0.37%	43	2.17E-04	11	4.65%	539	2.73E-03	19	5.72%	663	3.36E-03
4	0.17%	20	9.97E-05	12	5.89%	683	3.46E-03	20	4.30%	499	2.52E-03
5	0.46%	53	2.70E-04	13	6.17%	716	3.62E-03	21	3.25%	377	1.91E-03
6	0.85%	99	4.99E-04	14	6.05%	702	3.55E-03	22	3.31%	384	1.94E-03
7	3.73%	433	2.19E-03	15	7.06%	819	4.14E-03	23	2.48%	288	1.46E-03
8	7.77%	901	4.56E-03	16	7.19%	834	4.22E-03	24	1.87%	217	1.10E-03
								Total		11,594	

2023 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_WB_HIC

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	130	6.44E-04	9	7.12%	826	4.09E-03	17	7.43%	862	4.27E-03
2	0.41%	48	2.36E-04	10	4.37%	507	2.51E-03	18	8.24%	956	4.74E-03
3	0.37%	43	2.13E-04	11	4.65%	539	2.67E-03	19	5.72%	663	3.29E-03
4	0.17%	20	9.77E-05	12	5.89%	683	3.39E-03	20	4.30%	499	2.47E-03
5	0.46%	53	2.64E-04	13	6.17%	716	3.55E-03	21	3.25%	377	1.87E-03
6	0.85%	99	4.89E-04	14	6.05%	702	3.48E-03	22	3.31%	384	1.90E-03
7	3.73%	433	2.14E-03	15	7.06%	819	4.06E-03	23	2.48%	288	1.43E-03
8	7.77%	901	4.47E-03	16	7.19%	834	4.13E-03	24	1.87%	217	1.08E-03
								Total		11,594	

455 Hickey Boulevard (Tech Office), Daly City, CA - Cumulative Roadway Modeling
Cumulative Operation - Hickey Boulevard
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEVAP_EB_HIC	Hickey Blvd Eastbound	EB	2	811.8	0.50	13.3	44	1.3	35	11,597
TEVAP_WB_HIC	Hickey Blvd Westbound	WB	2	795.5	0.49	13.3	44	1.3	35	11,597
									Total	23,194

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle per Hour (g/hour)	1.19210			
Emissions per Vehicle per Mile (g/VMT)	0.03406			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_EB_HIC

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	130	6.20E-04	9	7.12%	826	3.94E-03	17	7.43%	862	4.11E-03
2	0.41%	48	2.27E-04	10	4.37%	507	2.42E-03	18	8.24%	956	4.56E-03
3	0.37%	43	2.05E-04	11	4.65%	539	2.57E-03	19	5.72%	663	3.17E-03
4	0.17%	20	9.41E-05	12	5.89%	683	3.26E-03	20	4.30%	499	2.38E-03
5	0.46%	53	2.55E-04	13	6.17%	716	3.41E-03	21	3.25%	377	1.80E-03
6	0.85%	99	4.70E-04	14	6.05%	702	3.35E-03	22	3.31%	384	1.83E-03
7	3.73%	433	2.06E-03	15	7.06%	819	3.91E-03	23	2.48%	288	1.37E-03
8	7.77%	901	4.30E-03	16	7.19%	834	3.98E-03	24	1.87%	217	1.03E-03
								Total		11,594	

2023 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_WB_HIC

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	130	6.07E-04	9	7.12%	826	3.86E-03	17	7.43%	862	4.03E-03
2	0.41%	48	2.22E-04	10	4.37%	507	2.37E-03	18	8.24%	956	4.47E-03
3	0.37%	43	2.01E-04	11	4.65%	539	2.52E-03	19	5.72%	663	3.10E-03
4	0.17%	20	9.22E-05	12	5.89%	683	3.19E-03	20	4.30%	499	2.33E-03
5	0.46%	53	2.49E-04	13	6.17%	716	3.35E-03	21	3.25%	377	1.76E-03
6	0.85%	99	4.61E-04	14	6.05%	702	3.28E-03	22	3.31%	384	1.80E-03
7	3.73%	433	2.02E-03	15	7.06%	819	3.83E-03	23	2.48%	288	1.34E-03
8	7.77%	901	4.21E-03	16	7.19%	834	3.90E-03	24	1.87%	217	1.01E-03
								Total		11,594	

455 Hickey Boulevard (Tech Office), Daly City, CA - Cumulative Roadway Modeling
Cumulative Operation - Hickey Boulevard
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
FUG_EB_HIC	Hickey Blvd Eastbound	EB	2	811.8	0.50	13.3	44	1.3	35	11,597
FUG_WB_HIC	Hickey Blvd Westbound	WB	2	795.5	0.49	13.3	44	1.3	35	11,597
									Total	23,194

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00205			
Brake Wear - Emissions per Vehicle (g/VMT)	0.01681			
Road Dust - Emissions per Vehicle (g/VMT)	0.01487			
Total Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.03373			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_EB_HIC

