Memorandum

Date: June 4, 2025, Revised October 15, 2025

To: Adam Winslow Foster, City Ventures

From: Tsui Li, Senior Air Quality Scientist, FirstCarbon Solutions
Phil Ault, Director of Noise and Air Quality, FirstCarbon Solutions

Subject: Air Quality Impact Analysis for the Proposed Arcade Residential Project in Sunnyvale, California

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FirstCarbon Solutions (FCS) performed an Air Quality Impact Analysis to assess the short-term and long-term impacts of the proposed Arcade Residential Project (proposed project). The project site is located in the City of Sunnyvale (City), in Santa Clara County, California (Exhibit 1 and Exhibit 2). FCS prepared this memorandum to present the findings of the Air Quality Impact Analysis.

The findings of this Air Quality Impact Analysis show that the emissions from the proposed project's construction and operation would have a less than significant impact on the surrounding environment. The proposed project is anticipated to be categorically exempt (Class 32 Infill Exemption, Class 31 Exemption, and Statutory Residential Infill Exemption [Public Resources Code [PRC] § 21159.24]) from the California Environmental Quality Act (CEQA). This analysis concludes that the proposed project is eligible for a Class 32 Infill Exemption under CEQA.

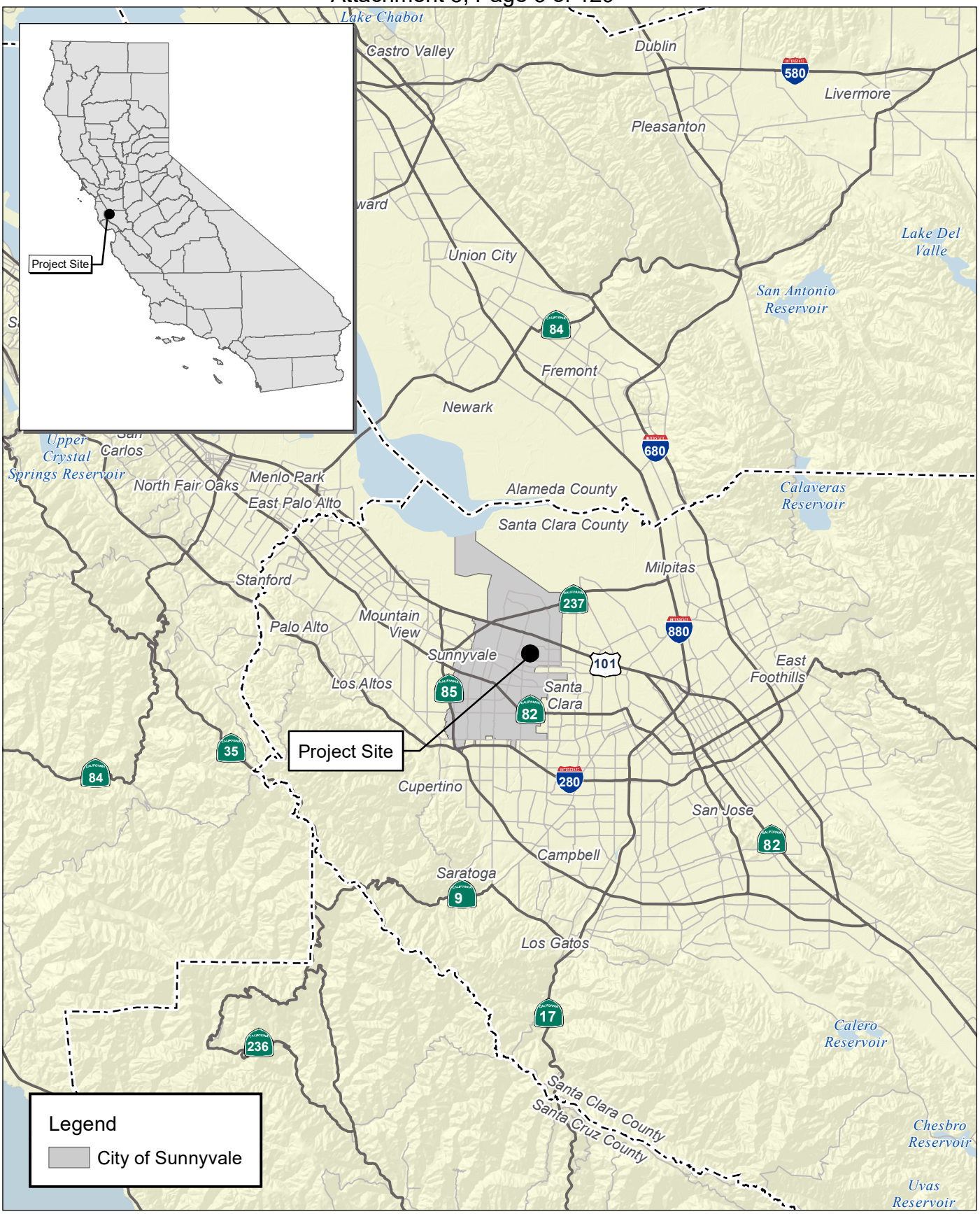
PROJECT DESCRIPTION

The project site is 1.17 acres and is associated with Assessor's Parcel Number (APN) 205-21-010 at 845 Stewart Drive. The project applicant proposes to demolish the existing office building and parking lot and construct 28 townhome-style condominiums (Exhibit 3).

The project site is bounded by Stewart Drive to the south, De Guigne Drive to the east, and commercial buildings to the north and west. The project site is designated as "Medium Density Residential" (R-3) by the City of Sunnyvale General Plan (General Plan) and is zoned Industrial and Service (MS) by the City of Sunnyvale Zoning Ordinance. Given the property's R-3 land use designation, the applicant requests the R-3 zoning district be applied to the property as its best fit zoning. The R-3 zoning district is reserved for the construction, use, and occupancy of not more than 24 dwelling units per acre (du/acre). The proposed project has a density of 23.1 du/acre, which is within the allowable range.

The proposed project involves the demolition of one office building totaling approximately 16,815 square feet and the associated parking lot totaling approximately 34,150 square feet. The proposed residential development would have a total square footage of approximately 54,849 square feet, and would include four 3-story buildings. Building 1 would be 14,226 square feet (inclusive of garages). Building 2 would be 12,595 square feet. Buildings 3 and 4 would each be 14,014 square feet. The proposed project includes approximately 16,767 square feet of landscaped open space, as well as 10,000 square feet of off-site improvements. The proposed project would include 59 parking spaces (two per unit in covered garages [56] and three additional parking spaces). Grading would involve 410 cubic yards of soil to be exported from the site. For the purpose of construction modeling, the proposed project is modeled to start on May 2026 and is expected to last for 14 months, with operations beginning immediately following construction in July 2027. Four affordable units would be sold at affordability levels consistent with the City's Municipal Code. No bonus units are being requested pursuant to Government Code 65915.

The City of Sunnyvale adopted Ordinance No. 3202-22 to amend various sections of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code to adopt by reference the 2022 Green Building Standards Code. Known as "reach codes," these ordinances go beyond State minimum requirements to mandate rather than encourage electrification of buildings. In accordance with the City Reach Code, the proposed project would be all electric in design and would not include natural gas plumbing.



Source: Census 2000 Data, The California Spatial Information Library (CaSIL).

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5 2.5 0 5
Miles

Exhibit 1
Regional Location Map

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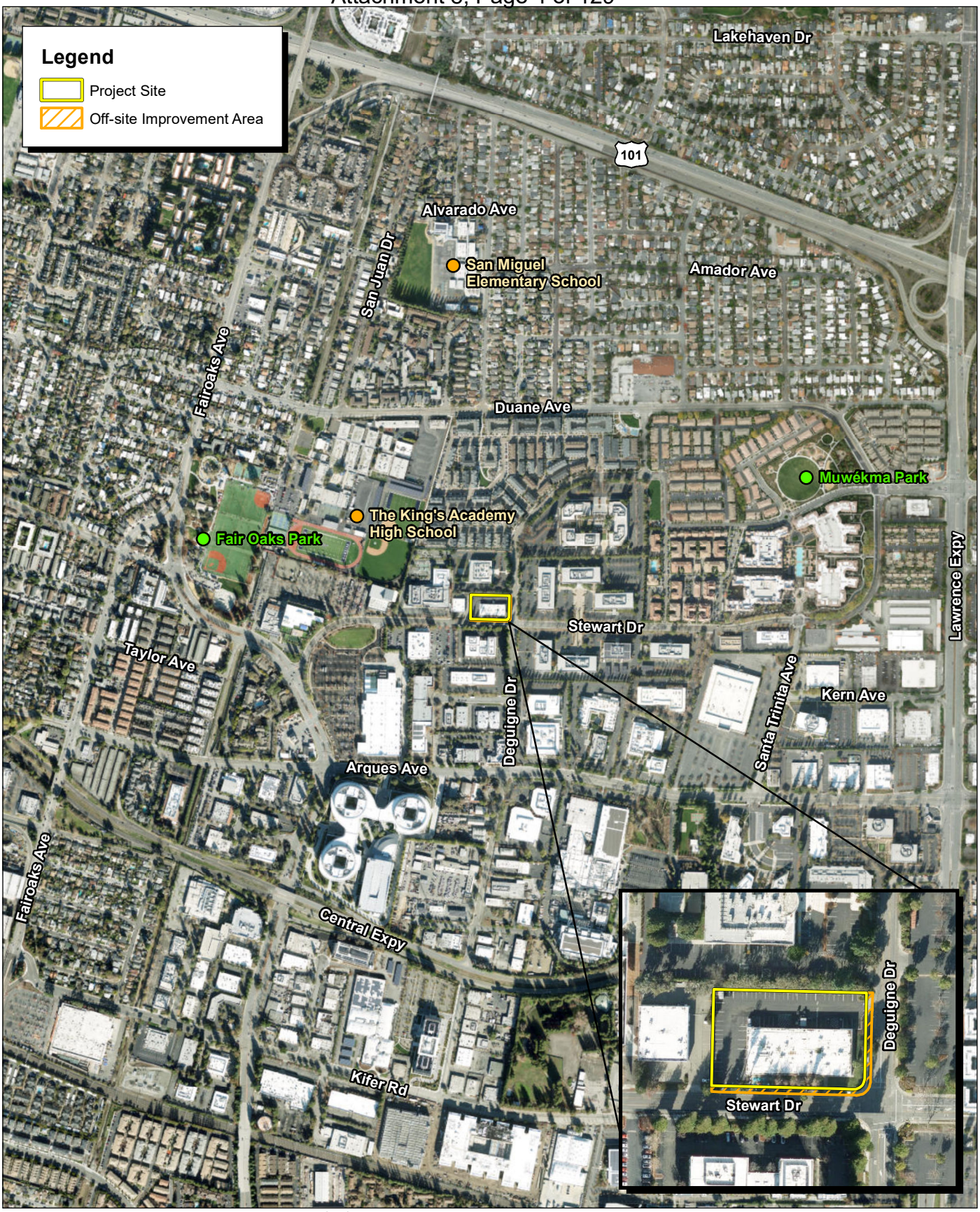
ADAM WINSLOW FOSTER, CITY VENTURES
THE ARCADE PROJECT
AIR QUALITY IMPACT ANALYSIS



Source: ESRI Aerial Imagery. Ruggeri-Jensen-Azar, 03/31/2025. Santa Clara County.

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1,000 500 0 1,000
Feet

Exhibit 2
Local Vicinity Map

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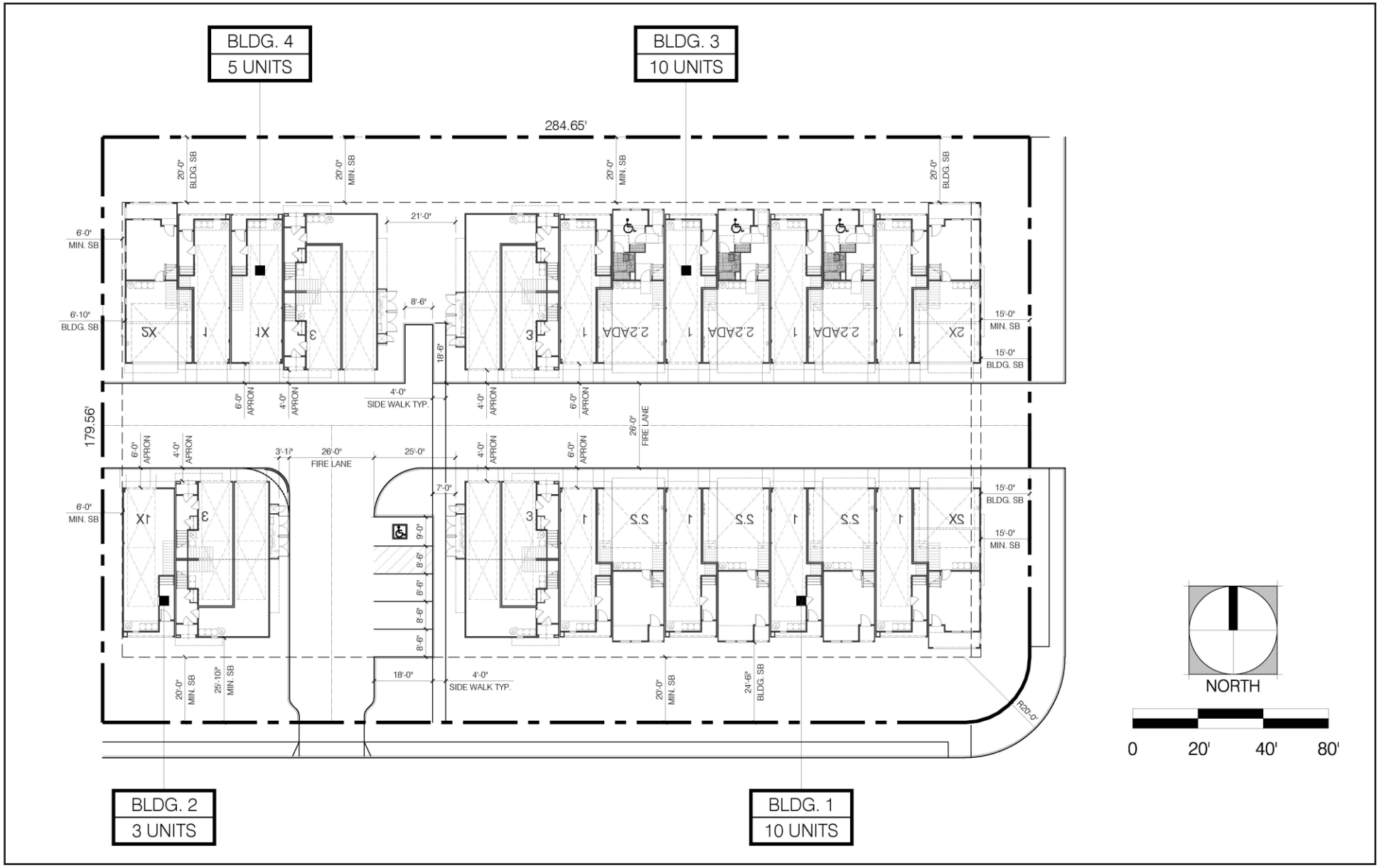
CITY VENTURES
THE ARCADE PROJECT
AIR QUALITY IMPACT ANALYSIS



Source: Fournier Design Studio, Hunt Hale Jones Architects, Ruggeri Jensen Azar, C2 Collaborative, 04/24/2025.

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Exhibit 3
Site Plan

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CITY VENTURES
THE ARCADE PROJECT
AIR QUALITY IMPACT ANALYSIS

SETTING AND REGULATORY FRAMEWORK

Air Quality Regulatory Framework

The proposed project is in the City of Sunnyvale and within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD), which regulates air quality in the San Francisco Bay Area Air Basin (Air Basin). Within the Air Basin, ambient air quality standards for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter of 2.5 microns and smaller ($PM_{2.5}$) and 10 microns and smaller (PM_{10}), and lead (Pb) have been established by both the United States Environmental Protection Agency (EPA) and California Environmental Protection Agency (Cal/EPA).[1,2] California has also set standards for sulfate concentrations and atmospheric visibility.

The EPA and the California Air Resources Board (ARB) designate air basins, or specific areas within an air basin where ambient air quality standards are exceeded, as "nonattainment." If standards are met, the area is designated as "attainment." If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards.

The Air Basin is classified as a nonattainment area for the State ozone and particulate matter standards and as nonattainment for federal ozone 8-hour and $PM_{2.5}$ 24-hour standards. This indicates that the BAAQMD has not achieved compliance with these State and federal standards in the Air Basin.

In addition to regulating criteria pollutants for attainment of State and federal standards, ARB and the BAAQMD regulate and control emissions of toxic air contaminants (TACs) to further protect human health. TACs are a class of pollutants that includes hundreds of chemicals hazardous to human health. Long-term exposure to TACs may cause more severe health effects such as neurological damage, hormone disruption, developmental defects, and cancer. TAC emissions are highly localized and are emitted from mobile sources such as cars, trucks, and marine and rail sources as well as stationary and area sources. The ARB and BAAQMD address their emissions via mobile source strategies, stationary source permitting requirements, and health risk thresholds for new development under review in the CEQA process. The average cancer risk from TACs in the Bay Area has been reduced by 80 percent since 1990.[2] Diesel exhaust is the primary TAC contributor to health risk in the Bay Area.

For CEQA, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the proposed project's significance impact determinations related to air quality from criteria pollutants and TACs.

[1] The United States Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for six of the most common air pollutants—carbon monoxide, lead, ground level ozone, particulate matter, nitrogen dioxide, and sulfur dioxide—known as "criteria" air pollutants (or simply "criteria pollutants").

[2] Bay Area Air Quality Management District (BAAQMD). 2017. Final 2017 Clean Air Plan. August 28.

Thresholds of Significance

The City of Sunnyvale has elected to utilize the significance criteria recommended by the BAAQMD to make CEQA significance determinations related to the proposed project's impacts on air quality. The BAAQMD has adopted standards of significance for construction and operation. Table 1 shows the thresholds of significance. In developing the thresholds of significance for air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts on the region's existing air quality conditions. CEQA thresholds of significance developed by air districts are tied to achieving or maintaining an attainment designation under the NAAQS and CAAQS, which are scientifically substantiated, numerical concentrations of criteria air pollutants considered to be protective or human health. Air districts use other federal guidance such as New Source Review to inform the development of thresholds. Air district specific thresholds are typically numerical and apply to construction and operational emissions. Emissions shown to be above the thresholds would indicate that a project's discrete emission would result in a cumulative, regional contribution (i.e., significant) to the baseline attainment or nonattainment designation of an air basin. Air basins designated as nonattainment areas experience ambient air conditions that exceed the National and California Ambient Air Quality Standards (NAAQS and CAAQS), which may result in adverse health impacts for individuals residing within the basin.

Table 1: BAAQMD Thresholds of Significance

Pollutant	Construction Thresholds Average Daily Emissions (pounds/day)	Operational Thresholds	
		Average Daily Emissions (pounds/day)	Average Daily Emissions (pounds/day)
Criteria Air Pollutants			
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, other Best Management Practices (BAAQMD Basic Construction Mitigation Measures)	Not Applicable	
Health Risks and Hazards for New Sources			
Excess Cancer Risk	10 per 1 million	10 per 1 million	
Chronic or 1-hour Acute Hazard Index	1.0	1.0	

Pollutant	Construction Thresholds Average Daily Emissions (pounds/day)	Operational Thresholds	
		Average Daily Emissions (pounds/day)	Average Daily Emissions (pounds/day)
Incremental annual average $PM_{2.5}$	0.3 µg/m^3	0.3 µg/m^3	
Health Risks and Hazards for Sensitive Receptors (Cumulative from All Sources within 1,000-foot Zone of Influence) and Cumulative Thresholds for New Sources			
Excess Cancer Risk	100 per 1 million		
Chronic Hazard Index	10.0		
Annual Average $PM_{2.5}$	0.8 µg/m^3		

Notes:
µg/m^3 = micrograms per cubic meter
BAAQMD = Bay Area Air Quality Management District
CO = carbon monoxide
NO_X = nitrogen oxides
PM_{10} = particulate matter, including dust, 10 micrometers or less in diameter
$PM_{2.5}$ = particulate matter, including dust, 2.5 micrometers or less in diameter
ppm = parts per million
ROG = reactive organic gases
Source: Bay Area Air Quality Management District (BAAQMD). 2022. CEQA Air Quality Guidelines. April 20.

