AIR QUALITY ASSESSMENT

Woodward 46 Specific Plan
SP22-0005, SP22-0006, GPA22-0004, MFSD22-0005, TSM22-0004
City of San Marcos, CA

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1.0 INTRODUCTION

1.1 Project Description

The project proposes implementation of a Specific Plan to construct 46 multi-family residential units on an 8.57 acre site. Construction would be expected to start sometime in 2025 and be completed as early as late 2026 with full operations expected in 2027. The project development plan is shown in Figure 1-A.

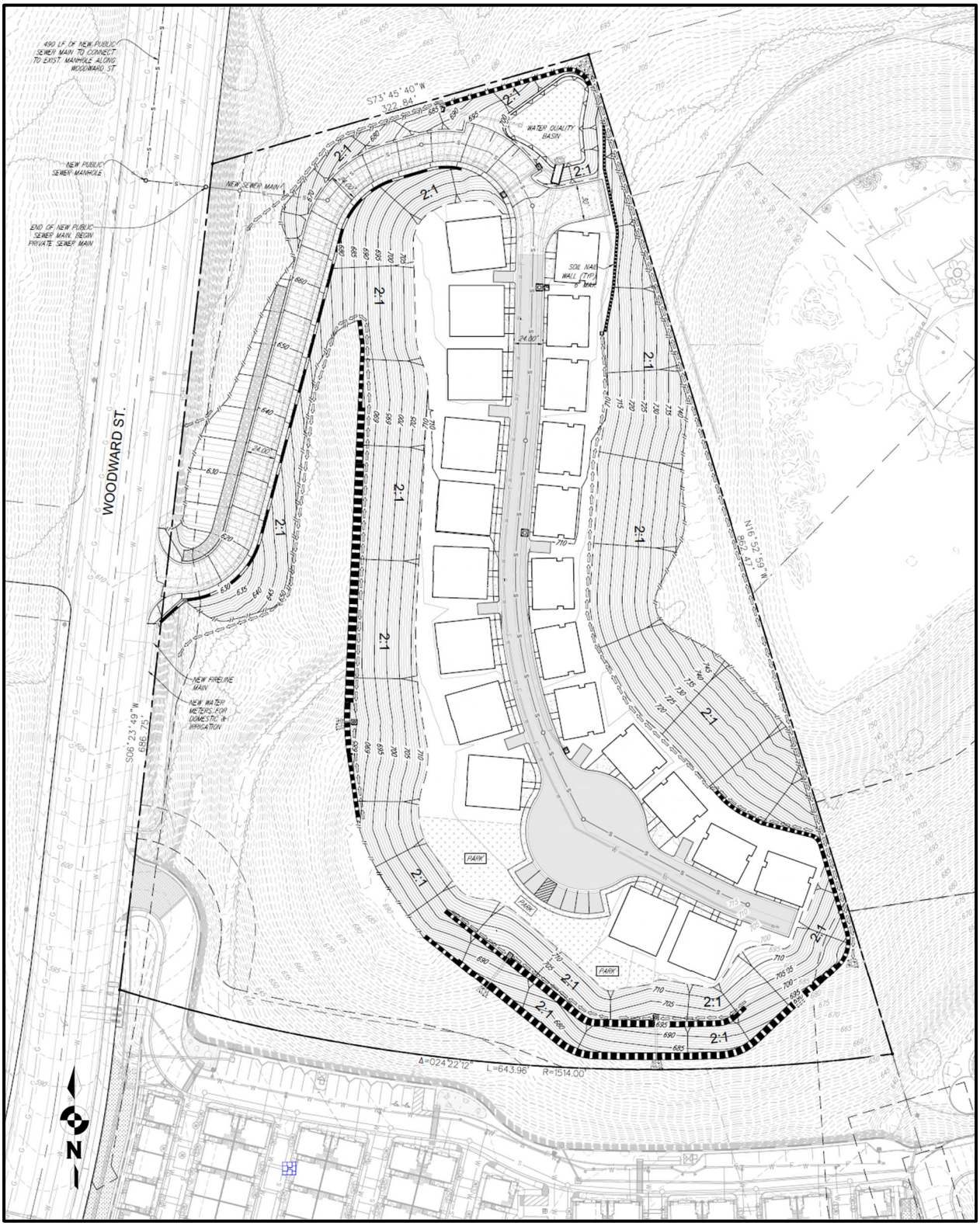
1.2 Project Location

The vacant 8.57-acre project site having an Assessor Parcel Number (APN) of 220-210-49 is located along Woodward Street north of East Mission Road in the City of San Marcos. Regionally, the Specific Plan area is located approximately a half mile north of Highway 78 and approximately 3.5 miles from Interstate 15. The Civic Center SPRINTER rail station is located approximately 0.1-mile from the Specific Plan area at the intersection of Mission Road and San Marcos Boulevard. A project vicinity map is shown in Figure 1-B. Residential uses exist to the south, and east of the Project site. To the north of the project site is an area identified as Open Space in the General Plan, with additional residences north of that.