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	130	6.14E-04	9	7.12%	826	3.90E-03	17	7.43%	862	4.07E-03
2	0.41%	48	2.25E-04	10	4.37%	507	2.39E-03	18	8.24%	956	4.52E-03
3	0.37%	43	2.03E-04	11	4.65%	539	2.55E-03	19	5.72%	663	3.13E-03
4	0.17%	20	9.32E-05	12	5.89%	683	3.23E-03	20	4.30%	499	2.36E-03
5	0.46%	53	2.52E-04	13	6.17%	716	3.38E-03	21	3.25%	377	1.78E-03
6	0.85%	99	4.66E-04	14	6.05%	702	3.32E-03	22	3.31%	384	1.81E-03
7	3.73%	433	2.04E-03	15	7.06%	819	3.87E-03	23	2.48%	288	1.36E-03
8	7.77%	901	4.26E-03	16	7.19%	834	3.94E-03	24	1.87%	217	1.02E-03
								Total		11,594	

2023 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_WB_HIC

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	130	6.01E-04	9	7.12%	826	3.82E-03	17	7.43%	862	3.99E-03
2	0.41%	48	2.20E-04	10	4.37%	507	2.35E-03	18	8.24%	956	4.42E-03
3	0.37%	43	1.99E-04	11	4.65%	539	2.50E-03	19	5.72%	663	3.07E-03
4	0.17%	20	9.13E-05	12	5.89%	683	3.16E-03	20	4.30%	499	2.31E-03
5	0.46%	53	2.47E-04	13	6.17%	716	3.31E-03	21	3.25%	377	1.75E-03
6	0.85%	99	4.56E-04	14	6.05%	702	3.25E-03	22	3.31%	384	1.78E-03
7	3.73%	433	2.00E-03	15	7.06%	819	3.79E-03	23	2.48%	288	1.33E-03
8	7.77%	901	4.17E-03	16	7.19%	834	3.86E-03	24	1.87%	217	1.00E-03
								Total		11,594	

455 Hickey Boulevard (Tech Office), Daly City, CA - Hickey Blvd Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
at Project MEI Receptor, 1.5m receptor height

Emission Year	2023
Receptor Information	Project MEI receptor
Number of Receptors	1
Receptor Height	1.5 meters
Receptor Distances	At Project MEI location

Meteorological Conditions	
BAQMD San Francisco Airport Met Data	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Project MEI Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.0003	0.0371	0.0350

Project MEI PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.0361	0.0346	0.0015

455 Hickey Boulevard (Tech Office), Daly City, CA - Hickey Blvd Cancer Risk & PM2.5
Impacts at Project MEI - 1.5 meter receptor height
30 Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age --> / Parameter	3rd Trimester	0 - 2	2 - 16	16 - 30
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	TOTAL
0	0.25	-0.25 - 0*	2023	10	0.0003	0.0371	0.0350	0.004	0.003	0.0002	0.01
1	1	0 - 1	2023	10	0.0003	0.0371	0.0350	0.043	0.035	0.0019	0.08
2	1	1 - 2	2024	10	0.0003	0.0371	0.0350	0.043	0.035	0.0019	0.08
3	1	2 - 3	2025	3	0.0003	0.0371	0.0350	0.007	0.005	0.0003	0.01
4	1	3 - 4	2026	3	0.0003	0.0371	0.0350	0.007	0.005	0.0003	0.01
5	1	4 - 5	2027	3	0.0003	0.0371	0.0350	0.007	0.005	0.0003	0.01
6	1	5 - 6	2028	3	0.0003	0.0371	0.0350	0.007	0.005	0.0003	0.01
7	1	6 - 7	2029	3	0.0003	0.0371	0.0350	0.007	0.005	0.0003	0.01
8	1	7 - 8	2030	3	0.0003	0.0371	0.0350	0.007	0.005	0.0003	0.01
9	1	8 - 9	2031	3	0.0003	0.0371	0.0350	0.007	0.005	0.0003	0.01
10	1	9 - 10	2032	3	0.0003	0.0371	0.0350	0.007	0.005	0.0003	0.01
11	1	10 - 11	2033	3	0.0003	0.0371	0.0350	0.007	0.005	0.0003	0.01
12	1	11 - 12	2034	3	0.0003	0.0371	0.0350	0.007	0.005	0.0003	0.01
13	1	12 - 13	2035	3	0.0003	0.0371	0.0350	0.007	0.005	0.0003	0.01
14	1	13 - 14	2036	3	0.0003	0.0371	0.0350	0.007	0.005	0.0003	0.01
15	1	14 - 15	2037	3	0.0003	0.0371	0.0350	0.007	0.005	0.0003	0.01
16	1	15 - 16	2038	3	0.0003	0.0371	0.0350	0.007	0.005	0.0003	0.01
17	1	16-17	2039	1	0.0003	0.0371	0.0350	0.001	0.001	0.0000	0.00
18	1	17-18	2040	1	0.0003	0.0371	0.0350	0.001	0.001	0.0000	0.00
19	1	18-19	2041	1	0.0003	0.0371	0.0350	0.001	0.001	0.0000	0.00
20	1	19-20	2042	1	0.0003	0.0371	0.0350	0.001	0.001	0.0000	0.00
21	1	20-21	2043	1	0.0003	0.0371	0.0350	0.001	0.001	0.0000	0.00
22	1	21-22	2044	1	0.0003	0.0371	0.0350	0.001	0.001	0.0000	0.00
23	1	22-23	2045	1	0.0003	0.0371	0.0350	0.001	0.001	0.0000	0.00
24	1	23-24	2046	1	0.0003	0.0371	0.0350	0.001	0.001	0.0000	0.00
25	1	24-25	2047	1	0.0003	0.0371	0.0350	0.001	0.001	0.0000	0.00
26	1	25-26	2048	1	0.0003	0.0371	0.0350	0.001	0.001	0.0000	0.00
27	1	26-27	2049	1	0.0003	0.0371	0.0350	0.001	0.001	0.0000	0.00
28	1	27-28	2050	1	0.0003	0.0371	0.0350	0.001	0.001	0.0000	0.00
29	1	28-29	2051	1	0.0003	0.0371	0.0350	0.001	0.001	0.0000	0.00
30	1	29-30	2052	1	0.0003	0.0371	0.0350	0.001	0.001	0.0000	0.00
Total Increased Cancer Risk								0.19	0.158	0.009	**0.36**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.0001	0.03	0.04