EPA Off-road Diesel Engine Emissions Standards

The EPA regulates nonroad diesel engines that power mobile equipment (bulldozers, scrapers, front-end loaders, etc.) and stationary equipment (generators, pumps, compressors, etc.). The EPA has no formal fuel economy standards for nonroad (e.g., construction) diesel engines but does regulate diesel emissions, which indirectly affects fuel economy. In 1994, the EPA adopted the first set of emission standards (Tier 1) for all new nonroad diesel engines greater than 37 kilowatts (kW [50 horsepower]). The Tier 1 standards were phased in for different engine sizes between 1996 and 2000, reducing nitrogen oxides (NO_X) emissions from these engines by 30 percent. Subsequently, the EPA adopted more stringent emission standards for NO_X, hydrocarbons, and PM from new nonroad diesel engines. This program included the first set of standards for nonroad diesel engines less than 37 kW. It also phased in more stringent Tier 2 emission standards from 2001 to 2006 for all engine sizes and added yet more stringent Tier 3 standards for engines between 37 and 560 kW (50 and 750 horsepower, respectively) from 2006 to 2008. These standards further reduced nonroad diesel engine emissions by 60 percent for NO_X and 40 percent for PM from Tier 1 emission levels. In 2004, the EPA issued the Clean Air Nonroad Diesel Rule and finalized Tier 4 emission standards. This rule cut emissions from nonroad diesel engines by more than 90 percent and was phased in between 2008 and 2014. These emission standards are intended to promote advanced clean technologies for nonroad diesel engines that improve fuel combustion, but they also result in slight decreases in fuel economy.

State Vehicle and Truck Emission Reduction Programs

Low Emission Vehicle Program

The ARB first adopted Low Emission Vehicle (LEV) program standards in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010, represent continuing progress in emission reductions. As the State's passenger vehicle fleet continues to grow and more sport utility vehicles and pickup trucks are used as passenger cars rather than work vehicles, the more stringent LEV II standards were adopted to provide reductions necessary for California to meet federally mandated clean air goals outlined in the 1994 State Implementation Plan. In 2012, the ARB adopted the LEV III amendments to California's LEV regulations. These amendments, also known as the Advanced Clean Car Program, include more stringent emission standards for model years 2017 through 2025 for both criteria pollutants and greenhouse gas (GHG) emissions for new passenger vehicles.

On September 23, 2020, Governor Gavin Newsom issued Executive Order N-79-20 establishing a goal that 100 percent of new passenger cars and trucks sold in California shall be zero-emission by 2035. The Executive Order also sets a goal that, where feasible, all operations include zero-emission medium- and heavy-duty trucks by 2045, and drayage trucks by 2035. Off-road vehicles have a goal to transition to 100 percent ZEVs by 2035, where feasible.

To implement these goals, the ARB adopted the Advanced Clean Cars II (ACC II) regulations, which require automakers to sell increasing percentages of ZEVs starting with model year 2026, culminating in a full transition by 2035. ACC II also updates standards for internal combustion vehicles and works in tandem with other ARB regulations such as the Advanced Clean Trucks rule and the Heavy-Duty Low NO_X Omnibus Regulation. On January 13, 2025, the ARB withdrew its request for a waiver and authorization for the portion of its Advanced Clean Fleets (ACF) regulations that would have permitted ARB to implement the drayage and "high priority fleets" provisions. In June 2025, President Trump signed into law congressional resolutions under the Congressional Review Act, invalidating EPA's preemption waivers for ACC II, the Advanced Clean Trucks rule, and the Low NO_X Omnibus Regulation.[3] These waivers were critical to California's authority under the CAA to set its own vehicle emissions standards. The ARB has strongly opposed the rescissions and the State, together with ten other states, has pursued a legal challenge.[4]

On-road Heavy-duty Vehicle Program

The ARB adopted the Heavy-duty Engine and Vehicle Omnibus Regulation in September 2021, with amendments finalized in December 2023. This regulation significantly tightens NO_x and particulate matter (PM) emission standards for new medium- and heavy-duty engines beginning with the 2024 model year. It also introduces more stringent standards for 2027 and subsequent model years, making it the most aggressive NO_x control measure in California's State Implementation Plan. The Omnibus Regulation

[3] U.S. Congress. (2025). H.J.Res.88 – Providing congressional disapproval under chapter 8 of title 5, United States Code, of the rule submitted by the Environmental Protection Agency relating to "California State Motor Vehicle and Engine Pollution Control Standards; Advanced Clean Cars II; Waiver of Preemption; Notice of Decision." Website: https://www.congress.gov/bill/119th-congress/house-joint-resolution/88/text?s=1&r=2. Accessed September 9, 2025.

[4] These regulatory updates are provided for information purposes only and do not have impact on the analysis. The latest version of CalEEMod utilizes EMFAC2021, which does not account for emission reductions associated with the ACC II, Advanced Clean Trucks rule, or Low Nox Omnibus regulations.

revamps the in-use testing program, extends warranty periods, and strengthens durability demonstration requirements. While the 2023 amendments provided manufacturers with additional compliance flexibility for model years 2024 through 2026, they did not reduce the overall emissions benefits of the program.[5] However, the enforceability of the Omnibus Regulation was called into question following the June 2025 rescission of California's EPA waiver under the CAA. This action, approved through Congressional Review Act resolutions and signed by President Trump, revoked federal authorization for the ARB to implement the Omnibus Regulation alongside other major vehicle emission rules.[6] The ARB has publicly opposed the rescission and the State is pursuing a legal challenge, but in the interim, the regulation's status remains uncertain, with implications for long-term emissions modeling and fleet planning.

City of Sunnyvale General Plan

The General Plan includes policies to avoid or mitigate impacts resulting from planned development projects within the City. The following policies are specific to air quality and apply to the proposed project.

Health Element

Policy EM-11.1 **Participate in air quality planning.** Actively participate in regional air quality planning.

Policy EM-11.2 **Land use strategies.** Utilize land use strategies to reduce air quality impacts, including opportunities for citizens to live and work in close proximity.

Policy EM-11.3 **New development.** Require all new development to utilize site planning to protect citizens from unnecessary exposure to air pollutants.

Policy EM-11.4 **Best management practices.** Require development projects that are located within 1,000 feet of a major pollution source and that include sensitive uses to implement all applicable best management practices that will reduce exposure to TACs and fine particulate matter ($PM_{2.5}$). Alternatively, require a site-specific Health Risk Assessment (HRA).

[5] California Air Resources Board (ARB). Heavy-Duty Omnibus Regulation Fact Sheet. Website: https://ww2.arb.ca.gov/our-work/programs/heavy-duty-low-nox/heavy-duty-omnibus-regulation-fact-sheet. Accessed September 9, 2025.

[6] U.S. Congress. (2025). H.J.Res.88 – Providing congressional disapproval under chapter 8 of title 5, United States Code, of the rule submitted by the Environmental Protection Agency relating to "California State Motor Vehicle and Engine Pollution Control Standards; Advanced Clean Cars II; Waiver of Preemption; Notice of Decision.". Website: https://www.congress.gov/bill/119th-congress/house-joint-resolution/88/text?s=1&r=2. Accessed September 9, 2025.

Policy EM-11.6 **Air filtration systems.** Where significant health risk exposure is identified, as defined by BAAQMD, at new development sites, indoor air filtration systems shall be installed to effectively reduce particulate matter ($PM_{2.5}$ and PM_{10}) levels to avoid adverse public health impacts. Project shall submit performance specification and design details to the City to demonstrate that lifetime residential exposures would not exceed BAAQMD-recommended risk levels.

Policy EM-11.7 **Indirect sources**. Apply the indirect source rule to new development with significant air quality impacts. Indirect source review would cover any projects that would produce or attract motor vehicle traffic.

Policy EM-11.10 **Construction mitigation.** Require development projects to comply with construction best management practices, such as those in BAAQMD's basic construction mitigation measures.

Policy EM-11.11 **Urban greening.** Prioritize urban greening projects such as tree planting, public landscaping, and pocket parks, in areas of the City that are low-income and/or bear a high pollution burden.

AIR QUALITY EMISSIONS IMPACT ANALYSIS

According to CEQA Guidelines Appendix G, to determine whether impacts related to air quality are significant environmental effects, the following questions are analyzed and evaluated.

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

Less than significant impact. The project site is located in the San Francisco Bay Area Air Basin, where the BAAQMD regulates air quality. The EPA is responsible for identifying nonattainment and attainment areas for each criteria pollutant within the Air Basin. The Air Basin is designated nonattainment for State standards for 1-hour and 8-hour ozone, 24-hour respirable particulate matter (PM_{10}), annual PM_{10}, and annual $PM_{2.5}$.[7]

The BAAQMD has adopted several air quality policies and plans to address regional air quality standards, the most recent of which is the 2017 Clean Air Plan. The 2017 Clean Air Plan was adopted in April of 2017 and serves as the regional Air Quality Plan (AQP) for the Air Basin for attaining National Ambient Air Quality Standards (NAAQS). The primary goals of the 2017 Clean Air Plan are to protect public health and protect the climate. The 2017 Clean Air Plan acknowledges that the BAAQMD's two stated goals of

[7] Bay Area Air Quality Management District (BAAQMD). 2022. CEQA Air Quality Guidelines. April 20.

protection are closely related. As such, the 2017 Clean Air Plan identifies a wide range of control measures intended to decrease both criteria pollutants and greenhouse gas (GHG) emissions.[8]

The 2017 Clean Air Plan also accounts for projections of population growth provided by the Association of Bay Area Governments (ABAG) and Vehicle Miles Traveled (VMT) projections provided by the Metropolitan Transportation Commission (MTC) and identifies strategies to bring regional emissions into compliance with federal and State air quality standards. These projections are sourced from the regional Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS), which is jointly developed by ABAG and the MTC. A project would be judged to conflict with or obstruct implementation of the 2017 Clean Air Plan if it would result in substantial new regional emissions not foreseen in the air quality planning process.

The BAAQMD does not provide a numerical threshold of significance for project-level consistency analysis with AQPs. Therefore, the following criteria will be used for determining a project's consistency with the AQP.

- **Criterion 1:** Does the project support the primary goals of the AQP?
- **Criterion 2:** Does the project include applicable control measures from the AQP?
- **Criterion 3:** Does the project disrupt or hinder the implementation of any AQP control measures?

Criterion 1

The primary goals of the 2017 Clean Air Plan, the current AQP to date, are to:

- Attain air quality standards;
- Reduce population exposure to unhealthy air and protect public health in the Bay Area; and
- Reduce GHG emissions and protect the climate.

A measure for determining whether the proposed project supports the primary goals of the AQP is if the proposed project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the air quality plans. This measure is determined by comparing project emissions to the significance thresholds identified by the BAAQMD for construction- and operation-related pollutants and health risks. These significance thresholds are applied in the evaluation of Impact AIR-2, below. As discussed under Impact AIR-2 and Impact AIR-3, the proposed project would not significantly contribute to cumulative nonattainment pollutant violations or expose sensitive receptors to substantial pollutant concentrations.

Fugitive dust control measures would be required to be implemented during the construction of the proposed project in order to reduce localized dust impacts. Impacts related to fugitive dust from the proposed project's construction would be potentially significant without the inclusion of sufficient dust control measures. General Plan Policy EM-11.10 requires development projects to comply with

[8] A greenhouse gas (GHG) is any gaseous compound in the atmosphere that is capable of absorbing infrared radiation, thereby trapping and holding heat in the atmosphere. By increasing the heat in the atmosphere, greenhouse gases are responsible for the greenhouse effect, which ultimately leads to global warming.

construction best management practices, such as those in BAAQMD's basic construction measures. Therefore, the proposed project would be required to implement BAAQMD's basic construction measures to ensure that fugitive dust control impacts are maintained at less than significant levels.

The proposed project would be consistent with Criterion 1.

Criterion 2

Another measure for determining whether a project is consistent with the AQP is to determine whether the project is inconsistent with the growth assumptions incorporated into the AQP and, thus, whether it would interfere with the region's ability to comply with federal and California air quality standards, mirroring those required for federal agencies under General Conformity principles.[9] As explained above, the AQP incorporates projections from the region's adopted MTP/SCS, which is jointly developed by ABAG and MTC. By aligning its emission reduction strategies with the MTP/SCS projections, the AQP ensures that air quality goals are closely coordinated with broader regional planning efforts. This integration helps to create a comprehensive approach that addresses both transportation and land use factors influencing air pollution, supporting the region's compliance with federal and State air quality standards. The development of the AQP is based in part on the land use general plan determinations of the various cities and counties that constitute the Air Basin. The project site is designated as R-3 by the General Plan and is zoned MS by the Zoning Ordinance. Given the property's R-3 land use designation, the applicant requests the R-3 zoning district be applied to the property as its best fit zoning. Because of the site's existing zoning, it is possible that the AQP did not analyze the density and associated emissions from the proposed project. However, as demonstrated in Impact AIR-2, below, the net increase in regional emissions generated by the proposed project would be less than the BAAQMD's emissions thresholds. The BAAQMD emissions thresholds were established to identify projects that have the potential to generate a substantial amount of criteria air pollutants. Because the proposed project would not exceed these thresholds, it would not impede the long-term air quality planning in the SFBAAB.

The AQPs also assume adherence to all mandatory regulations to reduce air pollution. Therefore, to conform to the assumptions in the AQP, a project must be consistent with all applicable measures contained in the applicable AQP. The Clean Air Plan contains 85 control measures to reduce air pollutants and GHGs at the local, regional, and global levels. Along with the traditional stationary, area, mobile source, and transportation control measures, the Clean Air Plan contains several control measures designed to protect the climate, promote mixed-use, and compact development to reduce vehicle emissions and exposure to pollutants from stationary and mobile sources. The Clean Air Plan also includes an account of the implementation status of control measures identified in the 2010 Clean Air Plan.

Table 2 lists the Clean Air Plan policies relevant to the proposed project and evaluates the proposed project's consistency with the policies. As shown below, the proposed project would be consistent with applicable measures.

[9] United States Environmental Protection Agency (U.S EPA). 2025. Transportation Conformity. Website: https://www.epa.gov/general-conformity/what-general-conformity. Accessed October 10, 2025.

Table 2: Project Consistency with Applicable Clean Air Plan Control Measures

Control Measure	Measure Description	Project Consistency
Buildings Control Measures		
BL1: Green Buildings	This control measure aims to increase energy efficiency and the use of on-site renewable energy, as well as to decarbonize existing end uses for all types of buildings. It includes policy assistance, incentives, and partnerships to enhance energy efficiency and renewable energy use. This measure will reduce greenhouse gas (GHG) emissions, criteria pollutants, and toxic air contaminants (TACs) associated with building operations.	**Consistent.** The proposed project would not conflict with the implementation of this measure. The proposed project would comply with the latest energy efficiency standards and incorporate applicable energy efficiency features designed to reduce project energy consumption. Furthermore, the proposed new residential building would be all electric, include rooftop solar panels, and would not include natural gas plumbing.
BL2: Decarbonize Buildings	This control measure aims to reduce GHG emissions, criteria pollutants, and TACs by limiting the installation of space and water-heating systems and appliances powered by fossil fuels. It promotes the development of model policies for local governments that support low- and zero-carbon technologies.	**Consistent.** The proposed project is designed to be fully electric, with no natural gas plumbing. This all-electric approach aligns with the measure, which aims to reduce GHG emissions, criteria pollutants, and TACs. By being fully electric, the proposed project would support the transition to decarbonizing buildings. Therefore, the proposed project would be consistent with the implementation of this measure.
BL4: Urban Heat Island Mitigation	This control measure aims to reduce urban heat island effects and associated energy use by promoting the use of cool surface treatments for new and resurfaced parking facilities. It also involves developing model building code requirements for cool roofing in new construction and roofing upgrades.	**Consistent.** Title 24, Part 6 contains requirements for the thermal emittance, 3-year aged reflectance, and Solar Reflectance Index (SRI) of roofing materials used in new construction and re-roofing projects.[10] By adhering to these requirements, the proposed project would ensure that all new and resurfaced parking facilities, as well as building rooftops, utilize materials that minimize heat absorption. Furthermore, the proposed project incorporates landscaping throughout the site, providing additional cooling benefits and further mitigating the urban heat island effect. Therefore, the proposed project would be consistent with this measure.
Energy Control Measures		
EN1: Decarbonize Electricity Generation	This measure focuses on lowering carbon emissions by switching fuel sources in	**Consistent.** Senate Bill (SB) 100 requires that renewable energy and zero-carbon

[10] California Energy Commission (CEC). 2022. Building Energy Efficiency Standards. Website: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards. Accessed February 4, 2025.

Control Measure	Measure Description	Project Consistency
	electricity generation from fossil fuels to renewable energy sources like wind and solar. It also promotes cogeneration, which produces useful heat along with electricity.	resources supply 100 percent of electric retail sales by 2045, which means that the proposed project's electricity would come from increasingly renewable sources and entirely from renewable energy and zero-carbon resources by 2045. SB 1020 supersedes the goals of SB 100 by requiring that 90 percent of all retail sales of electricity to California end-use customers are procured from renewable energy and zero-carbon resources by December 31, 2035. The requirement increases to 95 percent by December 31, 2040, and to 100 percent by December 31, 2045. Under SB 1020, State agency facilities must use 100 percent renewable and zero-carbon energy resources by December 31, 2035. The proposed project's all-electric design and SB 100's and SB 1020's 100 percent renewable energy sources requirement would drastically reduce criteria pollutants from energy use, meeting the intent of this measure. This ensures that the proposed project's electricity consumption would help reduce carbon emissions by relying more on renewable energy. Therefore, the proposed project would be consistent with this measure.
Natural and Working Lands Control Measures		
NW2: Urban Tree Planting	This control measure promotes the planting of trees in urbanized settings to provide shading, reduce the urban heat island effect, and absorb ambient criteria air pollutants and carbon dioxide (CO_2).	**Consistent.** Although the proposed project would involve the removal of trees during demolition and grading, the proposed project would provide landscaping, including trees, in accordance with the City's landscape ordinance. The proposed trees and vegetation would reduce the urban heat island effect by increasing shade coverage, while also increasing opportunities for carbon sequestration. By ensuring that the tree canopy is maintained, the proposed project supports the goals of urban tree planting contributes to a healthier, more sustainable environment. Therefore, the proposed project would be consistent with this measure.
WA3: Green Waste Diversion	This control measure aims to reduce the amount of green waste disposed of in	**Consistent.** The waste service provider for the proposed project would be required to meet the Assembly Bill (AB) 341, SB 939,

Control Measure	Measure Description	Project Consistency
	landfills by supporting its diversion to other uses.	and SB 1374 requirements that require waste service providers to divert green waste. All plant refuse generated during operations of the proposed project would be recycled off-site.
WA4: Recycling and Waste Reduction	This control measure aims to reduce the amount of green waste disposed of in landfills by supporting its diversion to other uses.	**Consistent.** The waste service provider for the proposed project would be required to meet the AB 341, SB 939, and SB 1374 requirements that require waste to be recycled.
Stationary Control Measures		
SS36: Particulate Matter from Trackout	This measure aims to develop a regulation (Regulation 6, Particulate Matter; Rule 6: Trackout) to address mud and dirt tracked out from construction sites, bulk material storage, and disturbed surfaces onto public paved roads where they can be pulverized into fine particles and entrained into the air.	**Consistent.** The proposed project would comply with the Bay Area Air Quality Management District's (BAAQMD) Regulation 6, Rule 6: Trackout, which became effective in July 2018. Since the proposed project must comply with the regulation, the proposed project would be consistent with the measure.
Transportation Control Measures		
TR9: Bicycle and Pedestrian Access and Facilities	This measure will expand bicycle facilities and improve pedestrian facilities to serve employment sites, educational and cultural facilities, residential areas, shopping districts, and other activity centers. Improvements include bike lanes, routes, paths, bicycle parking, and a bike share pilot project for bicycles. Pedestrian improvements include sidewalks/paths, benches, crosswalks, curb extensions, and street trees.	**Consistent.** The proposed project would be directly accessible to sidewalks on De Guigne Drive and Stewart Drive. The nearest bus stop is across Stewart Drive and serves eight bus routes. The proposed project would also be located adjacent to De Guigne Drive and Stewart Drive, which is one of the feature Class II and Class IIB on-street bike lanes that allow separation of bicycles from vehicle traffic.[1] Therefore, the proposed project would be consistent with the measure.

Notes:
[1] City of Sunnyvale. 2022. Sunnyvale Bike Map. Website: https://www.sunnyvale.ca.gov/home/showpublisheddocument/1082/637901934227870000. Accessed May 1, 2025.
Source: Bay Area Air Quality Management District (BAAQMD). 2017. Final 2017 Clean Air Plan. April 19.

In summary, the proposed project would not conflict with any applicable measures under the 2017 Clean Air Plan; therefore, the proposed project would be consistent with Criterion 2.

Criterion 3

The proposed project would not preclude extension of a transit line or bike path, propose excessive parking beyond parking requirements, or otherwise create an impediment or disruption to implementation

of any AQP control measures. As shown in Table 2 above, the proposed project would incorporate several AQP control measures as project design features, such as utilizing asphalt compliant with BAAQMD regulations, complying with energy efficiency standards contained in the 2022 California Building Standards Code (CBC), and installing landscaping across the project site. Considering this information, the proposed project would not disrupt or hinder the implementation of any AQP control measures. The proposed project is therefore consistent with Criterion 3.