1.3 Purpose of this Study

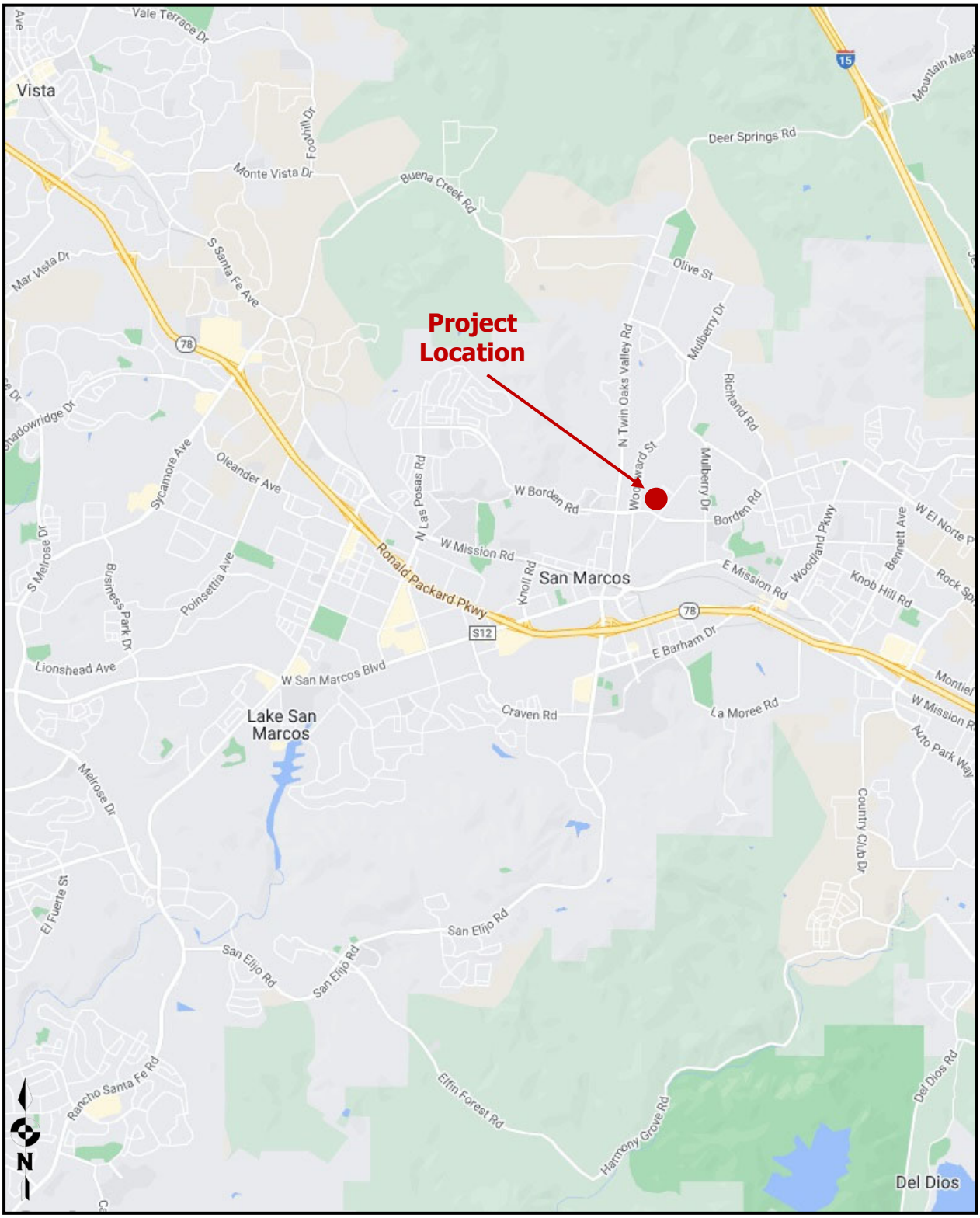
The purpose of this Air Quality study is to determine potential significant air quality impacts (if any) that may be generated by construction, area or operational emissions from the proposed Project. Should impacts be determined, the intent of this study would be to recommend suitable mitigation measures to bring those impacts to a level that would be considered less than significant under the California Environmental Quality Act (CEQA).

Figure 1-A: Proposed Project Site Development Plan



Source: (Summa Architecture, 2023)

Figure 1-B: Project Vicinity Map



Source: (Google, 2023)

2.0 EXISTING ENVIRONMENTAL SETTING

2.1 Existing Setting

The vacant undeveloped Project site is located north of East Mission Road and east of Woodward Street. The project site is a rocky hilly area with elevations ranging from about 630 to 730 feet above mean sea level. The existing site aerial map is shown in Figure 2-A. The project is mostly surrounded by residential uses with the closest less than 100 feet to the south or east.

Figure 2-A: Existing Site Layout

Source: (Google Earth Pro, 2023)

2.2 Climate and Meteorology

Climate within the San Diego Air Basin (SDAB) area often varies dramatically over short geographical distances with cooler temperatures on the western coast gradually warming to the east as prevailing winds from the west heats up. Most of southern California is dominated by high-pressure systems for much of the year, which keeps San Diego mostly sunny and warm. Typically, during the winter months, the high-pressure systems drop to the south and brings cooler, moister weather from the north.