* Third trimester of pregnancy

Gellert Blvd Traffic Emissions and Health Risk Calculations

Analysis Year = ***2023***

Vehicle Type	2035 Caltrans Vehicles (veh/day)	2023 Vehicles (veh/day)
Total	**21,014**	**18,492**

Increase From 2035	0.88
Vehicles/Direction	**9,246**
Avg Vehicles/Hour/Direction	385

Traffic Data Year = ***2035***

Project Traffic Data - Cumulative Plus Project ADT	AADT Total	Total Truck
Hickey Blvd & Gellert Blvd	21,014	658
	Percent of Total Vehicles	3.13%

Traffic Increase per Year (%) = *1.00%*

455 Hickey Boulevard (Tech Office), Daly City, CA - Cumulative Roadway Modeling
Cumulative Operation - Gellert Boulevard
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = **2023**

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
DPM_NB_GEL	Gellert Blvd Northbound	NB	3	856.9	0.53	17.0	55.7	3.4	30	9,246
DPM_SB_GEL	Gellert Blvd Southbound	SB	3	852.5	0.53	17.0	55.7	3.4	30	9,246
									Total	18,492

Emission Factors - DPM

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.00026			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and DPM Emissions - DPM_NB_GEL

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.81%	352	1.38E-05	9	6.66%	616	2.40E-05	17	6.50%	601	2.35E-05
2	3.15%	291	1.14E-05	10	8.16%	754	2.95E-05	18	3.85%	356	1.39E-05
3	2.32%	215	8.38E-06	11	6.33%	585	2.29E-05	19	2.35%	217	8.48E-06
4	1.00%	92	3.61E-06	12	7.66%	708	2.77E-05	20	1.19%	110	4.30E-06
5	1.00%	92	3.61E-06	13	6.83%	632	2.47E-05	21	3.02%	279	1.09E-05
6	2.16%	200	7.80E-06	14	6.66%	616	2.40E-05	22	5.01%	463	1.81E-05
7	4.67%	432	1.69E-05	15	6.00%	555	2.17E-05	23	3.32%	307	1.20E-05
8	3.35%	310	1.21E-05	16	4.34%	401	1.57E-05	24	0.66%	61	2.38E-06
								Total		9,246	

2023 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_SB_GEL

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.81%	352	1.37E-05	9	6.66%	616	2.39E-05	17	6.50%	601	2.33E-05
2	3.15%	291	1.13E-05	10	8.16%	754	2.93E-05	18	3.85%	356	1.38E-05
3	2.32%	215	8.33E-06	11	6.33%	585	2.27E-05	19	2.35%	217	8.44E-06
4	1.00%	92	3.59E-06	12	7.66%	708	2.75E-05	20	1.19%	110	4.27E-06
5	1.00%	92	3.59E-06	13	6.83%	632	2.45E-05	21	3.02%	279	1.08E-05
6	2.16%	200	7.76E-06	14	6.66%	616	2.39E-05	22	5.01%	463	1.80E-05
7	4.67%	432	1.68E-05	15	6.00%	555	2.16E-05	23	3.32%	307	1.19E-05
8	3.35%	310	1.20E-05	16	4.34%	401	1.56E-05	24	0.66%	61	2.37E-06
								Total		9,246	

455 Hickey Boulevard (Tech Office), Daly City, CA - Cumulative Roadway Modeling
Cumulative Operation - Gellert Boulevard
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
PM25_NB_GEL	Gellert Blvd Northbound	NB	3	856.9	0.53	17.0	56	1.3	30	9,246
PM25_SB_GEL	Gellert Blvd Southbound	SB	3	852.5	0.53	17.0	56	1.3	30	9,246
									Total	18,492