Summary

As discussed above, the proposed project would be consistent with all three criteria. Thus, the proposed project would not conflict with the 2017 Clean Air Plan. **Therefore, impacts associated with conflicting with or obstructing the 2017 Clean Air Plan would be less than significant.**

Impact AIR-2: **Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard?**

Less than significant impact. This impact is related to the cumulative effect of a project's criteria pollutant emissions. Criteria air pollutant impacts are largely cumulative, stemming from emissions generated over a broad geographic area. The nonattainment status of regional pollutants results from past and present development within the Air Basin, and this regional impact is a cumulative impact. Therefore, new development projects (such as the proposed project) within the Air Basin would contribute to this impact only on a cumulative basis. No single project would be sufficient in size, by itself, to result in nonattainment of regional air quality standards. Instead, a project's emissions may be individually limited but cumulatively considerable when evaluated in combination with past, present, and future development projects.

Potential regional impacts could result in exceedances of State or federal standards for nitrogen oxide (NO_X), particulate matter (PM_{10} and $PM_{2.5}$), or CO. NO_X emissions are of concern because of potential health impacts from exposure to NO_X emissions during both construction and operation and as a precursor in the formation of airborne ozone. PM_{10} and $PM_{2.5}$ are of concern during construction because of the potential to emit exhaust emissions from the operation of off-road construction equipment and fugitive dust during earth-disturbing activities (construction fugitive dust) through the use of equipment such as graders, rubber tired dozers, and tractors. On-road construction trips are comprised of worker, vendor, and hauling trips to transport workers and materials to the project site. CO emissions are of concern during project operation because operational CO hotspots are related to increases in on-road vehicle congestion and resulting health effects.

Reactive organic gas (ROG) emissions are also important because of their participation in the formation of ground level ozone. Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections, and it can cause substantial damage to vegetation and other materials. Elevated ozone concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, elderly, and young children.

The cumulative analysis focuses on whether a specific project would result in cumulatively considerable emissions. According to Section 15064(h)(4) of the CEQA Guidelines, the existence of significant cumulative impacts caused by other projects alone does not constitute substantial evidence that the project's incremental effects would be cumulatively considerable. Rather, the determination of cumulative air quality impacts for construction and operational emissions is based on whether the proposed project would result in emissions that exceed the BAAQMD thresholds of significance for construction and operations on a project level. The thresholds of significance represent the allowable emissions each project can generate without generating a cumulatively considerable contribution to regional air quality impacts. Therefore, a project that would not exceed the BAAQMD thresholds of significance on the project level also would not be considered to result in a cumulatively considerable contribution to these regional air quality impacts.

Consistent with the principles established in *Sierra Club v. County of Fresno*, the analysis connects quantified emissions to potential human health impacts by comparing against the Bay Area Air District's significance thresholds. These thresholds are designed to identify projects that could contribute to violations of the NAAQS or CAAQS, which are developed to protect public health, including sensitive populations. If a proposed project's criteria pollutant emissions would not exceed BAAQMD's thresholds, it can be reasonably concluded that the project emissions would not result in a significant impact related to human health.

Construction and operational emissions are discussed separately below.

Construction Emissions

During construction, fugitive dust would principally be generated from demolition, site grading, and other earthmoving activities. The majority of fugitive dust would remain localized and would be deposited near the project site; however, the potential for impacts from fugitive dust exists. Exhaust emissions would also be generated from the operation of the off-road construction equipment and on-road construction vehicles.

Construction Fugitive Dust

PM_{10} and $PM_{2.5}$ (fugitive dust) is recognized to impact local communities. Construction-related activities, such as soil disturbance, grading, and material hauling, can also result in fugitive dust emissions (e.g., $PM_{2.5}$ and PM_{10}). The BAAQMD does not have a numerical threshold for fugitive dust particulate matter emissions. Instead, the BAAQMD bases the determination of significance for fugitive dust on implementing effective control measures. In order for a project to have a less than significant criteria air pollutant impact related to construction-related fugitive dust emissions, it must implement all BAAQMD basic BMPs. The City requires BAAQMD BMPs to be implemented for all development projects, pursuant to General Plan Policy EM-11.10. Therefore, short-term construction fugitive dust impacts would be less than significant. In addition, the proposed project would comply with all applicable district rules, including Regulation 6, Rule 1 (General Requirements) and Regulation 6, Rule 6 (Prohibition of Trackout), which require dust generating operations to limit particulate matter emissions. Therefore, project construction would have a less than significant impact with respect to fugitive dust.

Construction Air Pollutant Emissions: ROG, NO_X, Exhaust PM_{10}, and Exhaust $PM_{2.5}$

California Emissions Estimator Model (CalEEMod) Version 2022.1 was used to estimate the proposed project's construction emissions. CalEEMod provides a consistent platform for estimating construction and operational emissions from a wide variety of land use projects and is the model recommended by the BAAQMD for estimating project emissions. Estimated construction emissions are compared with the applicable thresholds of significance established by the BAAQMD to assess ROG, NO_X, exhaust PM_{10}, and exhaust $PM_{2.5}$ construction emissions to determine significance for this criterion.

For the purpose of this air quality analysis, construction of the proposed project is estimated to begin in May 2026 with a 14-month duration, concluding in July 2027. Construction emissions would likely decrease if the construction schedule is deferred to later years because of improvements in technology and more stringent regulatory requirements. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as CEQA Guidelines require. The preliminary construction schedule is presented in Table 3.

Table 3: Preliminary Construction Schedule

Phase	Phase Start Date	Phase End Date	Working Days per Week	Total Number of Working Days
Demolition	5/4/2026	5/29/2026	5	20
Site Preparation	6/1/2026	6/12/2026	5	10
Grading	6/15/2026	6/26/2026	5	10
Building Construction	6/29/2026	6/4/2027	5	245
Paving	6/7/2027	6/18/2027	5	10
Architectural Coating	6/21/2027	7/2/2027	5	10

The calculations of pollutant emissions from the construction equipment account for the type of equipment, horsepower and load factors of the equipment, and the duration of equipment use. CalEEMod defaults for these values were used for Table 4, which shows the estimated Air Pollutant emissions for the construction phase of the proposed project. As indicated in Table 4, construction emissions from all construction activities would be below the recommended thresholds of significance; therefore, the proposed project's construction would have less than significant impact related to emissions of ROG, NO_X, exhaust PM_{10}, and exhaust $PM_{2.5}$.

Table 4: Construction Regional Pollutant Emissions

Parameter	Air Pollutants (tons/year)				
	Year	ROG	NO_X	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
Demolition	2026	0.0146	0.1527	0.0053	0.0049
Site Preparation	2026	0.0063	0.0575	0.0026	0.0024
Grading	2026	0.0073	0.0667	0.0029	0.0027
Building Construction	2026	0.0711	0.5789	0.0195	0.0180
	2027	0.0567	0.4647	0.0145	0.0134
Paving	2027	0.0025	0.0230	0.0009	0.0008
Architectural Coating	2027	0.3905	0.0042	0.0001	0.0001
Total Construction Emissions					
Total Emissions (tons)		1.0159	0.5491	1.3477	0.0458
Total Emissions (lbs)		1,098.2	2,695.3	91.5	84.3
Daily Average					
Average Daily Emissions (lbs/day)[1]		**3.60**	**8.84**	**0.30**	**0.28**
Significance Threshold (lbs/day)		**54**	**54**	**82**	**54**
Exceeds Significance Threshold?		**No**	**No**	**No**	**No**

Notes:
lbs = pounds
NO_X = oxides of nitrogen
PM_{10} = particulate matter 10 micrometers or less in diameter
$PM_{2.5}$ = particulate matter 2.5 micrometers or less in diameter
ROG = reactive organic gases

1. Calculated by dividing the total pounds of emissions by the total number of non-overlapping working days of construction (305 workdays).

Source: California Emissions Estimator Model (CalEEMod) Output (see Attachment A).

In summary, the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant during construction. Impacts would be less than significant.

Operational Emissions

Operational Air Pollutant Emissions: ROG, NO_X, PM_{10}, and $PM_{2.5}$

Operational emissions would include area, energy, mobile, and stationary sources. Area sources would include emissions from architectural coatings, consumer products, and landscape equipment. In compliance with the City's Reach Code, the proposed project would be all electric and would not have any natural gas infrastructure. Therefore, there are no direct emissions related to building energy use for space or water heating. Mobile sources include exhaust and road dust emissions from the vehicles that

would travel to and from the project site. Institute of Transportation Engineers (ITE) trip generation rates for multi-family low-rise (Code 220) were used for this analysis. The proposed project would replace the existing commercial uses on-site, but for conservative purposes, the analysis does not account for the removal of the existing emissions, such as car trips that would be replaced by the proposed project. Pollutants of concern include ROG, NO_X, PM_{10}, and $PM_{2.5}$.

Operational emissions were calculated using CalEEMod (Version 2022.1) and compared to the BAAQMD-recommended regional thresholds of significance. For detailed assumptions used to estimate emissions, see Attachment A. Table 5 presents the annual and average daily emissions generated during project operation.

Table 5: Operational Emissions

Emissions Source	Annual Air Pollutants (tons/year)			
	ROG	**NO_X**	**PM_{10} (Total)**	**$PM_{2.5}$ (Total)**
Annual Emissions				
Mobile (tons/year)	0.080	0.053	0.112	0.029
Area (tons/year)	0.266	0.001	<0.001	<0.001
Energy (tons/year)	–	–	–	–
Total (tons/year)	**0.346**	**0.054**	**0.112**	**0.029**
Significance Threshold (tons/year)	**10**	**10**	**15**	**10**
Exceeds Significance Threshold?	**No**	**No**	**No**	**No**
Emissions Source	**Daily Air Pollutants (lbs/day)_**			
	ROG	**NO_X**	**PM_{10} (Total)**	**$PM_{2.5}$ (Total)**
Daily Average Emissions				
Average Daily Emissions (lbs/day)[1]	**1.895**	**0.298**	**0.615**	**0.159**
Significance Threshold (lbs/day)	**54**	**54**	**82**	**54**
Exceeds Significance Threshold?	**No**	**No**	**No**	**No**

Notes:
lbs = pounds
NO_X = nitrous oxides
PM_{10} = particulate matter less than 10 microns diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns diameter
ROG = reactive organic gases

[1] Calculated by deriving the total pounds of emissions per year then dividing the total pounds of emissions by 365 days in a typical year.

Source: CalEEMod Output (see Attachment A).

As shown in Table 5 above, the proposed project would not result in operational air pollutants or precursor emissions that would exceed the BAAQMD's thresholds of significance. Therefore, the ongoing, long-term project operations would not have the potential to generate a significant quantity of air pollutants.

Summary

As discussed above, **the proposed project would have a less than significant construction and operation impact related to a cumulatively considerable net increase of any criteria pollutant.**

Impact AIR-3: Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than significant impact. The BAAQMD defines a sensitive receptor as the following: "Facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals, and residential areas." In BAAQMD's 2022 CEQA Guidelines Appendix E: Recommended Methods for Screening and Modeling Local Risks, the definition of sensitive receptors has been expanded to further include off-site workers and students. As specified by the BAAQMD, health risk and hazard impacts should be analyzed for sensitive receptors within a 1,000-foot radius of the project site.[11] The closest existing sensitive receptors to the project site include the following:

- Multi-family residences 300 feet north of the project boundary along De Guigne Drive located on Julian Terrace
- Commercial uses surrounding the project boundary on all sides

The proposed project would result in a potentially significant impact on sensitive receptors if any of following criteria are met:

- **Criterion 1:** Construction and operation of the proposed project would result in cancer or non-cancer health risk levels of TACs and $PM_{2.5}$ concentrations that exceed the BAAQMD health risk significance thresholds.
- **Criterion 2:** The proposed project, in combination with existing sources of TAC and $PM_{2.5}$ emissions, would result in cancer or non-cancer health risk levels of TACs and $PM_{2.5}$ concentrations that exceed the cumulative BAAQMD health risk significance thresholds.
- **Criterion 3:** The proposed project would contribute to CO hot spots; those exposed to CO hotspots may have a greater likelihood of developing adverse health effects.

[11] Bay Area Air Quality Management District (BAAQMD). 2022. CEQA Air Quality Guidelines. April 20.

Criterion 1: Project Toxic Air Pollutants

Construction

An assessment was made of the potential health impacts on surrounding sensitive receptors resulting from TAC emissions during construction. The assessment is provided below, while Attachment A provides the detailed assumptions and modeling parameters.

Diesel particulate matter (DPM) has been identified by the ARB as a carcinogenic substance. Major sources of DPM include off-road construction equipment and heavy-duty delivery and vendor trucks and worker activities. For purposes of this analysis, DPM is represented as exhaust emissions of PM_{10}. $PM_{2.5}$ concentrations were calculated using the $PM_{2.5}$ emission rates using the dispersion modeling methods used for PM_{10} and the HRA.

Estimation of Construction DPM and $PM_{2.5}$ Emissions

Construction DPM (represented as PM_{10} exhaust) and $PM_{2.5}$ emissions were estimated using CalEEMod, Version 2022.1, as described under Impact AIR-2. Construction was assumed to begin in May 2026 and conclude in July 2027. Project construction emissions were assumed to be distributed over the project site, with a working schedule of 8 hours per day, 5 days per week. Off-road equipment is modeled using the "Average" option, which uses Statewide average fleetwide emission factors from ARB's OFFROAD2017 model for the project construction year.[12]

Estimation of Construction DPM and $PM_{2.5}$ Concentrations

To assess health impacts to off-site sensitive receptors, the American Meteorological Society/EPA Regulatory Model (AERMOD) air dispersion model was used to simulate the dispersal of the emissions from the DPM and $PM_{2.5}$ project emissions and to estimate the concentrations of these pollutants at sensitive receptors within 1,000 feet of the project site to determine the Maximally Exposed Individual (MEI), which is defined as the single receptor with the highest exposure in a given study area (i.e., worst-case estimate).

The dispersion modeling incorporated release characteristics of the sources and accounted for terrain influence at receptors by using base elevations from United States Geological Survey (USGS) digital elevation models. Meteorological data provided by BAAQMD from its Moffett Field meteorological station (KNUQ) from 2013–2017 was used to model the local wind patterns that would influence the dispersion of TACs from the project site and haul road emissions. This station is approximately 3 miles northwest of the proposed site. The prevailing wind is from the northwest.

The Maximally Exposed Individual Resident (MEIR) of construction impacts was determined to be the multi-family residence 300 feet north of the project boundary, located on Julian Terrace (587748 UTM E UTM 4138107 North). The Maximally Exposed Individual Worker (MEIW) of construction impacts was determined to be the commercial use 160 feet south of the project boundary, located on Stewart Drive

[12] California Air Pollution Control Officers Association (CAPCOA). 2022. California Emission Estimator Model (CalEEMod): Appendix C Emission Calculation Details for CalEEMod. April.

(587836 UTM E UTM 4137873 North). The nearest school (Kings Academy), located approximately 400 feet northwest of the project site, was also analyzed. See Location of Maximum Exposed Receptor map within Attachment A for a depiction of receptors within the 1,000 feet buffer area and the locations of the MEIR and MEIW.

Estimation of Cancer Risks

The BAAQMD has developed a set of guidelines for estimating cancer risks resulting from exposure to TACs.[13] Methodologies used in this analysis were followed in this analysis. The Hotspots Analysis and Reporting Program (HARP2) software was used to identify the cancer risk associated with DPM generated during construction activities. See Attachment A for specific input assumptions.

Estimation of Non-Cancer Chronic Hazards

An evaluation of the potential non-cancer effects of chronic chemical exposures was also conducted. Adverse health effects are evaluated by comparing the annual receptor concentration of each chemical compound with the appropriate reference exposure limit. Available reference exposure limits promulgated by the California Office of Environmental Health Hazard Assessment (OEHHA) were considered in the assessment.

Risk characterization for non-cancer health hazards from TACs is expressed as a hazard index (HI). The HI is a ratio of the predicted concentration of the proposed project's emissions to a concentration considered acceptable to public health professionals, termed the reference exposure limit. The HI assumes that chronic sub-threshold exposures adversely affect a specific organ or organ system (toxicological endpoint). For each discrete chemical exposure, target organs presented in regulatory guidance were used. Each chemical concentration or dose is divided by the appropriate toxicity reference exposure level to calculate the HI. For compounds affecting the same toxicological endpoint, this ratio is assumed. Where the total equals or exceeds 1, a health hazard is presumed to exist. For purposes of this assessment, the TAC of concern is DPM, for which the OEHHA has defined a reference exposure limit for DPM of 5 micrograms per cubic meter ($\mu g/m^3$). The principal toxicological endpoint assumed in this assessment was through inhalation.

Project Operational Toxic Air Pollutants

The proposed project includes residential land uses, which do not generate a significant amount of DPM emissions during operation because most passenger vehicles are gasoline-fueled.

Therefore, the proposed project would not result in significant health impacts on sensitive receptors during operation.

[13] Bay Area Air Quality Management District (BAAQMD). 2020. BAAQMD Health Risk Assessment Modeling Protocol. December.

Results

Table 6 summarizes the cancer risk and chronic HI results for project construction and operation at the MEIR and MEIW. As shown in Table 6, the resultant cancer risk and chronic hazards from DPM and maximum annual $PM_{2.5}$ are below the BAAQMD thresholds of significance.

Table 6: Estimated Cancer Risks and Chronic Non-cancer Hazards

Cancer Risk Scenario	Cancer Risk (risk per million)	Chronic Non-cancer Hazard Index	Acute Non-cancer Hazard Index	Maximum Annual $PM_{2.5}$ ($\mu g/m^3$)
Maximally Exposed Individual Resident[1]	1.71	<0.01	—	0.014
Maximally Exposed Individual Worker[2]	2.33	0.04	—	0.249
The Kings Academy (K-12)[3]	0.54	0.001	—	0.007
Thresholds of Significance	**10**	**1**	**1**	**0.3**
Exceeds Individual Source Threshold?	**No**	**No**	**No**	**No**

Notes:
$\mu g/m^3$ = micrograms per cubic meter
MEIR = Maximally Exposed Individual Receptor
MEIW = Maximally Exposed Individual Worker
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter

1 The Maximally Exposed Individual Resident (MEIR) of construction impacts was determined to be the multi-family residence 300 feet north of the project boundary, located on Julian Terrace (587748 UTM E UTM 4138107 North).

2 The Maximally Exposed Individual Worker (MEIW) of construction impacts was determined to be the commercial use 160 feet south of the project boundary, located on Stewart Drive (587836 UTM E UTM 4137873 North).

3 Maximum Impacted School receptor is located at 587665 UTM E 4138178 UTM N, approximately 400 feet northwest of the site.

Risk was evaluated for Diesel Exhaust Particulate Matter, which does not have an established Acute Reference Exposure Level.

Source: Attachment A.
Thresholds Source: Bay Area Air Quality Management District (BAAQMD). 2022. CEQA Air Quality Guidelines. April 20.

Therefore, construction and operation of the proposed project would not result in significant health impacts to nearby sensitive receptors.

Criterion 2: Cumulative Health Risk Assessment

The BAAQMD recommends assessing the potential cumulative impacts from sources of TACs within 1,000 feet of a proposed project. As a result, a cumulative HRA was performed that examined the cumulative impacts of the proposed project's construction emissions and sources of TAC emissions within 1,000 feet of the proposed project. As shown above in Table 6, the MEIW would experience the highest level of health risks related to project construction; therefore, the cumulative health impacts were estimated for the MEIW.

For a project-level analysis, BAAQMD provides several tools for use in screening potential sources of TACs. This includes the Stationary Source Screening Map[14] which provides all the stationary sources permitted by the Air District with risk and hazard estimates; Roadway Screening Data Layers providing estimated cancer risks, hazards, and $PM_{2.5}$ concentrations for all Bay Area highways and surface streets; and Rail and Railyard Screening Data Layers providing estimated cancer risks, hazards, and $PM_{2.5}$ concentrations from diesel locomotives and select railyards. The BAAQMD risk and hazard values for the permitted stationary sources are based on concentrations at the sources' centroid, which represent conservative estimates because the level of risks experienced at the location of the MEIW would be lower.

The cumulative health risk results during project construction, including health risks from the existing stationary sources, roadway, and rail data from the BAAQMD sources above, are summarized in Table 7. Outputs from the BAAQMD screening tools are documented in Attachment A, with the HRA results.

Table 7: Summary of the Cumulative Health Impacts at the MEIR

Source	Source Name/Type	Cancer Risk (per million)	Chronic Hazard Index	Maximum Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Proposed Project	Diesel Equipment–Impacts at MEIW	2.33	0.04	0.249
Stationary Sources				
17334	Lowe's HIW Inc.–Generator	2.47	0.00	0.00
20966	Telenav–Generator	0.55	0.00	0.00
17353	Trimble Navigation	1.30	0.00	0.00
Existing Roadways				
Existing Roadways		4.43	0.02	0.11
Existing Railways				
Existing Railways		0.00	0.00	0.00
Cumulative Health Risks with Project				
Cumulative Total with Project		**11.08**	**0.06**	**0.359**
BAAQMD Cumulative Thresholds of Significance		**100**	**10**	**0.8**
Threshold Exceedance?		**No**	**No**	**No**

[14] Bay Area Air Quality Management District (BAAQMD). 2024. Stationary Source Screening Map. Website: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=845658c19eae4594b9f4b805fb9d89a3. Accessed April 2, 2025.

Source	Source Name/Type	Cancer Risk (per million)	Chronic Hazard Index	Maximum Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Notes: BAAQMD = Bay Area Air Quality Management District $PM_{2.5}$ = particulate matter less than 2.5 microns in diameter $\mu g/m^3$ = micrograms per cubic meter MEIR = Maximally Exposed Individual Receptor TAC = toxic air contaminant Project and stationary source risks and hazards are for diesel exhaust, which does not have an established Acute Reference Exposure Level. Source: Attachment A				

As noted in Table 7, any cumulative impacts from project construction and existing sources of TACs would be less than the BAAQMD cumulative thresholds of significance for cancer risk and non-cancer chronic hazard and annual $PM_{2.5}$ concentrations. **Therefore, the proposed project, along with cumulative sources of TAC emissions within 1,000 feet, would be below the BAAQMD's cumulative thresholds of significance and would not be cumulatively considerable or result in a significant impact.**

Criterion 3: CO Hotspot

The CO emissions from traffic generated by the proposed project are a concern at the local level because congested intersections can result in high localized concentrations of CO (referred to as a CO hotspot).

The BAAQMD screening criteria[15] were used to determine whether implementing the proposed project could result in local carbon monoxide emissions that exceed the thresholds of significance. If all the following screening criteria are met, operation of the proposed project would result in a less than significant impact related to carbon monoxide:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, the Regional Transportation Plan, and local congestion management agency plans.
- Project-generated traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- Project-generated traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

[15] Bay Area Air Quality Management District (BAAQMD). 2022. CEQA Air Quality Guidelines. April 20.

Consistency with an Applicable Congestion Management Program

The City has determined that a transportation analysis is not required for the proposed project. Given the small scale of and the limited number of trips generated by the proposed project, the proposed project would not have an impact on traffic operations. In addition, the proposed project would replace an existing commercial use, so the net new trips generated by the proposed project would be minimal. Therefore, the proposed project would not conflict with an applicable congestion management program.

Increase Traffic Volumes at Affected Intersections to No More Than 44,000 Vehicles Per Hour

While nearby roadway traffic data is not available, the California Department of Transportation (Caltrans) Traffic Census Program[16] provides traffic volume data for the State highway system which can be used to provide a conservative understanding of traffic volumes in the surrounding roadways. If a highway, which is designed to handle heavy traffic compared to smaller roads, experiences fewer than 24,000 vehicles per hour, it can be reasonable to conclude that the nearby local roadways would also experience fewer than 24,000 vehicles per hour. U.S. Highway 101 (US-101) is the nearest highway which would experience the most traffic compared to other nearby roadways. According to the Traffic Census Program, the section of US-101 near the project site (at Lawrence Expressway) received a peak-hour traffic volume of approximately 12,000 vehicles in 2022.

The proposed project would generate approximately 182 daily weekday trips, meaning the hourly volume would be a fraction of the daily trips. The proposed project's hourly trips, combined with existing traffic, are significantly lower than the threshold levels of 24,000 and 44,000 vehicles per hour. Therefore, the proposed project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour or more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited.

Increase Traffic Volumes Where Vertical and/or Horizontal Mixing Is Substantially Limited

Nonetheless, CO hotspots can occur when a transportation facility's design or orientation prevents the adequate dispersion of CO emissions from vehicles, resulting in the accumulation of local CO concentrations. The design or orientation of a transportation facility that may prevent the dispersion of CO emissions include tunnels, parking garages, bridge underpasses, natural or urban canyons, below-grade roadways, or other features where vertical or horizontal atmospheric mixing is substantially limited. Adjacent roadways that would receive new vehicle trips generated by the proposed project do not include roadway segments where vertical or horizontal atmospheric mixing is substantially limited.

Therefore, based on the above criteria, the proposed project would not exceed the CO screening criteria and would have a less than significant impact related to CO.

[16] California Department of Transportation (Caltrans). Traffic Census Program. Website: https://dot.ca.gov/programs/traffic-operations/census. Accessed April 29, 2025.

Summary

As discussed above, the proposed project would be consistent with all three criteria. **In summary, the proposed project would not expose sensitive receptors to substantial pollutant concentrations during construction or operation. Impacts would be less than significant.**

Impact AIR-4: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than significant impact. The ability to detect odors varies considerably among the populations and is subjective. The BAAQMD does not have a recommended odor threshold for construction activities. However, the BAAQMD recommends operational screening criteria based on the distance between receptors and types of sources known to generate odors.

Project construction would generate diesel exhaust and ROGs; however, these emissions would disperse rapidly from the project site and therefore would not create significant odors affecting a substantial number of people. As such, construction odor impacts would be less than significant.

Land uses typically associated with objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities, as shown in Table 8.[17]

Table 8: BAAQMD Odor Screening-level Distances Thresholds

Land Use/Type of Operation	Project Screening Distance
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/Dairy	1 mile

[17] Bay Area Air Quality Management District (BAAQMD). 2022. BAAQMD CEQA Guidelines, Chapter 5 Project-level Air Quality Impacts, Table 5-4, Odor Screening Distances. April 20.

Land Use/Type of Operation	Project Screening Distance
Green Waste and Recycling Operations	1 mile
Metal Smelting Plants	2 miles
Source: Bay Area Air Quality Management District (BAAQMD). 2022.	

The proposed project would involve the development of residences whose operations could lead to odors from associated laundry cleaning, vehicle exhaust, and waste disposal. However, such odors generated by project operation would be small in quantity and duration and would not pose an objectionable odor. As such, operational odor impacts would also be less than significant.

Summary

As discussed above, **the proposed project would have a less than significant impact related to odor.**

RECOMMENDED MEASURES

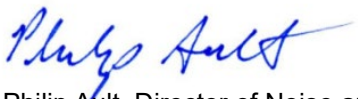
None.

CONCLUSION

Based on the project analysis described above, the proposed project would result in less than significant impacts under CEQA related to air quality. In conclusion, the proposed project at 845 Stewart Drive remains eligible for the Class 32 Categorical Exemption with respect to short-term (construction) and long-term (operational) air quality impacts.

Thank you for the opportunity to conduct an air quality impact analysis. Please feel free to contact Phil Ault (559.930.6191 or pault@fcs-intl.com) or Tsui Li (tli@fcs-intl.com) should you have any questions.

Sincerely,



Philip Ault, Director of Noise and Air Quality
FirstCarbon Solutions
2999 Oak Road, Suite 250
Walnut Creek, CA 94597

Attachment A: Air Quality Supporting Information and Modeling Results

Attachment A:

Air Quality Supporting Information and Modeling Results

Attachment A: Air Quality Supporting Information

Table of Contents

The Arcade Project Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	The Arcade Project
Construction Start Date	5/4/2026
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	32.8
Location	845 Stewart Dr, Sunnyvale, CA 94085, USA
County	Santa Clara
City	Sunnyvale
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1710
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

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

Apartments Mid Rise	27.0	Dwelling Unit	0.79	54,849	14,815	0.00	81.0	27 unit, Four 3-story all-residential buildings. Landscaping included.
Other Non-Asphalt Surfaces	0.38	Acre	0.38	0.00	0.00	0.00	—	Hardscape = (Total Site) - (Building Footprint + Landscape)
Other Non-Asphalt Surfaces	0.23	Acre	0.23	0.00	1,952	0.00	—	Off-site frontage improvements

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	78.1	78.1	15.2	16.2	0.04	0.58	2.94	3.53	0.54	1.38	1.92	—	4,407	4,407	0.25	0.31	4.15	4,511
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.29	1.07	8.72	10.6	0.02	0.29	0.18	0.47	0.27	0.04	0.31	—	2,029	2,029	0.08	0.03	0.02	2,041
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.53	2.46	4.69	5.48	0.01	0.17	0.37	0.54	0.15	0.11	0.27	—	1,127	1,127	0.05	0.03	0.24	1,139
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.46	0.45	0.86	1.00	< 0.005	0.03	0.07	0.10	0.03	0.02	0.05	—	187	187	0.01	0.01	0.04	189

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.88	1.47	15.2	16.2	0.04	0.58	2.94	3.53	0.54	1.38	1.92	—	4,407	4,407	0.25	0.31	4.15	4,511
2027	78.1	78.1	8.38	10.6	0.02	0.26	0.18	0.44	0.24	0.04	0.28	—	2,036	2,036	0.08	0.04	0.70	2,049
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.29	1.07	8.72	10.6	0.02	0.29	0.18	0.47	0.27	0.04	0.31	—	2,029	2,029	0.08	0.03	0.02	2,041
2027	1.23	1.03	8.40	10.5	0.02	0.26	0.18	0.44	0.24	0.04	0.28	—	2,025	2,025	0.08	0.03	0.02	2,036
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.66	0.54	4.69	5.48	0.01	0.17	0.37	0.54	0.15	0.11	0.27	—	1,127	1,127	0.05	0.03	0.24	1,139
2027	2.53	2.46	2.70	3.42	0.01	0.08	0.06	0.14	0.08	0.01	0.09	—	654	654	0.03	0.01	0.10	658
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.12	0.10	0.86	1.00	< 0.005	0.03	0.07	0.10	0.03	0.02	0.05	—	187	187	0.01	0.01	0.04	189
2027	0.46	0.45	0.49	0.62	< 0.005	0.02	0.01	0.03	0.01	< 0.005	0.02	—	108	108	< 0.005	< 0.005	0.02	109

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.09	2.05	0.31	4.80	0.01	0.01	0.70	0.70	< 0.005	0.18	0.18	12.7	850	862	1.32	0.04	2.79	910

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.92	1.89	0.35	3.23	0.01	< 0.005	0.70	0.70	< 0.005	0.18	0.18	12.7	802	814	1.33	0.04	0.45	860
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.93	1.89	0.30	3.51	0.01	< 0.005	0.61	0.61	< 0.005	0.15	0.16	12.7	733	745	1.32	0.04	1.32	791
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.35	0.35	0.05	0.64	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	2.10	121	123	0.22	0.01	0.22	131

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.55	0.52	0.30	3.27	0.01	< 0.005	0.70	0.70	< 0.005	0.18	0.18	—	752	752	0.04	0.03	2.40	765
Area	1.53	1.52	0.01	1.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	4.10	4.10	< 0.005	< 0.005	—	4.11
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	88.9	88.9	0.01	< 0.005	—	89.8
Water	—	—	—	—	—	—	—	—	—	—	—	1.88	4.14	6.01	0.19	< 0.005	—	12.2
Waste	—	—	—	—	—	—	—	—	—	—	—	10.8	0.00	10.8	1.08	0.00	—	37.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Total	2.09	2.05	0.31	4.80	0.01	0.01	0.70	0.70	< 0.005	0.18	0.18	12.7	850	862	1.32	0.04	2.79	910
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.53	0.50	0.35	3.23	0.01	< 0.005	0.70	0.70	< 0.005	0.18	0.18	—	708	708	0.04	0.04	0.06	720
Area	1.39	1.39	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	88.9	88.9	0.01	< 0.005	—	89.8

Water	—	—	—	—	—	—	—	—	—	—	—	1.88	4.14	6.01	0.19	< 0.005	—	12.2
Waste	—	—	—	—	—	—	—	—	—	—	—	10.8	0.00	10.8	1.08	0.00	—	37.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Total	1.92	1.89	0.35	3.23	0.01	< 0.005	0.70	0.70	< 0.005	0.18	0.18	12.7	802	814	1.33	0.04	0.45	860
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.47	0.44	0.29	2.75	0.01	< 0.005	0.61	0.61	< 0.005	0.15	0.16	—	638	638	0.04	0.03	0.92	649
Area	1.46	1.46	0.01	0.76	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	2.02	2.02	< 0.005	< 0.005	—	2.03
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	88.9	88.9	0.01	< 0.005	—	89.8
Water	—	—	—	—	—	—	—	—	—	—	—	1.88	4.14	6.01	0.19	< 0.005	—	12.2
Waste	—	—	—	—	—	—	—	—	—	—	—	10.8	0.00	10.8	1.08	0.00	—	37.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Total	1.93	1.89	0.30	3.51	0.01	< 0.005	0.61	0.61	< 0.005	0.15	0.16	12.7	733	745	1.32	0.04	1.32	791
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.09	0.08	0.05	0.50	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	106	106	0.01	0.01	0.15	107
Area	0.27	0.27	< 0.005	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.33	0.33	< 0.005	< 0.005	—	0.34
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	14.7	14.7	< 0.005	< 0.005	—	14.9
Water	—	—	—	—	—	—	—	—	—	—	—	0.31	0.68	1.00	0.03	< 0.005	—	2.02
Waste	—	—	—	—	—	—	—	—	—	—	—	1.79	0.00	1.79	0.18	0.00	—	6.25
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Total	0.35	0.35	0.05	0.64	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	2.10	121	123	0.22	0.01	0.22	131

3. Construction Emissions Details

3.1. Demolition (2026) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.66	1.39	12.9	14.6	0.02	0.51	—	0.51	0.47	—	0.47	—	2,494	2,494	0.10	0.02	—	2,503
Demolition	—	—	—	—	—	—	2.24	2.24	—	0.34	0.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.71	0.80	< 0.005	0.03	—	0.03	0.03	—	0.03	—	137	137	0.01	< 0.005	—	137
Demolition	—	—	—	—	—	—	0.12	0.12	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.13	0.15	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	22.6	22.6	< 0.005	< 0.005	—	22.7
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.04	0.04	0.03	0.48	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	105	105	< 0.005	< 0.005	0.38	107
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.18	0.04	2.22	1.09	0.01	0.02	0.48	0.50	0.02	0.13	0.15	—	1,807	1,807	0.14	0.29	3.77	1,901
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.39	5.39	< 0.005	< 0.005	0.01	5.47
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	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	99.1	99.1	0.01	0.02	0.09	104
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.91
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	16.4	16.4	< 0.005	< 0.005	0.01	17.2

3.3. Site Preparation (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.47	1.24	11.0	11.7	0.02	0.51	—	0.51	0.47	—	0.47	—	2,065	2,065	0.08	0.02	—	2,072
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.30	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	56.6	56.6	< 0.005	< 0.005	—	56.8
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.37	9.37	< 0.005	< 0.005	—	9.40
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	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	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.29	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	63.1	63.1	< 0.005	< 0.005	0.23	64.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.01	0.43	0.21	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	351	351	0.03	0.06	0.73	369

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.62	1.62	< 0.005	< 0.005	< 0.005	1.64
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.62	9.62	< 0.005	< 0.005	0.01	10.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.27	0.27	< 0.005	< 0.005	< 0.005	0.27
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	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.59	1.59	< 0.005	< 0.005	< 0.005	1.67

3.5. Grading (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.70	1.42	12.9	14.0	0.02	0.58	—	0.58	0.53	—	0.53	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.35	0.38	< 0.005	0.02	—	0.02	0.01	—	0.01	—	67.3	67.3	< 0.005	< 0.005	—	67.5
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	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.1	11.1	< 0.005	< 0.005	—	11.2
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	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	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.38	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	84.1	84.1	< 0.005	< 0.005	0.31	85.4
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	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.01	0.45	0.22	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	365	365	0.03	0.06	0.76	384
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.16	2.16	< 0.005	< 0.005	< 0.005	2.19

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.0	10.0	< 0.005	< 0.005	0.01	10.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.36	0.36	< 0.005	< 0.005	< 0.005	0.36
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.66	1.66	< 0.005	< 0.005	< 0.005	1.74

3.7. Building Construction (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.01	8.57	9.96	0.02	0.29	—	0.29	0.27	—	0.27	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.01	8.57	9.96	0.02	0.29	—	0.29	0.27	—	0.27	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.44	0.37	3.12	3.62	0.01	0.11	—	0.11	0.10	—	0.10	—	656	656	0.03	0.01	—	658
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.57	0.66	< 0.005	0.02	—	0.02	0.02	—	0.02	—	109	109	< 0.005	< 0.005	—	109
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.74	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	163	163	< 0.005	0.01	0.60	166
Vendor	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	76.5	76.5	< 0.005	0.01	0.19	80.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.63	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	151	151	< 0.005	0.01	0.02	154
Vendor	0.01	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	76.6	76.6	< 0.005	0.01	< 0.005	80.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.23	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	55.7	55.7	< 0.005	< 0.005	0.09	56.5
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.9	27.9	< 0.005	< 0.005	0.03	29.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.23	9.23	< 0.005	< 0.005	0.02	9.36

Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.61	4.61	< 0.005	< 0.005	< 0.005	4.82
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.17	0.97	8.25	9.91	0.02	0.26	—	0.26	0.24	—	0.24	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.17	0.97	8.25	9.91	0.02	0.26	—	0.26	0.24	—	0.24	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.29	2.50	3.01	0.01	0.08	—	0.08	0.07	—	0.07	—	546	546	0.02	< 0.005	—	548
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.06	0.05	0.46	0.55	< 0.005	0.01	—	0.01	0.01	—	0.01	—	90.4	90.4	< 0.005	< 0.005	—	90.8
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	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.69	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	160	160	< 0.005	0.01	0.54	163
Vendor	0.01	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	75.0	75.0	< 0.005	0.01	0.17	78.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.59	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	149	149	< 0.005	0.01	0.01	151
Vendor	0.01	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	75.0	75.0	< 0.005	0.01	< 0.005	78.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.18	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	45.6	45.6	< 0.005	< 0.005	0.07	46.3
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	22.7	22.7	< 0.005	< 0.005	0.02	23.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.55	7.55	< 0.005	< 0.005	0.01	7.66
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.77	3.77	< 0.005	< 0.005	< 0.005	3.94
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2027) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	0.46	4.30	6.49	0.01	0.17	—	0.17	0.16	—	0.16	—	992	992	0.04	0.01	—	995
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	27.2	27.2	< 0.005	< 0.005	—	27.3
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.50	4.50	< 0.005	< 0.005	—	4.51
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.45	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.35	105

Vendor	0.02	0.01	0.26	0.14	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	178	178	0.02	0.03	0.34	188
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.65	2.65	< 0.005	< 0.005	< 0.005	2.69
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.89	4.89	< 0.005	< 0.005	< 0.005	5.14
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.44
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.81	0.81	< 0.005	< 0.005	< 0.005	0.85
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2027) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	78.0	78.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.66	3.66	< 0.005	< 0.005	—	3.67
Architectural Coatings	2.14	2.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.61	0.61	< 0.005	< 0.005	—	0.61
Architectural Coatings	0.39	0.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	32.1	32.1	< 0.005	< 0.005	0.11	32.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.82	0.82	< 0.005	< 0.005	< 0.005	0.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.14	0.14	< 0.005	< 0.005	< 0.005	0.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.55	0.52	0.30	3.27	0.01	< 0.005	0.70	0.70	< 0.005	0.18	0.18	—	752	752	0.04	0.03	2.40	765
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.55	0.52	0.30	3.27	0.01	< 0.005	0.70	0.70	< 0.005	0.18	0.18	—	752	752	0.04	0.03	2.40	765
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments	0.53	0.50	0.35	3.23	0.01	< 0.005	0.70	0.70	< 0.005	0.18	0.18	—	708	708	0.04	0.04	0.06	720
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.53	0.50	0.35	3.23	0.01	< 0.005	0.70	0.70	< 0.005	0.18	0.18	—	708	708	0.04	0.04	0.06	720
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.09	0.08	0.05	0.50	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	106	106	0.01	0.01	0.15	107
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.09	0.08	0.05	0.50	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	106	106	0.01	0.01	0.15	107

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	88.9	88.9	0.01	< 0.005	—	89.8
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	88.9	88.9	0.01	< 0.005	—	89.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	88.9	88.9	0.01	< 0.005	—	89.8
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	88.9	88.9	0.01	< 0.005	—	89.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	14.7	14.7	< 0.005	< 0.005	—	14.9
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	14.7	14.7	< 0.005	< 0.005	—	14.9

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	1.18	1.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.21	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.14	0.13	0.01	1.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.10	4.10	< 0.005	< 0.005	—	4.11
Total	1.53	1.52	0.01	1.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	4.10	4.10	< 0.005	< 0.005	—	4.11

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	1.18	1.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.21	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.39	1.39	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.21	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.04	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.33	0.33	< 0.005	< 0.005	—	0.34
Total	0.27	0.27	< 0.005	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.33	0.33	< 0.005	< 0.005	—	0.34

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	1.88	4.08	5.95	0.19	< 0.005	—	12.2
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.06	0.06	< 0.005	< 0.005	—	0.06
Total	—	—	—	—	—	—	—	—	—	—	—	1.88	4.14	6.01	0.19	< 0.005	—	12.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	1.88	4.08	5.95	0.19	< 0.005	—	12.2
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.06	0.06	< 0.005	< 0.005	—	0.06
Total	—	—	—	—	—	—	—	—	—	—	—	1.88	4.14	6.01	0.19	< 0.005	—	12.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	0.31	0.68	0.99	0.03	< 0.005	—	2.01
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	0.31	0.68	1.00	0.03	< 0.005	—	2.02