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.001668			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and PM2.5 Emissions - PM25_NB_GEL

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	104	2.55E-05	9	7.12%	658	1.62E-04	17	7.43%	687	1.69E-04
2	0.41%	38	9.35E-06	10	4.37%	404	9.97E-05	18	8.24%	762	1.88E-04
3	0.37%	34	8.44E-06	11	4.65%	430	1.06E-04	19	5.72%	529	1.30E-04
4	0.17%	16	3.88E-06	12	5.89%	545	1.34E-04	20	4.30%	398	9.81E-05
5	0.46%	43	1.05E-05	13	6.17%	570	1.41E-04	21	3.25%	300	7.41E-05
6	0.85%	79	1.94E-05	14	6.05%	559	1.38E-04	22	3.31%	306	7.55E-05
7	3.73%	345	8.51E-05	15	7.06%	653	1.61E-04	23	2.48%	229	5.66E-05
8	7.77%	718	1.77E-04	16	7.19%	665	1.64E-04	24	1.87%	173	4.27E-05
								Total		9,244	

2023 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM25_SB_GEL

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	104	2.54E-05	9	7.12%	658	1.62E-04	17	7.43%	687	1.69E-04
2	0.41%	38	9.30E-06	10	4.37%	404	9.92E-05	18	8.24%	762	1.87E-04
3	0.37%	34	8.40E-06	11	4.65%	430	1.06E-04	19	5.72%	529	1.30E-04
4	0.17%	16	3.86E-06	12	5.89%	545	1.34E-04	20	4.30%	398	9.76E-05
5	0.46%	43	1.04E-05	13	6.17%	570	1.40E-04	21	3.25%	300	7.38E-05
6	0.85%	79	1.93E-05	14	6.05%	559	1.37E-04	22	3.31%	306	7.51E-05
7	3.73%	345	8.46E-05	15	7.06%	653	1.60E-04	23	2.48%	229	5.63E-05
8	7.77%	718	1.76E-04	16	7.19%	665	1.63E-04	24	1.87%	173	4.24E-05
								Total		9,244	

455 Hickey Boulevard (Tech Office), Daly City, CA - Cumulative Roadway Modeling
Cumulative Operation - Gellert Boulevard
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEXH_NB_GEL	Gellert Blvd Northbound	NB	3	856.9	0.53	17.0	56	1.3	30	9,246
TEXH_SB_GEL	Gellert Blvd Southbound	SB	3	852.5	0.53	17.0	56	1.3	30	9,246
									Total	18,492

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.04312			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_NB_GEL

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	104	6.60E-04	9	7.12%	658	4.20E-03	17	7.43%	687	4.38E-03
2	0.41%	38	2.42E-04	10	4.37%	404	2.58E-03	18	8.24%	762	4.86E-03
3	0.37%	34	2.18E-04	11	4.65%	430	2.74E-03	19	5.72%	529	3.37E-03
4	0.17%	16	1.00E-04	12	5.89%	545	3.47E-03	20	4.30%	398	2.54E-03
5	0.46%	43	2.71E-04	13	6.17%	570	3.64E-03	21	3.25%	300	1.92E-03
6	0.85%	79	5.01E-04	14	6.05%	559	3.57E-03	22	3.31%	306	1.95E-03
7	3.73%	345	2.20E-03	15	7.06%	653	4.16E-03	23	2.48%	229	1.46E-03
8	7.77%	718	4.58E-03	16	7.19%	665	4.24E-03	24	1.87%	173	1.10E-03
								Total		9,244	

2023 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_SB_GEL

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	104	6.57E-04	9	7.12%	658	4.18E-03	17	7.43%	687	4.36E-03
2	0.41%	38	2.41E-04	10	4.37%	404	2.56E-03	18	8.24%	762	4.83E-03
3	0.37%	34	2.17E-04	11	4.65%	430	2.73E-03	19	5.72%	529	3.36E-03
4	0.17%	16	9.97E-05	12	5.89%	545	3.46E-03	20	4.30%	398	2.52E-03
5	0.46%	43	2.70E-04	13	6.17%	570	3.62E-03	21	3.25%	300	1.91E-03
6	0.85%	79	4.99E-04	14	6.05%	559	3.55E-03	22	3.31%	306	1.94E-03
7	3.73%	345	2.19E-03	15	7.06%	653	4.14E-03	23	2.48%	229	1.45E-03
8	7.77%	718	4.56E-03	16	7.19%	665	4.22E-03	24	1.87%	173	1.10E-03
								Total		9,244	

455 Hickey Boulevard (Tech Office), Daly City, CA - Cumulative Roadway Modeling
Cumulative Operation - Gellert Boulevard
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEVAP_NB_GEL	Gellert Blvd Northbound	NB	3	856.9	0.53	17.0	56	1.3	30	9,246
TEVAP_SB_GEL	Gellert Blvd Southbound	SB	3	852.5	0.53	17.0	56	1.3	30	9,246
									Total	18,492