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	10.8	0.00	10.8	1.08	0.00	—	37.8
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.8	0.00	10.8	1.08	0.00	—	37.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	10.8	0.00	10.8	1.08	0.00	—	37.8
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.8	0.00	10.8	1.08	0.00	—	37.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	1.79	0.00	1.79	0.18	0.00	—	6.25
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.79	0.00	1.79	0.18	0.00	—	6.25

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	5/4/2026	5/29/2026	5.00	20.0	—
Site Preparation	Site Preparation	6/1/2026	6/12/2026	5.00	10.0	—
Grading	Grading	6/15/2026	6/26/2026	5.00	10.0	—
Building Construction	Building Construction	6/29/2026	6/4/2027	5.00	245	—
Paving	Paving	6/7/2027	6/18/2027	5.00	10.0	—
Architectural Coating	Architectural Coating	6/21/2027	7/2/2027	5.00	10.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29
Building Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	12.5	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	25.8	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	0.00	8.40	HHDT,MHDT
Site Preparation	Hauling	5.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	5.20	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	19.4	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	2.89	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	11.7	LDA,LDT1,LDT2
Paving	Vendor	6.00	8.40	HHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—

Architectural Coating	Worker	3.89	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	111,069	37,023	0.00	0.00	1,594

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	2,059	—
Site Preparation	0.00	0.00	9.38	0.00	—
Grading	0.00	410	10.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.61

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
Other Non-Asphalt Surfaces	0.38	0%
Other Non-Asphalt Surfaces	0.23	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	182	123	104	59,320	991	668	567	322,644
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
111069.22499999999	37,023	0.00	0.00	1,594

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	159,150	204	0.0330	0.0040	0.00

Other Non-Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	979,193	193,574
Other Non-Asphalt Surfaces	0.00	0.00
Other Non-Asphalt Surfaces	0.00	20,868

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	20.0	—
Other Non-Asphalt Surfaces	0.00	—
Other Non-Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

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

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

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	9.65	annual days of extreme heat
Extreme Precipitation	3.10	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	10.2	annual hectares burned

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

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	1	0	0	N/A

Wildfire	1	0	0	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	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	1	1	2
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
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	1	1	1	2

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

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	16.8
AQ-PM	17.1
AQ-DPM	88.1
Drinking Water	41.1
Lead Risk Housing	35.2
Pesticides	0.00
Toxic Releases	35.7
Traffic	82.1
Effect Indicators	—
CleanUp Sites	99.9
Groundwater	99.8
Haz Waste Facilities/Generators	98.0
Impaired Water Bodies	12.5
Solid Waste	0.00
Sensitive Population	—
Asthma	11.8
Cardio-vascular	20.3
Low Birth Weights	37.9
Socioeconomic Factor Indicators	—
Education	39.2
Housing	34.2
Linguistic	71.9
Poverty	18.7
Unemployment	43.1

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	78.42935968
Employed	62.37649172
Median HI	87.45027589
Education	—
Bachelor's or higher	91.58218914
High school enrollment	2.797382266
Preschool enrollment	83.99846016
Transportation	—
Auto Access	33.27345053
Active commuting	72.55229052
Social	—
2-parent households	89.41357629
Voting	85.76928012
Neighborhood	—
Alcohol availability	26.10034646
Park access	35.2239189
Retail density	95.86808674
Supermarket access	66.9190299
Tree canopy	78.21121519
Housing	—
Homeownership	18.81175414
Housing habitability	62.15834723
Low-inc homeowner severe housing cost burden	63.40305402
Low-inc renter severe housing cost burden	86.86000257

Uncrowded housing	43.98819453
Health Outcomes	—
Insured adults	71.87219299
Arthritis	98.5
Asthma ER Admissions	74.2
High Blood Pressure	97.8
Cancer (excluding skin)	93.3
Asthma	97.7
Coronary Heart Disease	98.3
Chronic Obstructive Pulmonary Disease	99.1
Diagnosed Diabetes	97.5
Life Expectancy at Birth	69.4
Cognitively Disabled	88.7
Physically Disabled	87.9
Heart Attack ER Admissions	79.2
Mental Health Not Good	92.6
Chronic Kidney Disease	98.0
Obesity	95.3
Pedestrian Injuries	51.3
Physical Health Not Good	98.5
Stroke	98.4
Health Risk Behaviors	—
Binge Drinking	32.5
Current Smoker	89.0
No Leisure Time for Physical Activity	89.8
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0

Children	12.9
Elderly	91.7
English Speaking	30.0
Foreign-born	93.3
Outdoor Workers	89.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	21.0
Traffic Density	57.3
Traffic Access	65.2
Other Indices	—
Hardship	13.5
Other Decision Support	—
2016 Voting	80.3

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	36.0
Healthy Places Index Score for Project Location (b)	78.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Modifications made to lot acreage and building square feet based on applicant-provided information and site plans.
Construction: Construction Phases	Adjusted for applicant-provided schedule.
Construction: Trips and VMT	Adjusted for applicant-provided information.
Operations: Vehicle Data	According to applicant-provided information.
Operations: Hearths	Project would not include fireplaces or wood stoves.
Operations: Energy Use	Project would be all-electric. See project CalEEMod Workbook, Operational Energy Use, for calculations related to adjustments above.

The Arcade Project
Demolition Debris Calculations

Description	Area [1] (square feet)	height/depth (ft)	Volume (ft3)	Demolition Waste Fraction	Demolition Volume[1] (ft^3)	Demolition Waste Density (tons/cy)	Demolition Weight (tons)
Buildings	16,815	10	168,150	0.25	42,038	0.50	778
Pavement	34,150	0.5	17,075	1	17,075	2.025	1,281
					Totals		**2,059**

Notes:

Building demolition estimates are based on methods used in CalEEMod (CAPCOA, 2022), based on 1 story building , assume 10 ft per floor where 1 square ft floor area = 10 cubic ft (ft^3) of building volume, and 1 ft^3 of building volume = 0.25 ft^3 of waste. This approach can be used to estimate demolition for multiple story buildings. It also assumes 1 cubic yard (cy) building waste = 0.5 ton weight

1 cubic yard of asphalt = 2.025 tons or 4050 lbs.

[1] Source:

The Arcade Project
Asphalt Paving Construction Trips Calculation

Paved area including driveways (acres)	0.61
Paved area (sf)	26,572
Asphalt volume (cube feet) assume 6 inch pavement	13,286
Asphalt volume (cy)	492
Capacity per vendor truck (CY per truck)	16
One-Way trips Total	**62**
Days in paving phase	**10**
One-way Vendor Trips per day	6

The Arcade Project
Site Preparation - Tree Removal Haul

Number of Trees to Be Removed	18	
Volume Factor	2.67	CY/tree
Volume Tree Removal	48	CY
Capacity per vendor truck	10	CY
Truckloads Required	5	
Trips (2 per truck load)	10	
Days in Site Prep Phase	2	
One-way Vendor Trips per day	**5**	

Federal Emergency Management Agency (FEMA) , 2007. FEMA - Bulletin 325, Public Assistance Debris Mana
15 trees, 8 inch in diameter = 40 CY (average)

The Arcade Project

Operational Vehicle Trip Generation Rate Adjustments

Trip-Generating Land Use	Traffic Study & ITE Trip Generation Rates and CalEEMod Inputs					
	Size Metric	Size	ITE Code	Weekday Daily Rate[1] (trips/DU)	Saturday Daily Rate[1] (trips/DU)	Sunday Daily Rate[1] (trips/DU)
Multifamily Housing Low Rise	DU	27	220	6.74	4.55	3.86

Notes:
DU = Dwelling Unit
trip = one-way end trip

1 Source: ITE Trip Generation Manual, 11th Edition, 2021.

The Arcade Project
All-Electric Measure Electricity Adjustment to Replace NG Usage

CEC Electricity Demand Forecast Zone (EDFZ) **1**

Building Type / LandUse	Amount	Units	CalEEmod DEFAULT Electricity Usage kWhr/yr			Electric End Use per Unit (DU or KSF)				Additional Energy for Replaced End Uses kWhr/yr (per Unit)			ALL Electric Project REVISED Electricity KWhr/Year		
			Total	Subject to Title 24	Not Subject to Title 24	Water Heater	Primary Heat	Cooking	Dryer	TOTAL	Title 24	Non-Title 24	Total CalEEMod Value	Subject to Title 24	Not Subject to Title 24
Apartments Mid Rise	27	Dwelling Units	92,109	22,625	69,485	1146	757	246	334	2,483	1,903	580	159,150	74,006	85,145
Other Non-Asphalt Surfaces	0.383	Acre	0	0	0	0	0	0	0	0		0	0	0	0
Other Non-Asphalt Surfaces	0.230	Acre	0	0	0	0	0	0	0	0		0	0	0	0
													0		
													0		
													0		
													0		

Calculational Method is from Measure E-15 of the CAPCOA Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity
Emission Factors are From Data Tables E=15.2 from Appendix C of the Handbook

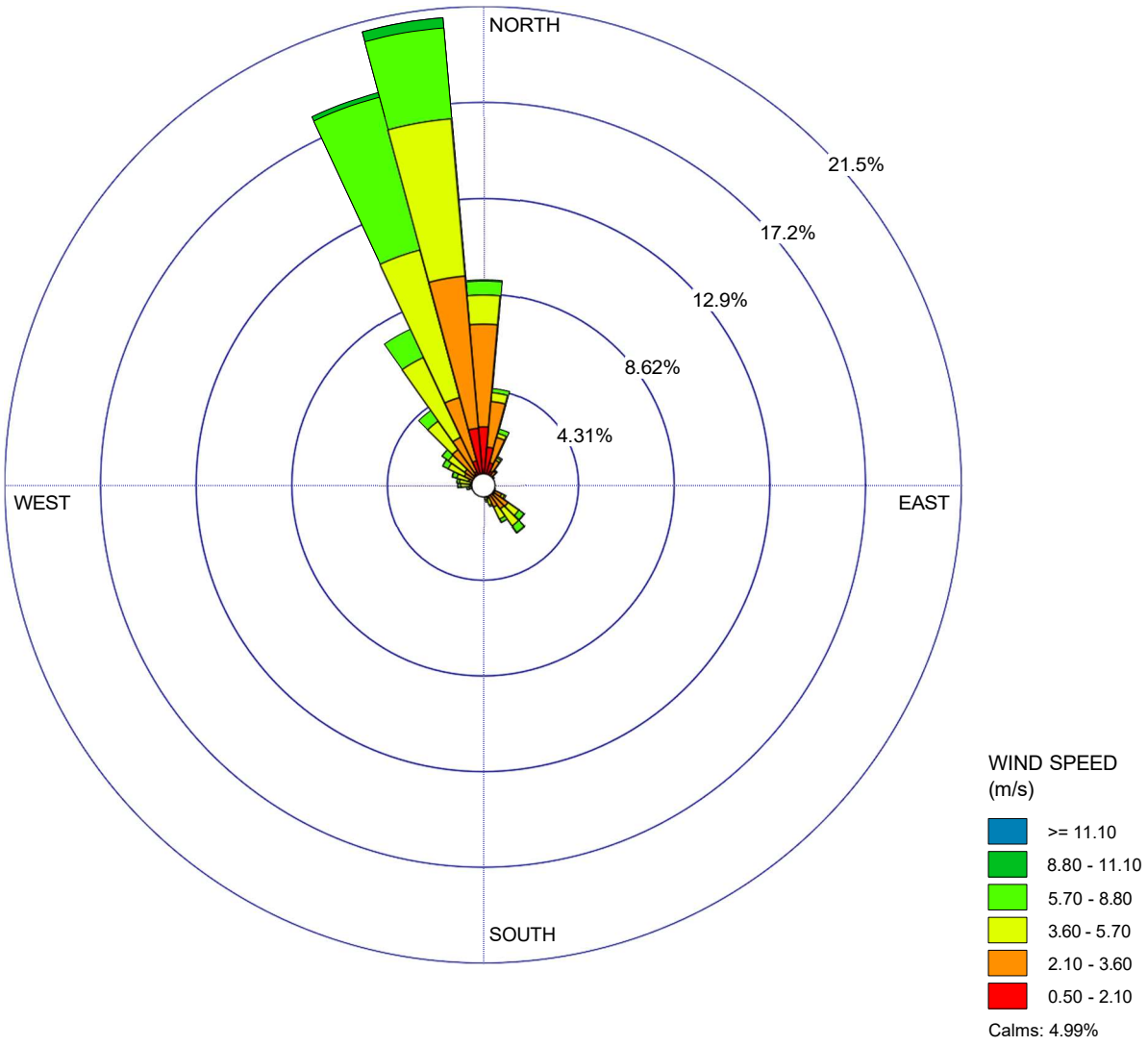
References:

CAPCOA, 2021. Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity. Available at: Available at: https://www.airquality.org/ClimateChange/Documents/Final%20Handbook_AB434.pdf.

CAPCOA. 2021. Appendix C : Emission Factors and Data Tables from Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity.. Available at: https://www.caleemod.com/documents/handbook/appendices/appendix_c.pdf

WIND ROSE PLOT:
Moffet Field (KNUQ)
Wind Direction during Construction Hours

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:

Wind Rose is generated just for the hours with emissions when construction would occur or from 8 AM – 5 PM. This corresponds to the modeling hours in AERMOD.

DATA PERIOD:

Start Date: 1/1/2013 - 08:00
End Date: 1/1/2018 - 17:00

CALM WINDS:

4.99%

AVG. WIND SPEED:

3.68 m/s

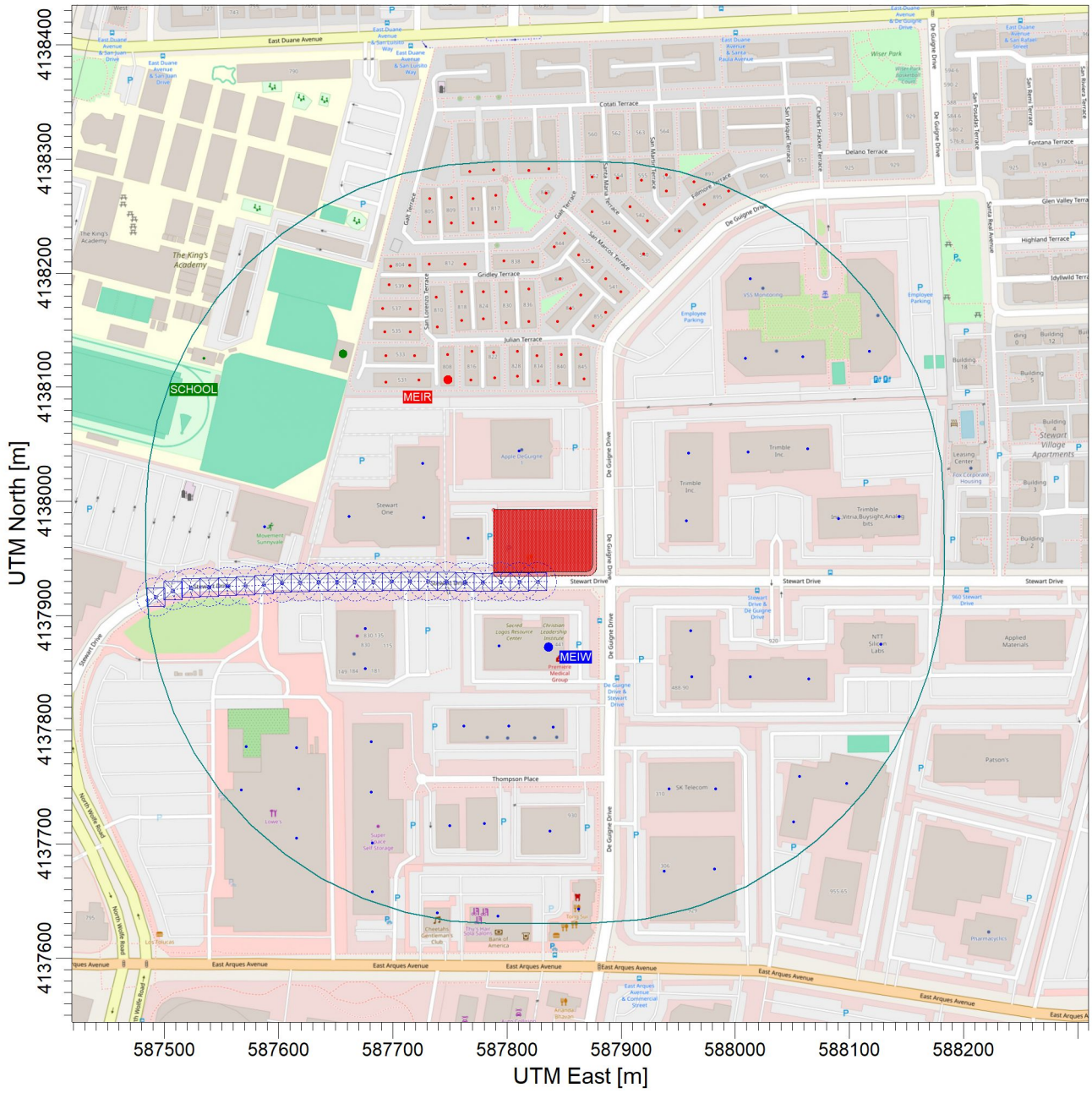
How to Read a Wind Rose Diagram

The wind rose above shows the general wind direction and speed for the meteorological data set used in the AERMOD modeling for the project.'

The circular format of the wind rose shows the direction the winds blew from and the length of each "spoke" around the circle shows how often the wind blew from that direction.

PROJECT TITLE:

The Arcade Project
Construction HRA Sources and Maximum Impact locations



PROJECT LEGEND:

Site Boundary ------

Site ■

RECEPTOR LEGEND:

● Residential

● Industrial / Commercial

● School

SENSITIVE RECEPTOR LEGEND

▲ MEIR = Maximally Exposed Individual Resident

▲ MEIR = Maximally Exposed Individual Worker

▲ MEIR = Maximally Exposed School Receptor

SCALE: 1:5,602

0 0.2 km

FCS
An ADEC Innovation

AERMOD View - Lakes Environmental Software

The Arcade Project
Modeling Parameters for Construction HRA
Diesel Particulate Matter Emission Sources

Source ID	Modeled Source	Location Description	AERMOD Source Type	Size		Initial Source Release Parameters (m): Release Height	Initial Lateral Dimension	Initial Vertical Dimension	Emissions[4] (lb/hr)	AERMOD Source Emission Rate	
DPM_UM	Site - Off-Road Equipment Diesel Exhaust[1]	Project Site - Construction Area	Area	5225.9	m2	5	—	1.4	0.0372	9.0E-07	g/m2-sec
ROAD1_DPM	Roadway 1- On-Road Diesel Exhaust[2,4]	Truck Route - Stewart Drive	Line-Volume	353.2	meters	3.40	7.44	3.16	5.5E-06	6.9E-07	g/s

1 Construction exhaust modeled as an area source. Release parameters for construction equipment DPM exhaust modeling from SCAQMD (2008) for gaseous exhaust from construction equipment.

2 Emissions for On-Road Mobile Sources (Vendor and Haul Diesel Exhaust) modeled only for roadways within 1,000 feet of the site within the modeling domain.

3 Parameters calculated as per US EPA Haul Road Workgroup Final Report released on March 2, 2012 which suggests the use of Adjacent Volume Sources to represent the haul road.

4 Emissions from CalEEModeling for Construction modeled during construction hours as included in Attachment A. See Note 2 above regarding roadway emission portion modeled.

Variable Emission Factors: ALL Sources

Monday - Friday						
1-6	0	0	0	0	0	0
7-12	0	0	1	1	1	1
13-18	0	1	1	1	1	0
19-24	0	0	0	0	0	0
Saturday						
1-6	0	0	0	0	0	0
7-12	0	0	0	0	0	0
13-18	0	0	0	0	0	0
19-24	0	0	0	0	0	0
Sunday						
1-6	0	0	0	0	0	0
7-12	0	0	0	0	0	0
13-18	0	0	0	0	0	0
19-24	0	0	0	0	0	0

The Arcade Project

Modeling Parameters for Construction HRA

Fine Particulate Matter (PM2.5) Emission Sources

Source ID	Modeled Source	Location Description	AERMOD Source Type	Size		Initial Source Release Parameters (m) Release Height	Initial Lateral Dimension	Initial Vertical Dimension	Emissions[4] (lb/hr)	AERMOD Source Emission Rate	
PM25_UM	Site - Off-Road Equipment PM2.5[1]	Project Site - Construction Area	Area	5225.9	m2	5	—	1.4	0.0518	1.25E-06	g/m2-sec
ROAD1_PM26	Roadway 1 -PM2.5 [2,4]	Truck Route -	Line-Volume	353.2	meters	3.40	7.44	3.16	1.2E-04	1.5E-05	g/s

1 Construction exhaust modeled as an area source. Release parameters for construction equipment exhaust modeling from SCAQMD (2008) for gaseous exhaust from construction equipment.

2 Emissions for On-Road Mobile Sources (Vendor and Haul Diesel Exhaust) modeled only for roadways within 1,000 feet of the site within the modeling domain.

3 Parameters calculated as per US EPA Haul Road Workgroup Final Report released on March 2, 2012 which suggests the use of Adjacent Volume Sources to represent the haul road.

4 Emissions from CalEEModeling for Construction modeled during construction hours as included in Attachment A. See Note 2 above regarding roadway emission portion modeled.

5 Construction exhaust modeled as an area source. Modeled as per BAAQMD 2022 CEQA Guidelines which permits PM2.5 Dust to be modeled along with PM2.5Exhaust.

Variable Emission Factors: ALL Sources

Monday - Friday						
1-6	0	0	0	0	0	0
7-12	0	0	1	1	1	1
13-18	0	1	1	1	1	0
19-24	0	0	0	0	0	0
Saturday						
1-6	0	0	0	0	0	0
7-12	0	0	0	0	0	0
13-18	0	0	0	0	0	0
19-24	0	0	0	0	0	0
Sunday						
1-6	0	0	0	0	0	0
7-12	0	0	0	0	0	0
13-18	0	0	0	0	0	0
19-24	0	0	0	0	0	0

The Arcade Project

Health Risk Assessment Inputs

DPM Emissions for AERMOD Inputs - Unmitigated

Net Work Days	305
Net Construction Years	1.2
Total Working Hours	2,440

Construction Year	On-site Construction Activity	On-site PM10E (lbs)	Off-Site PM10E (lbs)	Off-Site PM10E(lbs)		
				Worker	Vendor	Haul
2026	Demolition	10.17	0.45	-	-	0.45
2026	Site Preparation	5.07	0.04	-	-	0.04
2026	Grading	5.79	0.05	-	-	0.05
2026	Building Construction	38.89	0.14	-	0.14	-
2027	Building Construction	28.93	0.12	-	0.12	-
2027	Paving	1.69	0.02	-	0.02	-
2027	Architectural Coating	0.19	0.00	-	-	-
Total PM Exhaust (On-site)		**90.72**	**0.83**	-	0.28	0.544

Note: PM10E = PM10 Exhaust which is a surrogate for Diesel Exhaust, particulate matter

CalEEMod Distance (miles)	11.7	8.4	20
Total Roadways Included within 1,000 ft	0.22	0.22	0.22
Roadway Emissions included	2%	3%	1%

`	On-site Construction	Offsite Roadway	Off-Site Diesel PM10E (lbs) within 1,000 ft Roadways		
			Worker	Vendor	Haul
Modeled Emissions (lbs)	**90.72**	**0.013**	-	0.01	0.01
Hourly Emissions (lb/hr)	0.0372	5.5E-06	0.00E+00	3.02E-06	2.44E-06

Source	percentage	AERMOD DPM Inputs	
Site Emissions	100%	0.037	lb/hr
Roadway 1 Emissions	100%	5.5E-06	lb/hr

The Arcade Project

Health Risk Assessment Inputs

Fine Particulate Matter (PM2.5) Emissions for AERMOD Inputs - Unmitigated Maximum Annual Emissions

Net Work Days	261
Net Construction Years	1.00
Total Working Hours	2,080

Construction Year	On-site Construction Activity	On-site PM2.5T (lbs)	Off-Site PM2.5T (lbs)	Off-Site PM2.5T(lbs)		
				Worker	Vendor	Haul
2026	Demolition	16.13	3.50	0.47	-	3.03
2026	Site Preparation	16.38	0.44	0.14	-	0.29
2026	Grading	18.68	0.50	0.19	-	0.31
2026	Building Construction	35.78	5.77	4.89	0.88	-
2027	Building Construction	20.76		3.18	0.57	-
Total PM Exhaust (On-site)		**107.73**	**10.20**	8.88	1.45	3.630

Note: PM2.5T = PM2.5 Total including PM2.5 Exhaust (on and off-road), Fugitive Dust from Demolition, Site Preparation and Grading, as well as brake wear, tire wear and re-entrained road dust.

Maximum Annual Period is From May 2026 - May 2027 including from 1/1/2027 - 5/2/2027 while Building Construction lasts to /4/2027 so PM2.5 max year includes 78% of 2027 Construction Emissions.

CalEEMod Distance (miles)	11.7	8.4	20
Roadways Included within 1,000 ft	0.22	0.22	0.22
Roadway Emissions included	2%	3%	1%

	On-site Construction PM2.5T	Offsite Roadway PM2.5T	Off-Site Diesel PM2.5T (lbs) within 1,000 ft Roadways		
			Worker	Vendor	Haul
Modeled Emissions (lbs)	**107.73**	**0.244**	0.17	0.04	0.04
Hourly Emissions (lb/hr)	0.0518	0.00012	7.99E-05	1.81E-05	1.91E-05

Source	percentage	AERMOD PM2.5 Inputs	
Site Emissions	100%	0.052	lb/hr
Roadway 2 Emissions	100%	1.2E-04	lb/hr

Control Pathway

AERMOD

Dispersion Options

Titles

F:\Jobs\4583.0013\ConHRA\ConHRA.isc

Dispersion Options

☑ Regulatory Default ☐ Non-Default Options

Dispersion Coefficient

Urban

Population:
Name (Optional):
Roughness Length:

Output Type

☑ Concentration
☐ Total Deposition (Dry & Wet)
☐ Dry Deposition
☐ Wet Deposition

Plume Depletion

☐ Dry Removal
☐ Wet Removal

Output Warnings

☐ No Output Warnings
☐ Non-fatal Warnings for Non-sequential Met Data

Pollutant / Averaging Time / Terrain Options

Pollutant Type

SO2

Averaging Time Options

Hours: ☑ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 6 ☐ 8 ☐ 12 ☐ 24

☐ Month ☑ Period ☐ Annual

☐ 1-Hour SO2 Non-NAAQS
☑ 1-Hour SO2 NAAQS

Exponential Decay

Half Life of 4 hrs will be used

Terrain Height Options

☐ Flat ☑ Elevated

SO: Meters
RE: Meters
TG: Meters

Flagpole Receptors

☐ Yes ☑ No

Default Height = 0.00 m

Control Pathway

AERMOD

Optional Files

☐ Re-Start File ☐ Init File ☐ Multi-Year Analyses ☐ Event Input File ☑ Error Listing File

Detailed Error Listing File

Filename: ConHRA.err

Source Pathway - Source Inputs

AERMOD

Polygon Area Sources

Source Type: AREA POLY

Source: AREA_DPM (Site construction emissions.)

Base Elevation (Optional)	Release Height [m]	Emission Rate [g/ (s-m^2)]	Initial Vertical Dim. [m]	Number of Vertices (or sides)	X Coordinate for Vertices [m]	Y Coordinate for Vertices [m]
12.73	5.00	8.97E-7	1.40	8	587788.17	4137992.78
		8.97E-7			587878.35	4137993.03
		8.97E-7			587878.35	4137941.48
		8.97E-7			587877.20	4137938.67
		8.97E-7			587874.89	4137936.11
		8.97E-7			587871.95	4137935.09
		8.97E-7			587870.42	4137934.70
		8.97E-7			587788.42	4137934.70

Source Type: AREA POLY

Source: AREA_PM25 (Site construction emissions.)

Base Elevation (Optional)	Release Height [m]	Emission Rate [g/ (s-m^2)]	Initial Vertical Dim. [m]	Number of Vertices (or sides)	X Coordinate for Vertices [m]	Y Coordinate for Vertices [m]
12.73	5.00	1.25E-6	1.40	8	587788.17	4137992.78
		1.25E-6			587878.35	4137993.03
		1.25E-6			587878.35	4137941.48
		1.25E-6			587877.20	4137938.67
		1.25E-6			587874.89	4137936.11
		1.25E-6			587871.95	4137935.09
		1.25E-6			587870.42	4137934.70
		1.25E-6			587788.42	4137934.70

Source Pathway - Source Inputs

AERMOD

Line Volume Sources

Source Type: LINE VOLUME

Source: ROAD1_DPM (Haul truck source.)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
16.00	6.93E-7		587485.04	4137913.47	13.72	3.40
			587512.51	4137923.65	13.52	3.40
			587584.07	4137926.70	13.03	3.40
			587606.79	4137929.07	13.26	3.40
			587750.26	4137930.09	12.64	3.40
			587768.57	4137929.07	12.73	3.40
			587835.39	4137929.75	12.77	3.40
			587835.05	4137929.07	12.76	3.40

Source Type: LINE VOLUME

Source: ROAD1_PM25 (Haul truck source.)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
16.00	0.00002		587485.04	4137913.47	13.72	3.40
			587512.51	4137923.65	13.52	3.40
			587584.07	4137926.70	13.03	3.40
			587606.79	4137929.07	13.26	3.40
			587750.26	4137930.09	12.64	3.40
			587768.57	4137929.07	12.73	3.40
			587835.39	4137929.75	12.77	3.40
			587835.05	4137929.07	12.76	3.40

Source Pathway - Source Inputs

AERMOD

Volume Sources Generated from Line Sources

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
ROAD1_DPM	L0000045	587492.54	4137916.25	13.76	3.40	3.15E-8	16.00		7.44	3.16
	L0000046	587507.54	4137921.81	13.58	3.40	3.15E-8	16.00		7.44	3.16
	L0000047	587523.20	4137924.10	13.47	3.40	3.15E-8	16.00		7.44	3.16
	L0000048	587539.19	4137924.79	13.43	3.40	3.15E-8	16.00		7.44	3.16
	L0000049	587555.18	4137925.47	13.34	3.40	3.15E-8	16.00		7.44	3.16
	L0000050	587571.16	4137926.15	13.15	3.40	3.15E-8	16.00		7.44	3.16
	L0000051	587587.13	4137927.02	13.02	3.40	3.15E-8	16.00		7.44	3.16
	L0000052	587603.05	4137928.68	13.11	3.40	3.15E-8	16.00		7.44	3.16
	L0000053	587619.03	4137929.16	13.14	3.40	3.15E-8	16.00		7.44	3.16
	L0000054	587635.02	4137929.27	13.03	3.40	3.15E-8	16.00		7.44	3.16
	L0000055	587651.02	4137929.39	12.97	3.40	3.15E-8	16.00		7.44	3.16
	L0000056	587667.02	4137929.50	12.94	3.40	3.15E-8	16.00		7.44	3.16
	L0000057	587683.02	4137929.62	12.89	3.40	3.15E-8	16.00		7.44	3.16
	L0000058	587699.02	4137929.73	12.85	3.40	3.15E-8	16.00		7.44	3.16
	L0000059	587715.02	4137929.84	12.75	3.40	3.15E-8	16.00		7.44	3.16
	L0000060	587731.02	4137929.96	12.68	3.40	3.15E-8	16.00		7.44	3.16
	L0000061	587747.02	4137930.07	12.63	3.40	3.15E-8	16.00		7.44	3.16
	L0000062	587763.00	4137929.38	12.70	3.40	3.15E-8	16.00		7.44	3.16
	L0000063	587778.99	4137929.18	12.75	3.40	3.15E-8	16.00		7.44	3.16
	L0000064	587794.99	4137929.34	12.80	3.40	3.15E-8	16.00		7.44	3.16
	L0000065	587810.99	4137929.51	12.80	3.40	3.15E-8	16.00		7.44	3.16
	L0000066	587826.99	4137929.67	12.74	3.40	3.15E-8	16.00		7.44	3.16

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
ROAD1_PM25	L0000067	587492.54	4137916.25	13.76	3.40	6.87E-7	16.00		7.44	3.16
	L0000068	587507.54	4137921.81	13.58	3.40	6.87E-7	16.00		7.44	3.16
	L0000069	587523.20	4137924.10	13.47	3.40	6.87E-7	16.00		7.44	3.16
	L0000070	587539.19	4137924.79	13.43	3.40	6.87E-7	16.00		7.44	3.16
	L0000071	587555.18	4137925.47	13.34	3.40	6.87E-7	16.00		7.44	3.16
	L0000072	587571.16	4137926.15	13.15	3.40	6.87E-7	16.00		7.44	3.16
	L0000073	587587.13	4137927.02	13.02	3.40	6.87E-7	16.00		7.44	3.16
	L0000074	587603.05	4137928.68	13.11	3.40	6.87E-7	16.00		7.44	3.16
	L0000075	587619.03	4137929.16	13.14	3.40	6.87E-7	16.00		7.44	3.16
	L0000076	587635.02	4137929.27	13.03	3.40	6.87E-7	16.00		7.44	3.16
	L0000077	587651.02	4137929.39	12.97	3.40	6.87E-7	16.00		7.44	3.16
	L0000078	587667.02	4137929.50	12.94	3.40	6.87E-7	16.00		7.44	3.16
	L0000079	587683.02	4137929.62	12.89	3.40	6.87E-7	16.00		7.44	3.16
	L0000080	587699.02	4137929.73	12.85	3.40	6.87E-7	16.00		7.44	3.16
	L0000081	587715.02	4137929.84	12.75	3.40	6.87E-7	16.00		7.44	3.16
	L0000082	587731.02	4137929.96	12.68	3.40	6.87E-7	16.00		7.44	3.16
	L0000083	587747.02	4137930.07	12.63	3.40	6.87E-7	16.00		7.44	3.16
	L0000084	587763.00	4137929.38	12.70	3.40	6.87E-7	16.00		7.44	3.16
	L0000085	587778.99	4137929.18	12.75	3.40	6.87E-7	16.00		7.44	3.16
	L0000086	587794.99	4137929.34	12.80	3.40	6.87E-7	16.00		7.44	3.16
	L0000087	587810.99	4137929.51	12.80	3.40	6.87E-7	16.00		7.44	3.16
	L0000088	587826.99	4137929.67	12.74	3.40	6.87E-7	16.00		7.44	3.16

Source Pathway

Building Downwash Information

Option not in use

Emission Rate Units for Output

For Concentration

Unit Factor:	1E6
Emission Unit Label:	GRAMS/SEC
Concentration Unit Label:	MICROGRAMS/M**3

Source Groups

Source Group ID: **PM25**	List of Sources in Group (Source Range or Single Sources)
	ROAD1_PM25
	AREA_PM25

Source Group ID: **DPM**	List of Sources in Group (Source Range or Single Sources)
	ROAD1_DPM
	AREA_DPM

Source Group ID: **ALL**	List of Sources in Group (Source Range or Single Sources)
	All Sources Included

Variable Emissions

Source Pathway

AERMOD

Hour / Day-of-Week Emission Rate Variation

Scenario: Scenario 1

Source ID: ROAD1_DPM

Hour	Mon	Tues	Wed	Thr	Fri	Sat	Sun
1:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
10:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
11:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
12:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
13:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
15:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
16:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
17:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
18:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source ID: ROAD1_PM25

Hour	Mon	Tues	Wed	Thr	Fri	Sat	Sun
1:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
10:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
11:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
12:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
13:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
15:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
16:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
17:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
18:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source Pathway

AERMOD

Scenario: Scenario 1

Source ID: AREA_DPM

Hour	Mon	Tues	Wed	Thr	Fri	Sat	Sun
1:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
10:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
11:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
12:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
13:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
15:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
16:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
17:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
18:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source ID: AREA_PM25

Hour	Mon	Tues	Wed	Thr	Fri	Sat	Sun
1:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
10:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
11:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
12:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
13:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
15:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
16:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
17:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
18:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Receptor Pathway

Receptor Networks

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

Discrete Receptors

Discrete Cartesian Receptors

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	587571.55	4137785.19	BUSINESS	15.08	
2	587615.62	4137784.29	BUSINESS	14.57	
3	587567.06	4137747.42	BUSINESS	15.29	
4	587617.42	4137748.32	BUSINESS	15.32	
5	587615.62	4137705.15	BUSINESS	15.31	
6	587681.27	4137789.69	BUSINESS	15.20	
7	587681.27	4137745.62	BUSINESS	15.29	
8	587682.17	4137700.66	BUSINESS	15.61	
9	587682.17	4137658.39	BUSINESS	15.79	
10	587675.88	4137888.62	BUSINESS	13.95	
11	587675.88	4137853.54	BUSINESS	14.03	
12	587792.79	4137873.33	BUSINESS	13.77	
13	587835.96	4137873.33	BUSINESS	13.85	
14	587762.21	4137803.18	BUSINESS	14.38	
15	587801.78	4137803.18	BUSINESS	14.37	
16	587840.45	4137802.28	BUSINESS	14.41	
17	587749.62	4137715.95	BUSINESS	14.36	
18	587780.20	4137717.74	BUSINESS	14.46	
19	587837.75	4137711.45	BUSINESS	14.68	
20	587738.83	4137639.50	BUSINESS	15.88	
21	587791.89	4137636.81	BUSINESS	15.82	
22	587862.94	4137643.10	BUSINESS	15.53	
23	587942.08	4137748.32	BUSINESS	14.50	
24	587982.55	4137748.32	BUSINESS	14.57	
25	587937.58	4137676.38	BUSINESS	14.60	
26	587981.65	4137678.17	BUSINESS	14.54	
27	587960.96	4137886.82	BUSINESS	13.62	
28	587961.86	4137846.35	BUSINESS	13.55	
29	588013.12	4137846.35	BUSINESS	13.65	
30	588064.38	4137844.55	BUSINESS	13.57	

Receptor Pathway

31	588127.34	4137875.13	BUSINESS	13.50
32	587959.16	4138042.40	BUSINESS	12.85
33	587957.36	4137983.05	BUSINESS	12.87
34	587810.77	4138044.20	BUSINESS	12.85
35	587661.49	4137986.64	BUSINESS	12.96
36	587727.14	4137985.74	BUSINESS	12.90
37	587726.24	4138033.41	BUSINESS	12.96
38	587765.81	4137967.76	BUSINESS	12.93
39	588011.32	4138043.30	BUSINESS	12.88
40	588063.49	4138046.00	BUSINESS	12.88
41	588090.46	4137984.84	BUSINESS	12.52
42	588143.53	4137986.64	BUSINESS	12.55
43	588013.12	4138195.29	BUSINESS	12.63
44	588008.63	4138125.14	BUSINESS	12.53
45	588058.99	4138126.94	BUSINESS	12.51
46	588117.44	4138131.43	BUSINESS	12.51
47	587587.74	4137977.65	BUSINESS	13.09
48	588050.89	4137719.54	BUSINESS	13.84
49	588056.29	4137759.11	BUSINESS	13.61
50	588097.66	4137752.82	BUSINESS	13.81
51	587693.86	4138104.45	RES	12.19
52	587722.64	4138106.25	RES	12.14
53	587747.82	4138128.74	RES	12.16
54	587747.82	4138107.15	RES	12.17
55	587769.41	4138131.43	RES	12.16
56	587768.51	4138106.25	RES	12.12
57	587788.29	4138130.54	RES	12.10
58	587789.19	4138108.05	RES	12.09
59	587808.98	4138131.43	RES	12.14
60	587808.98	4138109.85	RES	12.13
61	587826.06	4138127.84	RES	11.96
62	587826.96	4138105.35	RES	11.97
63	587847.65	4138128.74	RES	11.88
64	587845.85	4138103.56	RES	11.85
65	587864.73	4138128.74	RES	11.83
66	587867.43	4138107.15	RES	11.83
67	587844.05	4138157.52	RES	11.80
68	587864.73	4138180.90	RES	11.85

Receptor Pathway

69	587855.74	4138169.21	RES	11.83
70	587875.53	4138153.92	RES	11.62
71	587886.32	4138165.61	RES	11.62
72	587899.81	4138183.60	RES	11.58
73	587886.32	4138195.29	RES	11.65
74	587874.63	4138205.18	RES	11.74
75	587862.94	4138215.97	RES	11.81
76	587850.34	4138234.86	RES	11.69
77	587841.35	4138223.17	RES	11.74
78	587822.47	4138209.68	RES	11.79
79	587797.28	4138210.58	RES	11.82
80	587818.87	4138186.29	RES	11.99
81	587818.87	4138157.52	RES	11.89
82	587799.08	4138183.60	RES	12.09
83	587799.08	4138156.62	RES	11.97
84	587779.30	4138183.60	RES	12.13
85	587779.30	4138160.21	RES	12.07
86	587760.41	4138183.60	RES	12.19
87	587760.41	4138158.41	RES	12.13
88	587737.93	4138179.10	RES	11.98
89	587738.83	4138153.02	RES	11.98
90	587693.86	4138127.84	RES	12.30
91	587719.04	4138127.84	RES	12.31
92	587692.96	4138148.52	RES	12.37
93	587715.45	4138148.52	RES	12.35
94	587691.16	4138169.21	RES	12.17
95	587715.45	4138168.31	RES	12.20
96	587696.56	4138189.89	RES	11.97
97	587714.55	4138188.99	RES	11.97
98	587698.36	4138206.08	RES	11.87
99	587714.55	4138206.98	RES	11.86
100	587731.63	4138207.88	RES	11.85
101	587763.11	4138207.88	RES	11.89
102	587732.53	4138265.43	RES	12.64
103	587732.53	4138244.75	RES	12.59
104	587751.42	4138266.33	RES	12.59
105	587751.42	4138243.85	RES	12.56
106	587770.30	4138265.43	RES	12.58