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle per Hour (g/hour)	1.19210			
Emissions per Vehicle per Mile (g/VMT)	0.03974			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_NB_GEL

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	104	6.09E-04	9	7.12%	658	3.87E-03	17	7.43%	687	4.04E-03
2	0.41%	38	2.23E-04	10	4.37%	404	2.37E-03	18	8.24%	762	4.48E-03
3	0.37%	34	2.01E-04	11	4.65%	430	2.53E-03	19	5.72%	529	3.11E-03
4	0.17%	16	9.24E-05	12	5.89%	545	3.20E-03	20	4.30%	398	2.34E-03
5	0.46%	43	2.50E-04	13	6.17%	570	3.35E-03	21	3.25%	300	1.77E-03
6	0.85%	79	4.62E-04	14	6.05%	559	3.29E-03	22	3.31%	306	1.80E-03
7	3.73%	345	2.03E-03	15	7.06%	653	3.84E-03	23	2.48%	229	1.35E-03
8	7.77%	718	4.22E-03	16	7.19%	665	3.91E-03	24	1.87%	173	1.02E-03
								Total		9,244	

2023 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_SB_GEL

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	104	6.05E-04	9	7.12%	658	3.85E-03	17	7.43%	687	4.02E-03
2	0.41%	38	2.22E-04	10	4.37%	404	2.36E-03	18	8.24%	762	4.45E-03
3	0.37%	34	2.00E-04	11	4.65%	430	2.51E-03	19	5.72%	529	3.09E-03
4	0.17%	16	9.19E-05	12	5.89%	545	3.18E-03	20	4.30%	398	2.32E-03
5	0.46%	43	2.49E-04	13	6.17%	570	3.34E-03	21	3.25%	300	1.76E-03
6	0.85%	79	4.60E-04	14	6.05%	559	3.27E-03	22	3.31%	306	1.79E-03
7	3.73%	345	2.02E-03	15	7.06%	653	3.82E-03	23	2.48%	229	1.34E-03
8	7.77%	718	4.20E-03	16	7.19%	665	3.89E-03	24	1.87%	173	1.01E-03
								Total		9,244	

455 Hickey Boulevard (Tech Office), Daly City, CA - Cumulative Roadway Modeling
Cumulative Operation - Gellert Boulevard
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
FUG_NB_GEL	Gellert Blvd Northbound	NB	3	856.9	0.53	17.0	56	1.3	30	9,246
FUG_SB_GEL	Gellert Blvd Southbound	SB	3	852.5	0.53	17.0	56	1.3	30	9,246
									Total	18,492

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00205			
Brake Wear - Emissions per Vehicle (g/VMT)	0.01681			
Road Dust - Emissions per Vehicle (g/VMT)	0.01487			
Total Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.03373			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_NB_GEL

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	104	5.17E-04	9	7.12%	658	3.28E-03	17	7.43%	687	3.43E-03
2	0.41%	38	1.89E-04	10	4.37%	404	2.02E-03	18	8.24%	762	3.80E-03
3	0.37%	34	1.71E-04	11	4.65%	430	2.14E-03	19	5.72%	529	2.64E-03
4	0.17%	16	7.84E-05	12	5.89%	545	2.72E-03	20	4.30%	398	1.98E-03
5	0.46%	43	2.12E-04	13	6.17%	570	2.85E-03	21	3.25%	300	1.50E-03
6	0.85%	79	3.92E-04	14	6.05%	559	2.79E-03	22	3.31%	306	1.53E-03
7	3.73%	345	1.72E-03	15	7.06%	653	3.26E-03	23	2.48%	229	1.14E-03
8	7.77%	718	3.58E-03	16	7.19%	665	3.32E-03	24	1.87%	173	8.62E-04
								Total		9,244	

2023 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_SB_GEL

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	104	5.14E-04	9	7.12%	658	3.27E-03	17	7.43%	687	3.41E-03
2	0.41%	38	1.88E-04	10	4.37%	404	2.01E-03	18	8.24%	762	3.78E-03
3	0.37%	34	1.70E-04	11	4.65%	430	2.13E-03	19	5.72%	529	2.62E-03
4	0.17%	16	7.80E-05	12	5.89%	545	2.70E-03	20	4.30%	398	1.97E-03
5	0.46%	43	2.11E-04	13	6.17%	570	2.83E-03	21	3.25%	300	1.49E-03
6	0.85%	79	3.90E-04	14	6.05%	559	2.78E-03	22	3.31%	306	1.52E-03
7	3.73%	345	1.71E-03	15	7.06%	653	3.24E-03	23	2.48%	229	1.14E-03
8	7.77%	718	3.57E-03	16	7.19%	665	3.30E-03	24	1.87%	173	8.58E-04
								Total		9,244	

455 Hickey Boulevard (Tech Office), Daly City, CA - Gellert Blvd Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
at Project MEI Receptor, 1.5m receptor height

Emission Year	2023
Receptor Information	Project MEI receptor
Number of Receptors	1
Receptor Height	1.5 meters
Receptor Distances	At Project MEI location

Meteorological Conditions

BAQMD San Francisco Airport Met Data	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Project MEI Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.0005	0.0748	0.0688

Project MEI PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.0613	0.0585	0.0029

455 Hickey Boulevard (Tech Office), Daly City, CA - Gellert Blvd Cancer Risk & PM2.5
Impacts at Project MEI - 1.5 meter receptor height
30 Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	3rd Trimester	0 - 2	2 - 16	16 - 30
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	TOTAL
0	0.25	-0.25 - 0*	2023	10	0.0005	0.0748	0.0688	0.006	0.006	0.0003	0.01
1	1	0 - 1	2023	10	0.0005	0.0748	0.0688	0.076	0.070	0.0038	0.15
2	1	1 - 2	2024	10	0.0005	0.0748	0.0688	0.076	0.070	0.0038	0.15
3	1	2 - 3	2025	3	0.0005	0.0748	0.0688	0.012	0.011	0.0006	0.02
4	1	3 - 4	2026	3	0.0005	0.0748	0.0688	0.012	0.011	0.0006	0.02
5	1	4 - 5	2027	3	0.0005	0.0748	0.0688	0.012	0.011	0.0006	0.02
6	1	5 - 6	2028	3	0.0005	0.0748	0.0688	0.012	0.011	0.0006	0.02
7	1	6 - 7	2029	3	0.0005	0.0748	0.0688	0.012	0.011	0.0006	0.02
8	1	7 - 8	2030	3	0.0005	0.0748	0.0688	0.012	0.011	0.0006	0.02
9	1	8 - 9	2031	3	0.0005	0.0748	0.0688	0.012	0.011	0.0006	0.02
10	1	9 - 10	2032	3	0.0005	0.0748	0.0688	0.012	0.011	0.0006	0.02
11	1	10 - 11	2033	3	0.0005	0.0748	0.0688	0.012	0.011	0.0006	0.02
12	1	11 - 12	2034	3	0.0005	0.0748	0.0688	0.012	0.011	0.0006	0.02
13	1	12 - 13	2035	3	0.0005	0.0748	0.0688	0.012	0.011	0.0006	0.02
14	1	13 - 14	2036	3	0.0005	0.0748	0.0688	0.012	0.011	0.0006	0.02
15	1	14 - 15	2037	3	0.0005	0.0748	0.0688	0.012	0.011	0.0006	0.02
16	1	15 - 16	2038	3	0.0005	0.0748	0.0688	0.012	0.011	0.0006	0.02
17	1	16-17	2039	1	0.0005	0.0748	0.0688	0.001	0.001	0.0001	0.00
18	1	17-18	2040	1	0.0005	0.0748	0.0688	0.001	0.001	0.0001	0.00
19	1	18-19	2041	1	0.0005	0.0748	0.0688	0.001	0.001	0.0001	0.00
20	1	19-20	2042	1	0.0005	0.0748	0.0688	0.001	0.001	0.0001	0.00
21	1	20-21	2043	1	0.0005	0.0748	0.0688	0.001	0.001	0.0001	0.00
22	1	21-22	2044	1	0.0005	0.0748	0.0688	0.001	0.001	0.0001	0.00
23	1	22-23	2045	1	0.0005	0.0748	0.0688	0.001	0.001	0.0001	0.00
24	1	23-24	2046	1	0.0005	0.0748	0.0688	0.001	0.001	0.0001	0.00
25	1	24-25	2047	1	0.0005	0.0748	0.0688	0.001	0.001	0.0001	0.00
26	1	25-26	2048	1	0.0005	0.0748	0.0688	0.001	0.001	0.0001	0.00
27	1	26-27	2049	1	0.0005	0.0748	0.0688	0.001	0.001	0.0001	0.00
28	1	27-28	2050	1	0.0005	0.0748	0.0688	0.001	0.001	0.0001	0.00
29	1	28-29	2051	1	0.0005	0.0748	0.0688	0.001	0.001	0.0001	0.00
30	1	29-30	2052	1	0.0005	0.0748	0.0688	0.001	0.001	0.0001	0.00
Total Increased Cancer Risk								0.34	0.318	0.017	**0.68**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.0001	0.06	0.06

* Third trimester of pregnancy

Bay Area Air Quality Management District

Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD

This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

Click here for guidance on coducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

Click here for District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.

Table A: Requester Contact Information

Date of Request	**12/13/2022**
Contact Name	Jordyn Bauer
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x103
Email	jbauer@illingworthrodkin.com
Project Name	455 Hickey Blvd
Address	455 Hickey Blvd
City	Daly City
County	San Mateo
Type (residential, commercial, mixed use, industrial, etc.)	office
Project Size (# of units or building square feet)	280ksf
Comments:	

For Air District assistance, the following steps must be completed:

1. Complete all the contact and project information requested in **Table A** ncomplete forms will not be processed. Please include a project site map.