Receptor Pathway

107	587770.30	4138243.85	RES	12.53	
108	587790.09	4138268.13	RES	12.57	
109	587790.09	4138244.75	RES	12.56	
110	587834.16	4138269.93	RES	11.95	
111	587767.61	4138288.82	RES	11.99	
112	587788.29	4138290.62	RES	11.99	
113	587818.87	4138289.72	RES	11.86	
114	587836.86	4138291.51	RES	11.83	
115	587874.63	4138284.32	RES	11.71	
116	587874.63	4138253.74	RES	11.61	
117	587894.41	4138236.66	RES	11.71	
118	587919.59	4138216.87	RES	11.54	
119	587846.75	4138195.29	RES	12.00	
120	587951.07	4138236.66	RES	11.41	
121	587907.90	4138258.24	RES	11.48	
122	587923.19	4138245.65	RES	11.46	
123	587972.65	4138260.04	RES	11.12	
124	587994.24	4138271.73	RES	11.16	
125	587963.66	4138279.82	RES	11.02	
126	587939.38	4138286.12	RES	11.20	
127	587939.38	4138271.73	RES	11.16	
128	587917.79	4138281.62	RES	11.41	
129	587897.11	4138283.42	RES	11.56	
130	587656.99	4138126.94	SCHOOL	12.36	
131	587534.68	4138125.14	SCHOOL	12.56	

Plant Boundary Receptors

Receptor Groups

Record Number	Group ID	Group Description
1	SCHOOL	
2	BUSINESS	
3	RES	

Meteorology Pathway

AERMOD

Met Input Data

Surface Met Data

Filename: ..\MET\KNUQ13_17.SFC
Format Type: Default AERMET format

Profile Met Data

Filename: ..\MET\KNUQ13_17.PFL
Format Type: Default AERMET format

Wind Speed

☐ Wind Speeds are Vector Mean (Not Scalar Means)

Wind Direction

Rotation Adjustment [deg]:

Potential Temperature Profile

Base Elevation above MSL (for Primary Met Tower): 11.90 [m]

Meteorological Station Data

Stations	Station No.	Year	X Coordinate [m]	Y Coordinate [m]	Station Name
Surface		2013			Moffet Field, NAS (KNUQ)
Upper Air		2013			OAKLAND/WSO AP

Data Period

Data Period to Process

Start Date: 1/1/2013 Start Hour: 1 End Date: 12/31/2017 End Hour: 24

Wind Speed Categories

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

Output Pathway

AERMOD

Tabular Printed Outputs

Short Term Averaging Period	RECTABLE Highest Values Table										MAXTABLE Maximum Values Table	DAYTABLE Daily Values Table
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th		
1	■	☐	☐	☐	☐	☐	☐	☐	☐	☐		No

Contour Plot Files (PLOTFILE)

Path for PLOTFILES: ConHRA.AD\ConHRA2

Averaging Period	Source Group ID	High Value	File Name
Period	DPM		DPM_UM.PLT
Period	PM25		PM25_UM.PLT

Output File of US NAAQS

Path for US NAAQS: ConHRA.AD

NAAQS Auto-Generated Maximum Daily Files (MAXDAILY)

Active	Source Group ID	File Name
Yes	ALL	MAXDAILY_ALL_SO2.DAT
Yes	DPM	MAXDAILY_DPM_SO2.DAT
Yes	PM25	MAXDAILY_PM25_SO2.DAT

NAAQS Auto-Generated Maximum Daily By Year Files (MXDYBYYR)

Active	Source Group ID	File Name
Yes	ALL	MXDYBYYR_ALL_SO2.DAT
Yes	DPM	MXDYBYYR_DPM_SO2.DAT
Yes	PM25	MXDYBYYR_PM25_SO2.DAT

Results Summary

F:\Jobs\4583.0013\ConHRA\ConHRA.isc

SO2 - Concentration - Source Group: PM25

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.24893	ug/m^3	587835.96	4137873.33	13.85	0.00	13.85	

Sensitive Receptor Summary

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SO2 - Concentration - Source Group: DPM

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00798	ug/m^3		587693.86	4138104.45	12.19	0.00	12.19	
PERIOD		0.00969	ug/m^3		587722.64	4138106.25	12.14	0.00	12.14	
PERIOD		0.00754	ug/m^3		587747.82	4138128.74	12.16	0.00	12.16	
PERIOD		0.01009	ug/m^3	MEIR	587747.82	4138107.15	12.17	0.00	12.17	
PERIOD		0.00652	ug/m^3		587769.41	4138131.43	12.16	0.00	12.16	
PERIOD		0.00964	ug/m^3		587768.51	4138106.25	12.12	0.00	12.12	
PERIOD		0.00568	ug/m^3		587788.29	4138130.54	12.10	0.00	12.10	
PERIOD		0.00811	ug/m^3		587789.19	4138108.05	12.09	0.00	12.09	
PERIOD		0.00453	ug/m^3		587808.98	4138131.43	12.14	0.00	12.14	
PERIOD		0.00640	ug/m^3		587808.98	4138109.85	12.13	0.00	12.13	
PERIOD		0.00392	ug/m^3		587826.06	4138127.84	11.96	0.00	11.96	
PERIOD		0.00549	ug/m^3		587826.96	4138105.35	11.97	0.00	11.97	
PERIOD		0.00301	ug/m^3		587847.65	4138128.74	11.88	0.00	11.88	
PERIOD		0.00435	ug/m^3		587845.85	4138103.56	11.85	0.00	11.85	
PERIOD		0.00248	ug/m^3		587864.73	4138128.74	11.83	0.00	11.83	
PERIOD		0.00312	ug/m^3		587867.43	4138107.15	11.83	0.00	11.83	
PERIOD		0.00223	ug/m^3		587844.05	4138157.52	11.80	0.00	11.80	
PERIOD		0.00147	ug/m^3		587864.73	4138180.90	11.85	0.00	11.85	
PERIOD		0.00177	ug/m^3		587855.74	4138169.21	11.83	0.00	11.83	
PERIOD		0.00170	ug/m^3		587875.53	4138153.92	11.62	0.00	11.62	

Sensitive Receptor Summary

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SO2 - Concentration - Source Group: DPM

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00138	ug/m^3		587886.32	4138165.61	11.62	0.00	11.62	
PERIOD		0.00106	ug/m^3		587899.81	4138183.60	11.58	0.00	11.58	
PERIOD		0.00109	ug/m^3		587886.32	4138195.29	11.65	0.00	11.65	
PERIOD		0.00111	ug/m^3		587874.63	4138205.18	11.74	0.00	11.74	
PERIOD		0.00111	ug/m^3		587862.94	4138215.97	11.81	0.00	11.81	
PERIOD		0.00106	ug/m^3		587850.34	4138234.86	11.69	0.00	11.69	
PERIOD		0.00124	ug/m^3		587841.35	4138223.17	11.74	0.00	11.74	
PERIOD		0.00160	ug/m^3		587822.47	4138209.68	11.79	0.00	11.79	
PERIOD		0.00193	ug/m^3		587797.28	4138210.58	11.82	0.00	11.82	
PERIOD		0.00207	ug/m^3		587818.87	4138186.29	11.99	0.00	11.99	
PERIOD		0.00287	ug/m^3		587818.87	4138157.52	11.89	0.00	11.89	
PERIOD		0.00253	ug/m^3		587799.08	4138183.60	12.09	0.00	12.09	
PERIOD		0.00353	ug/m^3		587799.08	4138156.62	11.97	0.00	11.97	
PERIOD		0.00300	ug/m^3		587779.30	4138183.60	12.13	0.00	12.13	
PERIOD		0.00402	ug/m^3		587779.30	4138160.21	12.07	0.00	12.07	
PERIOD		0.00346	ug/m^3		587760.41	4138183.60	12.19	0.00	12.19	
PERIOD		0.00475	ug/m^3		587760.41	4138158.41	12.13	0.00	12.13	
PERIOD		0.00418	ug/m^3		587737.93	4138179.10	11.98	0.00	11.98	
PERIOD		0.00568	ug/m^3		587738.83	4138153.02	11.98	0.00	11.98	
PERIOD		0.00695	ug/m^3		587693.86	4138127.84	12.30	0.00	12.30	
PERIOD		0.00772	ug/m^3		587719.04	4138127.84	12.31	0.00	12.31	

Sensitive Receptor Summary

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SO2 - Concentration - Source Group: DPM

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00594	ug/m^3		587692.96	4138148.52	12.37	0.00	12.37	
PERIOD		0.00621	ug/m^3		587715.45	4138148.52	12.35	0.00	12.35	
PERIOD		0.00499	ug/m^3		587691.16	4138169.21	12.17	0.00	12.17	
PERIOD		0.00505	ug/m^3		587715.45	4138168.31	12.20	0.00	12.20	
PERIOD		0.00416	ug/m^3		587696.56	4138189.89	11.97	0.00	11.97	
PERIOD		0.00408	ug/m^3		587714.55	4138188.99	11.97	0.00	11.97	
PERIOD		0.00357	ug/m^3		587698.36	4138206.08	11.87	0.00	11.87	
PERIOD		0.00339	ug/m^3		587714.55	4138206.98	11.86	0.00	11.86	
PERIOD		0.00313	ug/m^3		587731.63	4138207.88	11.85	0.00	11.85	
PERIOD		0.00257	ug/m^3		587763.11	4138207.88	11.89	0.00	11.89	
PERIOD		0.00176	ug/m^3		587732.53	4138265.43	12.64	0.00	12.64	
PERIOD		0.00214	ug/m^3		587732.53	4138244.75	12.59	0.00	12.59	
PERIOD		0.00156	ug/m^3		587751.42	4138266.33	12.59	0.00	12.59	
PERIOD		0.00193	ug/m^3		587751.42	4138243.85	12.56	0.00	12.56	
PERIOD		0.00140	ug/m^3		587770.30	4138265.43	12.58	0.00	12.58	
PERIOD		0.00170	ug/m^3		587770.30	4138243.85	12.53	0.00	12.53	
PERIOD		0.00121	ug/m^3		587790.09	4138268.13	12.57	0.00	12.57	
PERIOD		0.00147	ug/m^3		587790.09	4138244.75	12.56	0.00	12.56	
PERIOD		0.00091	ug/m^3		587834.16	4138269.93	11.95	0.00	11.95	
PERIOD		0.00117	ug/m^3		587767.61	4138288.82	11.99	0.00	11.99	
PERIOD		0.00103	ug/m^3		587788.29	4138290.62	11.99	0.00	11.99	

Sensitive Receptor Summary

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SO2 - Concentration - Source Group: DPM

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00087	ug/m^3		587818.87	4138289.72	11.86	0.00	11.86	
PERIOD		0.00078	ug/m^3		587836.86	4138291.51	11.83	0.00	11.83	
PERIOD		0.00065	ug/m^3		587874.63	4138284.32	11.71	0.00	11.71	
PERIOD		0.00078	ug/m^3		587874.63	4138253.74	11.61	0.00	11.61	
PERIOD		0.00076	ug/m^3		587894.41	4138236.66	11.71	0.00	11.71	
PERIOD		0.00072	ug/m^3		587919.59	4138216.87	11.54	0.00	11.54	
PERIOD		0.00150	ug/m^3		587846.75	4138195.29	12.00	0.00	12.00	
PERIOD		0.00053	ug/m^3		587951.07	4138236.66	11.41	0.00	11.41	
PERIOD		0.00061	ug/m^3		587907.90	4138258.24	11.48	0.00	11.48	
PERIOD		0.00059	ug/m^3		587923.19	4138245.65	11.46	0.00	11.46	
PERIOD		0.00041	ug/m^3		587972.65	4138260.04	11.12	0.00	11.12	
PERIOD		0.00035	ug/m^3		587994.24	4138271.73	11.16	0.00	11.16	
PERIOD		0.00039	ug/m^3		587963.66	4138279.82	11.02	0.00	11.02	
PERIOD		0.00043	ug/m^3		587939.38	4138286.12	11.20	0.00	11.20	
PERIOD		0.00047	ug/m^3		587939.38	4138271.73	11.16	0.00	11.16	
PERIOD		0.00050	ug/m^3		587917.79	4138281.62	11.41	0.00	11.41	
PERIOD		0.00057	ug/m^3		587897.11	4138283.42	11.56	0.00	11.56	
PERIOD		0.00519	ug/m^3	SCHOOL MAX	587656.99	4138126.94	12.36	0.00	12.36	
PERIOD		0.00136	ug/m^3		587534.68	4138125.14	12.56	0.00	12.56	

Sensitive Receptor Summary

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SO2 - Concentration - Source Group: PM25

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.01113	ug/m^3		587693.86	4138104.45	12.19	0.00	12.19	
PERIOD		0.01350	ug/m^3		587722.64	4138106.25	12.14	0.00	12.14	
PERIOD		0.01050	ug/m^3		587747.82	4138128.74	12.16	0.00	12.16	
PERIOD		0.01405	ug/m^3	MEIR	587747.82	4138107.15	12.17	0.00	12.17	
PERIOD		0.00909	ug/m^3		587769.41	4138131.43	12.16	0.00	12.16	
PERIOD		0.01343	ug/m^3		587768.51	4138106.25	12.12	0.00	12.12	
PERIOD		0.00791	ug/m^3		587788.29	4138130.54	12.10	0.00	12.10	
PERIOD		0.01129	ug/m^3		587789.19	4138108.05	12.09	0.00	12.09	
PERIOD		0.00632	ug/m^3		587808.98	4138131.43	12.14	0.00	12.14	
PERIOD		0.00891	ug/m^3		587808.98	4138109.85	12.13	0.00	12.13	
PERIOD		0.00547	ug/m^3		587826.06	4138127.84	11.96	0.00	11.96	
PERIOD		0.00765	ug/m^3		587826.96	4138105.35	11.97	0.00	11.97	
PERIOD		0.00419	ug/m^3		587847.65	4138128.74	11.88	0.00	11.88	
PERIOD		0.00607	ug/m^3		587845.85	4138103.56	11.85	0.00	11.85	
PERIOD		0.00346	ug/m^3		587864.73	4138128.74	11.83	0.00	11.83	
PERIOD		0.00436	ug/m^3		587867.43	4138107.15	11.83	0.00	11.83	
PERIOD		0.00311	ug/m^3		587844.05	4138157.52	11.80	0.00	11.80	
PERIOD		0.00205	ug/m^3		587864.73	4138180.90	11.85	0.00	11.85	
PERIOD		0.00247	ug/m^3		587855.74	4138169.21	11.83	0.00	11.83	
PERIOD		0.00238	ug/m^3		587875.53	4138153.92	11.62	0.00	11.62	
PERIOD		0.00193	ug/m^3		587886.32	4138165.61	11.62	0.00	11.62	

Sensitive Receptor Summary

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SO2 - Concentration - Source Group: PM25

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00148	ug/m^3		587899.81	4138183.60	11.58	0.00	11.58	
PERIOD		0.00152	ug/m^3		587886.32	4138195.29	11.65	0.00	11.65	
PERIOD		0.00154	ug/m^3		587874.63	4138205.18	11.74	0.00	11.74	
PERIOD		0.00155	ug/m^3		587862.94	4138215.97	11.81	0.00	11.81	
PERIOD		0.00147	ug/m^3		587850.34	4138234.86	11.69	0.00	11.69	
PERIOD		0.00172	ug/m^3		587841.35	4138223.17	11.74	0.00	11.74	
PERIOD		0.00223	ug/m^3		587822.47	4138209.68	11.79	0.00	11.79	
PERIOD		0.00268	ug/m^3		587797.28	4138210.58	11.82	0.00	11.82	
PERIOD		0.00289	ug/m^3		587818.87	4138186.29	11.99	0.00	11.99	
PERIOD		0.00399	ug/m^3		587818.87	4138157.52	11.89	0.00	11.89	
PERIOD		0.00353	ug/m^3		587799.08	4138183.60	12.09	0.00	12.09	
PERIOD		0.00491	ug/m^3		587799.08	4138156.62	11.97	0.00	11.97	
PERIOD		0.00418	ug/m^3		587779.30	4138183.60	12.13	0.00	12.13	
PERIOD		0.00561	ug/m^3		587779.30	4138160.21	12.07	0.00	12.07	
PERIOD		0.00483	ug/m^3		587760.41	4138183.60	12.19	0.00	12.19	
PERIOD		0.00662	ug/m^3		587760.41	4138158.41	12.13	0.00	12.13	
PERIOD		0.00582	ug/m^3		587737.93	4138179.10	11.98	0.00	11.98	
PERIOD		0.00792	ug/m^3		587738.83	4138153.02	11.98	0.00	11.98	
PERIOD		0.00969	ug/m^3		587693.86	4138127.84	12.30	0.00	12.30	
PERIOD		0.01076	ug/m^3		587719.04	4138127.84	12.31	0.00	12.31	
PERIOD		0.00828	ug/m^3		587692.96	4138148.52	12.37	0.00	12.37	

Sensitive Receptor Summary

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SO2 - Concentration - Source Group: PM25

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00866	ug/m^3		587715.45	4138148.52	12.35	0.00	12.35	
PERIOD		0.00695	ug/m^3		587691.16	4138169.21	12.17	0.00	12.17	
PERIOD		0.00704	ug/m^3		587715.45	4138168.31	12.20	0.00	12.20	
PERIOD		0.00580	ug/m^3		587696.56	4138189.89	11.97	0.00	11.97	
PERIOD		0.00569	ug/m^3		587714.55	4138188.99	11.97	0.00	11.97	
PERIOD		0.00498	ug/m^3		587698.36	4138206.08	11.87	0.00	11.87	
PERIOD		0.00473	ug/m^3		587714.55	4138206.98	11.86	0.00	11.86	
PERIOD		0.00436	ug/m^3		587731.63	4138207.88	11.85	0.00	11.85	
PERIOD		0.00358	ug/m^3		587763.11	4138207.88	11.89	0.00	11.89	
PERIOD		0.00246	ug/m^3		587732.53	4138265.43	12.64	0.00	12.64	
PERIOD		0.00298	ug/m^3		587732.53	4138244.75	12.59	0.00	12.59	
PERIOD		0.00218	ug/m^3		587751.42	4138266.33	12.59	0.00	12.59	
PERIOD		0.00268	ug/m^3		587751.42	4138243.85	12.56	0.00	12.56	
PERIOD		0.00195	ug/m^3		587770.30	4138265.43	12.58	0.00	12.58	
PERIOD		0.00237	ug/m^3		587770.30	4138243.85	12.53	0.00	12.53	
PERIOD		0.00169	ug/m^3		587790.09	4138268.13	12.57	0.00	12.57	
PERIOD		0.00205	ug/m^3		587790.09	4138244.75	12.56	0.00	12.56	
PERIOD		0.00127	ug/m^3		587834.16	4138269.93	11.95	0.00	11.95	
PERIOD		0.00164	ug/m^3		587767.61	4138288.82	11.99	0.00	11.99	
PERIOD		0.00143	ug/m^3		587788.29	4138290.62	11.99	0.00	11.99	
PERIOD		0.00121	ug/m^3		587818.87	4138289.72	11.86	0.00	11.86	

Sensitive Receptor Summary

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SO2 - Concentration - Source Group: PM25

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00108	ug/m^3		587836.86	4138291.51	11.83	0.00	11.83	
PERIOD		0.00090	ug/m^3		587874.63	4138284.32	11.71	0.00	11.71	
PERIOD		0.00109	ug/m^3		587874.63	4138253.74	11.61	0.00	11.61	
PERIOD		0.00106	ug/m^3		587894.41	4138236.66	11.71	0.00	11.71	
PERIOD		0.00101	ug/m^3		587919.59	4138216.87	11.54	0.00	11.54	
PERIOD		0.00210	ug/m^3		587846.75	4138195.29	12.00	0.00	12.00	
PERIOD		0.00073	ug/m^3		587951.07	4138236.66	11.41	0.00	11.41	
PERIOD		0.00085	ug/m^3		587907.90	4138258.24	11.48	0.00	11.48	
PERIOD		0.00083	ug/m^3		587923.19	4138245.65	11.46	0.00	11.46	
PERIOD		0.00058	ug/m^3		587972.65	4138260.04	11.12	0.00	11.12	
PERIOD		0.00049	ug/m^3		587994.24	4138271.73	11.16	0.00	11.16	
PERIOD		0.00055	ug/m^3		587963.66	4138279.82	11.02	0.00	11.02	
PERIOD		0.00060	ug/m^3		587939.38	4138286.12	11.20	0.00	11.20	
PERIOD		0.00065	ug/m^3		587939.38	4138271.73	11.16	0.00	11.16	
PERIOD		0.00070	ug/m^3		587917.79	4138281.62	11.41	0.00	11.41	
PERIOD		0.00079	ug/m^3		587897.11	4138283.42	11.56	0.00	11.56	
PERIOD		0.00724	ug/m^3	SCHOOL MAX	587656.99	4138126.94	12.36	0.00	12.36	
PERIOD		0.00190	ug/m^3		587534.68	4138125.14	12.56	0.00	12.56	

HEALTH RISK ASSESSMENT CALCULATIONS

Arcade Project

The health risk assessment (HRA) was conducted utilizing the American Meteorological Society/United States Environmental Protection Agency (EPA) Regulatory Model (AERMOD) (Version 24142 and ARB's Hot Spots Analysis and Reporting Program Version 2 (HARP2) Version 2 (22188 dated April 28, 2022) to automatically calculate risks for the projects using OEHHA promulgated cancer potency and reference exposure levels. (HARP2) is the recommended model for calculating and presenting HRA results because it follows the district's risk assessment guidance methodology and is consistent with BAAQMD's Regulation 2-5. Since AERMOD was run with project emission rates to directly calculate potential DPM and PM2.5 concentrations, the Health Risk Assessment Standalone Tool (RAST) version of HARP2 was used.