2. Download and install the free program Google Earth, **http://www.google.com/earth/download/ge/,** and then download the county specific Google Earth stationary source application files from the District's website, **http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.** The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.

3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.

4. Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.

5. List the stationary source information in **Table B** lue section only.

6. Note that a small percentage of the stationa… sources h…ve Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.

7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Matthew Hanson at 415-749-8733, or mhanson@baaqmd.gov

Table B: Google Earth data

Distance from Receptor (feet) or MEI[1]	Plant No.	Facility Name	Address	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments	Project MEI: Distance Adjustment Multiplier	Project MEI: Adjusted Cancer Risk Estimate	Project MEI: Adjusted Hazard Risk	Project MEI: Adjusted PM2.5
515	19835	City of Daly City	444 Gellert Boulevard	0	0.000	0.01		Generators		2020 Dataset; BAAQMD confirmed closed.	Closed	-	-	-
+1000	23961	Kaiser Foundation Hospital	395 Hicky Boulevard	2.33	0.004	0.003		Generators		2020 Dataset	0.04	0.09	0.0001	0.0001
770	111681_1	Chevron Station #94632	410 Hickey Blvd	75.91	0.364	0.000		Gas Dispensing Facility		2020 Dataset; CARB Screening Tool	CARB Tool	1.59	0.0400	-
+1000	112291_1	Hickey Way Shell	390 Hickey Blvd	79.39	0.380	0.000		Gas Dispensing Facility		2020 Dataset; CARB Screening Tool	CARB Tool	0.45	0.0200	-
720	112292_1	Gellert Shell	398 Gellert Blvd	52.04	0.249	0.000		Gas Dispensing Facility		2020 Dataset; CARB Screening Tool	CARB Tool	1.02	0.0300	-

Footnotes:

1. Maximally exposed individual
2. These Cancer Risk, Hazard Index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.
3. Each plant may have multiple permits and sources.
4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
5. Fuel codes: 98 = diesel, 189 = Natural Gas.
6. If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.
7. The date that the HRSA was completed.
8. Engineer who completed the HRSA. For District purposes only.
9. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
10. The HRSA "Chronic Health" number represents the Hazard Index.
11. Further information about common sources:
    a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
    b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard index of 0.003 or
    c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010. Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
    d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but instead should reflect
    e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Mulitplier worksheet.
    f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
    g. This spray booth is considered to be insignificant.

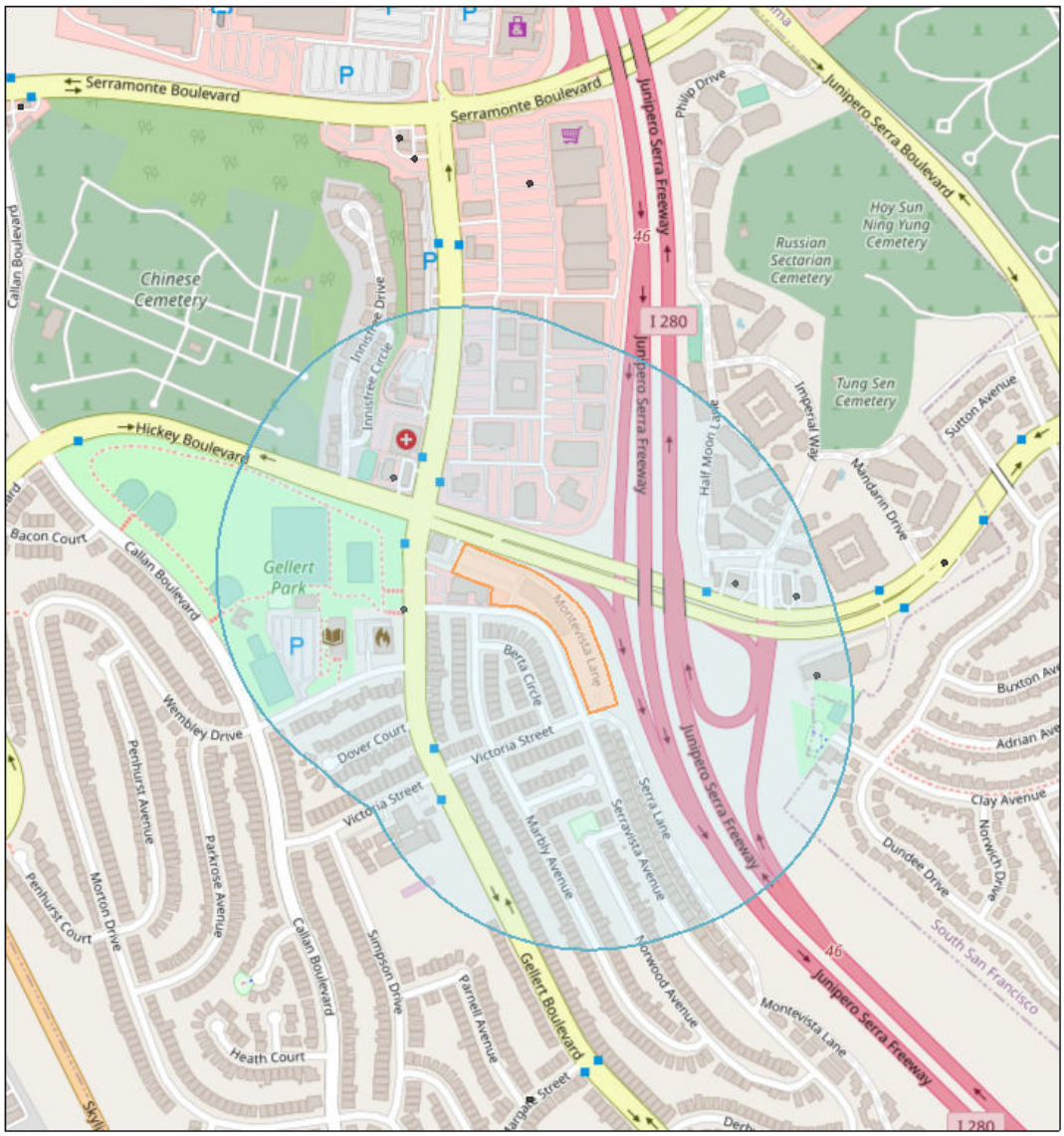
Date last updated:
03/13/2018

Screening Report

Area of Interest (AOI) Information

Area : 5,412,897.62 ft²

Dec 13 2022 15:17:39 Pacific Standard Time



Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Stationary Sources	5	N/A	N/A

Permitted Stationary Sources

#	FacID	FacName	Address	City	Street
1	19835	City of Daly City	444 Gellert Boulevard	Daly City	CA
2	23961	Kaiser Foundation Hospital	395 Hicky Boulevard	Daly City	CA
3	111681_1	Chevron Station #94632	410 Hickey Blvd	Daly City	CA
4	112291_1	Hickey Way Shell	390 Hickey Blvd	Daly City	CA
5	112292_1	Gellert Shell	398 Gellert Blvd	Daly City	CA

#	Zip	County	Latitude	Longitude	Details
1	94,015.00	San Mateo	37.66	-122.47	Generator
2	94,015.00	San Mateo	37.66	-122.46	Generator
3	94,015.00	San Mateo	37.66	-122.46	Gas Dispensing Facility
4	94,015.00	San Mateo	37.66	-122.46	Gas Dispensing Facility
5	94,015.00	San Mateo	37.66	-122.47	Gas Dispensing Facility

#	NAICS	Sector	Sub_Sector	Industry	ChronicHI
1	921,120.00	Public Administration	Executive, Legislative, and Other General Government Support	Legislative Bodies	0.0000000
2	541,430.00	Professional, Scientific, and Technical Services	Professional, Scientific, and Technical Services	Graphic Design Services	0.0036079
3	445,110.00	Retail Trade	Food and Beverage Stores	Supermarkets and Other Grocery (except Convenience) Stores	0.3635459
4	447,110.00	Retail Trade	Gasoline Stations	Gasoline Stations with Convenience Stores	0.3802270
5	447,110.00	Retail Trade	Gasoline Stations	Gasoline Stations with Convenience Stores	0.2492327

#	PM2_5	Cancer Risk {expression/expr0}	Chronic Hazard Index {expression/expr1}	PM2.5 {expression/expr2}	Count
1	0.0116597	*No Data*	*No Data*	0.012	1
2	0.0029735	2.332	0.004	0.003	1
3	0.0000000	75.908	0.364	*No Data*	1
4	0.0000000	79.391	0.38	*No Data*	1
5	0.0000000	52.04	0.249	*No Data*	1

NOTE: A larger buffer than 1000 feet may be warranted depending on proximity to significant sources.

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)	10500000	Enter your gas station's annual throughput in gallons of gasoline dispensed per year.
Hourly Dispensing Throughput (gallons/hour)	4000	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	San Jose	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)	235	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)	235	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)	235	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	no	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)	1.59
Max Worker Cancer Risk (chances/million)	0.13
Chronic HI	0.01
Acute HI	0.04

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)	5090000	Enter your gas station's annual throughput in gallons of gasoline dispensed per year.
Hourly Dispensing Throughput (gallons/hour)	2000	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	San Jose	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)	315	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)	315	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)	315	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	no	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)	0.45
Max Worker Cancer Risk (chances/million)	0.04
Chronic HI	0.00
Acute HI	0.02

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)	6730000	Enter your gas station's annual throughput in gallons of gasoline dispensed per year.
Hourly Dispensing Throughput (gallons/hour)	2000	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	San Jose	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)	220	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)	220	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)	220	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	no	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)	1.02
Max Worker Cancer Risk (chances/million)	0.08
Chronic HI	0.00
Acute HI	0.03