The HRA follows BAAQMD CEQA Guidelines based on OEHHA 2015 AB2588 Hot Spots Guidance. This risk assessment intake methodology addresses children's greater sensitivity and health impacts from early exposure to carcinogenic compounds. The chemical intake or dose describing the frequency and duration of the exposure is estimated using receptor's breathing rates, exposure duration, and exposure frequency. The calculations include the use of age-specific weighting factors, breathing rates, fraction of time at home, and reduced exposure durations.

The dispersion and exposure modeling is described below, including a summary of the HARP2 HRA inputs and cancer and noncancer risk results for selected for each receptor group (i.e., resident, off-site worker, and student).

AERMOD Inputs — The AMS/EPA Regulatory Model (AERMOD) was utilized to predict the ground level concentrations resulting from the emissions of Diesel Particulate Matter (DPM) (represented as PM10 exhaust) and total PM2.5 from associated with construction activities. The modeling utilized Urban dispersion coefficients and BAAQMD-provided meteorological data from the Moffett Field Airport meteorological station (KNUQ) from 2013 – 2017. The modeling included both emissions generated at the project site and those generated along the anticipated haul roads within approximately 1,000 ft of the site boundary. Diesel particulate emissions are characterized by an area source with a height of 5 meters to account for the height of the construction exhaust from the off-road equipment. Roadway emissions were modeled as line-volume sources or adjacent volume sources. PM2.5 emissions were modeled similarly, per BAAQMD guidance which permits PM2.5 Dust to be modeled along with PM2.5 Exhaust.

Emissions were modeled only during the hours of 8 AM – 5 PM (with a one-hour break for lunch) Monday to Friday. DPM Emission rates were obtained from CalEEMod using emissions from PM10 exhaust from diesel vehicles and off-road construction equipment exhaust. PM2.5 emissions were calculated for the maximum annual period (first year of construction) and includes PM2.5 from off-road construction equipment exhaust, material handling as well as on-road exhaust, brake and tire wear, and re-entrained road dust.

Age Sensitivity Factors – Studies have shown that young animals are more sensitive than adult animals to exposure to many carcinogens.[1] Therefore, OEHHA developed age sensitivity factors (ASFs) to account for the increased sensitivity to carcinogens during early-in-life exposures. Accordingly, the cancer risk methodology applies different ASFs by age groups. The ASFs utilized a 10-fold multiplier in sensitivity for the third trimester and infants less than age 2, a 3-fold increase in sensitivity for children ages 2 to 16 years old, and a sensitivity factor of 1 for ages 16 and older.

Daily breathing rates (age-specific daily air intake) – For residential receptors, the HRA utilizes the 95th percentile breathing rates for the most sensitive age groups (less than 2 years of age) and 80th percentile for all other age groups. This approach jointly developed by ARB and CAPCOA[2] and adopted by BAAQMD[3] is referred to as the "Risk Management Policy" and was developed to consider the new science in risk assessment while providing a reasonable estimate of potential cancer risk for risk management decisions. and used in this HRA. The HRA uses 95th percentile 8-hour breathing rates for moderate intensity activities for worker and student exposure.[4]

Time at home – The time at home applies only applies to residential receptors. Residents are assumed to be at home 350 days per year, which assumes individuals are away for approximately 2 weeks of vacation. The fraction of time at home refers to the estimated amount of time residents stay at home during these 350 days. The HRA uses the OEHHA and BAAQMD recommended values of 73% time at home for 16-year-olds and above based on based on population and activity statistics. The HRA also assumes 100 percent time at home for receptors under age 16 to address exposures at local schools close to emitting sources. Even though infants and children may not be at their residence all the time, they are likely to remain in the neighborhood (at schools or neighbors) and would be exposed to similar levels of the pollutants.

Exposure Duration - OEHHA 2015 guidelines specify a 30-year residential exposure duration for estimating cancer risk at the maximum exposed individual resident (MEIR). This is based on studies showing that 30 years is a reasonable estimate of the 90th to 95th percentile of residency duration in the population. A 25-year standard exposure duration is the default to estimate cancer risk for off-site workers. However, risk assessors can use other exposure durations with proper justification and documentation. For example, short-term projects (e.g., construction projects) can now be evaluated for as short a duration as 6 months. The risks for the proposed project were assessed for the construction

[1] Office of Environmental Health Hazard Assessment (OEHHA). 2009. Technical Support Document for Cancer Potency Factors 200 . June 2009, http://www.oehha.ca.gov/air/hot_spots/tsd052909.html) Accessed August 27, 2024

[2] California Air Resources Board (ARB) and California Air Pollution Control Officers Association (CAPCOA). 2015. Risk Management Guidance for Stationary Sources of Air Toxics. July 23. Website: https://ww2.arb.ca.gov/sites/default/files/classic/toxics/rma/rmgssat.pdf. Accessed April 8, 2025.

[3] Bay Area Air Quality Management District (BAAQMD). 2022. California Environmental Quality Act – Air Quality Guidelines Appendix E: Recommended Methods for Screening and Modeling Local Risks and Hazards. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-e-recommended-methods-for-screening-and-modeling-local-risks-and-hazards_final-pdf.pdf?rev=b8917a27345a4a629fc18fc8650951e4&sc_lang=en. Accessed April 8, 2025.

[4] Office of Environmental Health Hazard Assessment (OEHHA). 2015. The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. Website: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed April 8, 2025.

period from May 2026 to July 2017 over a construction schedule of 305 working days or 1.2 calendar years.

Residential Cancer Risk

Cancer risk for individual resident receptors exposed to "Diesel Particulate Exhaust" (DPM) were calculated utilizing the "Risk Management Policy" option for inhalation, specifying that residents spend 100% time at home for ages less than 16 years old. Consistent with OEHHA guidance, the start of residential exposure was assumed to occur in the third trimester (-0.25 years) to accommodate the increased susceptibility of exposures in early life. As per OHEHHA and BAAQMD guidelines, the residential exposure starts with the unborn child at the third trimester or –0.25 years (when construction begins) and continues until the child is 1.25 years of age.[5] Because there are no significant sources of TAC emissions during operations, the exposure assessment is limited to the duration of the proposed project construction or 1.2 years.

Residential Receptors included grid residential receptors within the 1,000-foot zone from the project site and discrete residential receptors for the nearest residences to the project site in all directions.

Student Cancer Risk

Cancer risk and the chronic hazard index were calculated for the maximum impacted off-site school receptor based on the maximum DPM concentration with the school receptors modeled in AERMOD. 8-hour breathing rates for moderate intensity activities of 520 L/kg-8 hrs (applicable to 2–16 year students) were used to calculate the daily dose via the inhalation route to the worker. The analysis assumes a start age of 4 years and an exposure duration equivalent to the construction duration of 1.2 years.

The worker adjustment factor (WAF) is used to determine the long-term concentration the student is breathing during the school day. The WAF adjusts the long-term concentration so it is based only on the hours when the worker is present. For this project, assuming the emitting source and student's schedules are the same, the adjustment factor is 4.2 = (24 hours per day/8 hours per shift) x (7 days in a week/5 days in a work week).

Worker Cancer Risk

Cancer risk and the chronic hazard index were calculated for the maximum impacted off-site worker based on the maximum DPM concentration at identified off-site receptors. HARP utilizes 8-hour breathing rates for moderate intensity activities of 240 L/kg-8 hrs (applicable to 16–30-year adults) to calculate the daily dose via the inhalation route to the worker. The analysis assumes a start age of 16 years and an exposure duration equivalent to the construction duration of 1.2 years.

The WAF is used to adjust the AERMOD estimated long-term concentration such that it is based only on the hours when the worker is present. For this project, assuming the emitting source and worker's schedules are the same, the adjustment factor is 4.2 = (24 hours per day/8 hours per shift) x (7 days in a week/5 days in a work week).

[5] Office of Environmental Health Hazard Assessment (OEHHA) 2015. Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments. February.

Noncancer Chronic Health Risks

Chronic RELs are used to assess not only residential health impacts, but also worker health impacts.

Potential chronic noncancer health impacts use the long-term annual average concentration regardless of the emitting facility's schedule. As per OEHHA guidance, no adjustment factors were used to adjust this concentration for workers

HARP2 Inputs and Results

HARP2 Output files are included to document the HRA exposure parameters and risk results.

HARP2 inputs and results are included for the following receptor/exposure scenarios for the Unmitigated emissions:

- Residential Cancer Risk – Maximum Exposed Individual Resident (MEIR)
- Non-Cancer Chronic Risk – MEIR
- Worker Cancer Risk – Maximum Exposed Individual Worker (MEIW)
- Worker Non-Cancer Chronic Risk – MEIW
- Student Cancer Risk
- Student Non-Cancer Chronic Risk

```
HARP2 - HRACalc (dated 22118) 4/29/2025 5:12:33 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
**********
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: Cancer
Calculation Method: HighEnd

**********
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 0.95

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 0.95
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

**********
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments.  The remaining pathways are only used for cancer and noncancer chronic assessments.
Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

**********
INHALATION

Daily breathing rate: RMP

**Worker Adjustment Factors**
Worker adjustment factors enabled: NO

**Fraction at time at home**
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

**********
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment.  Please see the input file for details.
Tier2 - What was changed: ED or start age changed
Calculating cancer risk
Cancer risk saved to: F:\Jobs\4583.0013\HARP\CanRsk_MEIR_CancerRisk.csv
HRA ran successfully
```

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Health Risk Summary of HARP2 Results

Residential MEIR Health Risk - DPM

Maximum Risk	RISK_SUM	Cancer Risk/million	MAXHI NonCancer Chronic	MAXHI Acute
	1.71E-06	1.7116	0.002018	0

Maximally Exposed Individual Receptor

	X	Y
MEI UTM	587747.82	4138107

HARP File Name

*HARP - HRACalc v22118 4/29/2025 5:12:33 PM - Cancer Risk - Input File: F:\Jobs\4583.0013\HARP\CanRsk_MEIR_HRAInput.hra

RECEPTOR	X	Y	CONC	RISK_SUM	SCENARIO	CHRONIC HI
1	587747.82	4138107.15	0.01009	1.71E-06	0.95YrCancerRMP_Inh	0.002018

\

```
HARP2 - HRACalc (dated 22118) 4/29/2025 5:12:33 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
**********
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: Cancer
Calculation Method: HighEnd

**********
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 0.95

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 0.95
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

**********
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments.  The remaining pathways are only used for cancer and noncancer chronic assessments.
Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

**********
INHALATION

Daily breathing rate: RMP

**Worker Adjustment Factors**
Worker adjustment factors enabled: NO

**Fraction at time at home**
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

**********
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment.  Please see the input file for details.
Tier2 - What was changed: ED or start age changed
Calculating cancer risk
Cancer risk saved to: F:\Jobs\4583.0013\HARP\CanRsk_MEIR_CancerRisk.csv
HRA ran successfully
```

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Health Risk Summary of HARP2 Results

Maximally Exposed Individual Worker Receptor - DPM

Maximum Risk	RISK_SUM	Cancer Risk/million	MAXHI NonCancer Chronic	MAXHI Acute
	2.33E-06	2.3257	0.035728	0

Maximally Exposed Individual Receptor

	X	Y
MEI UTM	587835.96	4137873

HARP File Name

*HARP - HRACalc v22118 4/29/2025 5:04:53 PM - Cancer Risk - Input File: F:\Jobs\4583.0013\HARP\CanRsk_MEIW_HRAInput.hra

RECEPTOR	X	Y	CONC	RISK_SUM	SCENARIO	CHRONIC HI
1	587835.96	4137873.33	0.17864	2.33E-06	1.2YrCancerDerived_InhSoilDerm	0.035728

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Health Risk Summary of HARP2 Results

School Receptor Health Risk - DPM

Maximum Risk	RISK_SUM	Cancer Risk/million	MAXHI NonCancer Chronic	MAXHI Acute
	5.41E-07	0.54056	0.001038	0

Maximally Exposed Individual Receptor

	X	Y
MEI UTM	587656.99	4138127

HARP File Name

*HARP - HRACalc v22118 5/9/2025 2:35:26 PM - Cancer Risk - Input File: F:\Jobs\4583.0013\HARP\CanRsk_SCHOOL_HRAInput.hra

RECEPTOR	X	Y	CONC	RISK_SUM	SCENARIO	CHRONIC HI
1	587656.99	4138126.94	0.00519	5.41E-07	1.2YrCancerDerived_InhSoilDerm	0.001038

\

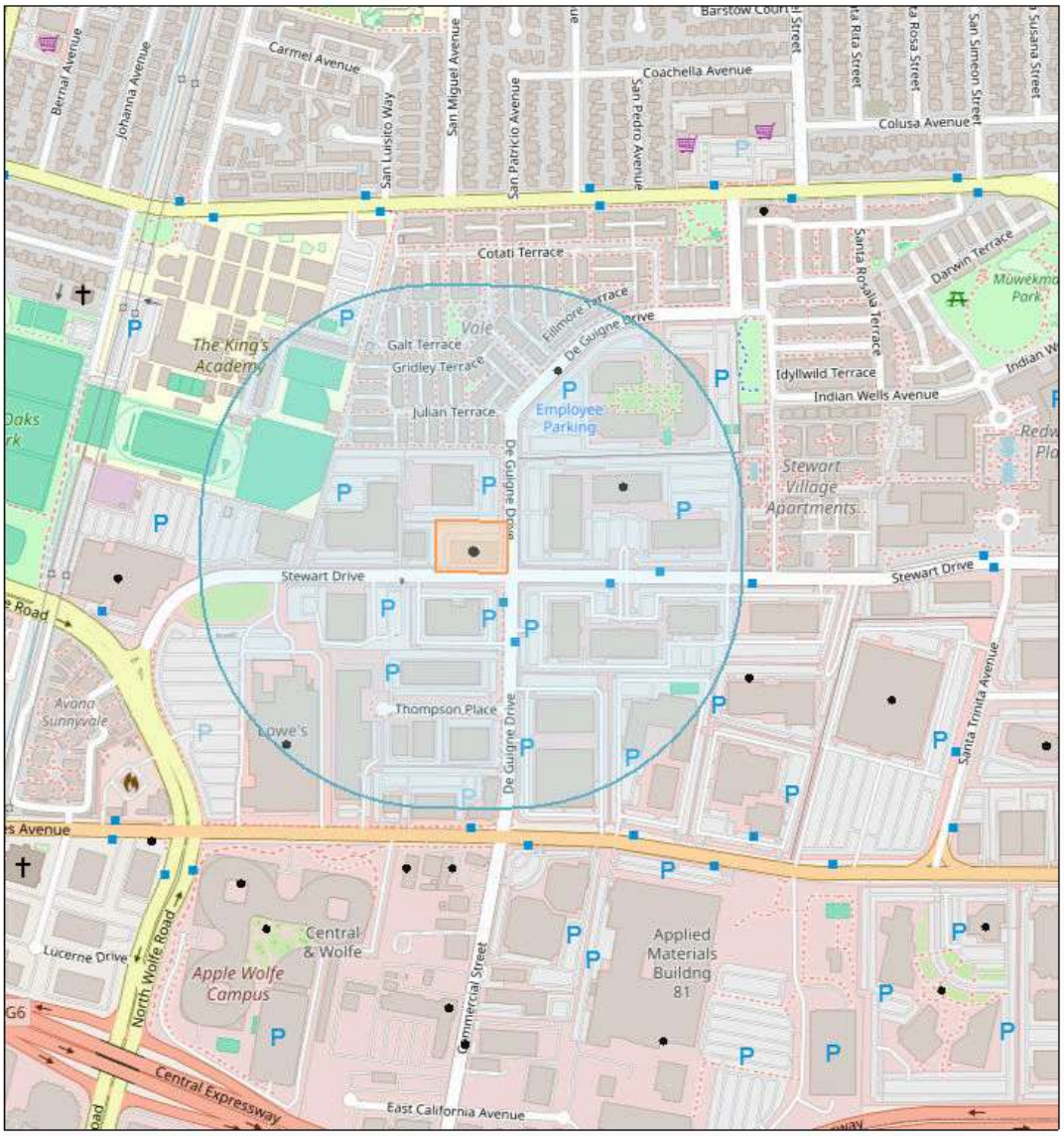
```
HARP2 - HRACalc (dated 22118) 5/9/2025 2:35:26 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
**********
RISK SCENARIO SETTINGS

Receptor Type: Worker
Scenario: Cancer
Calculation Method: Derived

**********
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 4
Total Exposure Duration: 1.2

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 1.2
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

**********
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments.  The remaining pathways are only used for cancer and noncancer chronic assessments.
Inhalation: True
Soil: True
Dermal: True
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

**********
INHALATION

Daily breathing rate: Moderate8HR

**Worker Adjustment Factors**
NOTE: The worker adjustment factors below are only used for cancer assessments.  However, the GLC adjustment factor is also applied to 8-hr noncancer chronic assessments.
Worker adjustments factors enabled: YES
GLC adjustment factor: 4.2
Exposure frequency: 250

**Fraction at time at home**
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

**********
SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.05
Soil mixing depth (m): 0.01
Dermal climate: Mixed

**********
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment.  Please see the input file for details.
Tier2 - What was changed: ED or start age changed
Calculating cancer risk
Cancer risk saved to: F:\Jobs\4583.0013\HARP\CanRsk_SCHOOL_CancerRisk.csv
HRA ran successfully
```

Screening Report - 845 Stewart Drive

Area of Interest (AOI) Information

Area : 4,252,497.67 ft²

Apr 5 2025 10:04:03 Pacific Daylight Time



Permitted Stationary Sources

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Stationary Sources	3	N/A	N/A

Permitted Stationary Sources

#	Address	Cancer_Ris	Chronic_Ha	City	County
1	811 E Arques Avenue	2.47	0.00	Sunnyvale	Santa Clara
2	920 De Guigne Drive	0.55	0.00	Sunnyvale	Santa Clara
3	935 Stewart Drive	1.30	0.00	Sunnyvale	Santa Clara

#	Details	Facility_I	Facility_N	Latitude	Longitude
1	Generator	17334	Lowe's HIW Inc	37.38	-122.01
2	Generator	20966	Telenav	37.39	-122.01
3	Generator	17353	Trimble Navigation	37.38	-122.01

#	NAICS	NAICS_Indu	NAICS_Sect	NAICS_Subs	PM25
1	337125	Household Furniture (except Wood and Metal) Manufacturing	Manufacturing	Furniture and Related Product Manufacturing	0.00
2	517210	Wireless Telecommunications Carriers (except Satellite)	Information	Telecommunications	0.00
3	334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	Manufacturing	Computer and Electronic Product Manufacturing	0.00

#	State	Zip	Count
1	CA	94085	1
2	CA	94085	1
3	CA	94089	1

NOTE: A larger buffer than 1,000 may be warranted depending on proximity to significant sources.

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BAAQMD Sensitive Receptor Road and Rail Risks

Receptor ID	UTMX	UTMY	Road Cancer Risk	Road Chronic HI	Road PM2.5	Rail Cancer Risk	Rail Chronic HI	Rail PM2.5
MEIR	587747.8	4138107	5.821652	0.018962	0.140449	0	0	0
MEIW	587836	4137873	4.436048	0.015358	0.110011	1.157288	0.000311	0.001461
School	587657	4138127	6.587556	0.020627	0.149552	0	0	0

Data Provided By: BAAQMD as raster file (.tif) datasets
Roadway Screening Tool - Cancer Risk Last Updated December 8 2022
Roadway Screening Tool - Chronic Hazard Last Updated December 8 2022
Roadway Screening Tool - PM2.5 Last Updated December 8 2022
Rail Screening Tool - Cancer Risk Last Updated May 9 2024
Rail Screening Tool - Chronic Hazard Last Updated May 9 2024
Rail Screening Tool - PM2.5 Last Updated May 9 2024