Meteorological trends within the area generally show daytime highs ranging between 64ºF in the winter to approximately 88ºF in the summer with August usually being the hottest month. Daytime Low temperatures range from approximately 37ºF in the winter to approximately 59ºF in the summer. Precipitation is generally about 16.2 inches per year (WRCC, 2021). Prevailing wind patterns for the area vary during any given month during the year and also vary depending on the time of day or night. The predominant pattern though throughout the year is usually from the west or westerly (WRCC, 2018).

2.3 Regulatory Standards

2.3.1 Federal Standards and Definitions

The Federal Air Quality Standards were developed per the requirements of The Federal Clean Air Act, which is a federal law that was passed in 1970 and further amended in 1990. This law provides the basis for the national air pollution control effort. An important element of the act included the development of national ambient air quality standards (NAAQS) for major air pollutants.

The Clean Air Act established two types of air quality standards otherwise known as primary and secondary standards. ***Primary Standards*** set limits to protect public health which includes sensitive populations such as asthmatics, children and elderly. ***Secondary Standards*** set limits to protect public welfare and include protection against decreased visibility, damage to animals, crops, vegetation and buildings.

The Environmental Protection Agency's (EPA Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards (NAAQS) for principal pollutants, which are called "criteria" pollutants. These pollutants are defined below (EPA, 2022):

1. ***Carbon Monoxide (CO):*** *is a colorless, odorless, and tasteless gas and is produced from the partial combustion of carbon-containing compounds, notably in internal-combustion engines. Carbon monoxide usually forms when there is a reduced availability of oxygen*

present during the combustion process. Exposure to CO near the levels of the ambient air quality standards can lead to fatigue, headaches, confusion, and dizziness. CO interferes with the blood's ability to carry oxygen (EPA, 2022).

2. ***Lead (Pb):*** *is a potent neurotoxin that accumulates in soft tissues and bone over time. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Because lead is only slowly excreted, exposures to small amounts of lead from a variety of sources can accumulate to harmful levels. Effects from inhalation of lead near the level of the ambient air quality standard include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms can include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children* (EPA, 2022).
3. ***Nitrogen Dioxide (NO_2):*** *is a reactive, oxidizing gas capable of damaging cells lining the respiratory tract and is one of the nitrogen oxides emitted from high-temperature combustion, such as those occurring in trucks, cars, power plants, home heaters, and gas stoves. In the presence of other air contaminants, NO_2 is usually visible as a reddish-brown air layer over urban areas. NO_2 along with other traffic-related pollutants is associated with respiratory symptoms, respiratory illness and respiratory impairment. Studies in animals have reported biochemical, structural, and cellular changes in the lung when exposed to NO_2 above the level of the current state air quality standard. Clinical studies of human subjects suggest that NO_2 exposure to levels near the current standard may worsen the effect of allergens in allergic asthmatics, especially in children* (EPA, 2022).
4. ***Particulate Matter (PM_{10} or $PM_{2.5}$):*** *is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary in shape, size and chemical composition, and can be made up of multiple materials such as metal, soot, soil, and dust. PM_{10} particles are 10 microns (µm) or less and $PM_{2.5}$ particles are 2.5 (µm) or less. These particles can contribute significantly to regional haze and reduction of visibility in California. Exposure to PM levels exceeding current air quality standards increases the risk of allergies such as asthma and respiratory illness* (EPA, 2022).
5. ***Ozone (O_3)****: Ozone at the ground level is a highly oxidative unstable gas capable of damaging the linings of the respiratory tract. This pollutant forms in the atmosphere through reactions between chemicals directly emitted from vehicles, industrial plants, and many other sources. Exposure to ozone above ambient air quality standards can lead to human health effects such as lung inflammation, tissue damage and impaired lung functioning. Ozone can also damage materials such as rubber, fabrics and plastics****Invalid source specified.****.*

It should be noted that Oxides of Nitrogen (NO_x) is a family of poisonous, highly reactive gases. These gases form when fuel is burned at high temperatures. NO_x pollution is emitted

by automobiles, trucks and various non-road vehicles (e.g., construction equipment, boats, etc.) as well as industrial sources such as power plants, industrial boilers, cement kilns, and turbines. NO_x often appears as a brownish gas. It is a strong oxidizing agent and plays a major role in the atmospheric reactions with Volatile Organic Compounds (VOCs) which produces ozone on hot summer days ***Invalid source specified.****.*

6. ***Sulfur Dioxide (SO_2)****: is a gaseous compound of sulfur and oxygen and is formed when sulfur-containing fuel is burned by mobile sources, such as locomotives, ships, and off-road diesel equipment. SO_2 is also emitted from several industrial processes, such as petroleum refining and metal processing. Effects from SO_2 exposures at levels near the one-hour standard include bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, especially during exercise or physical activity. Children, the elderly, and people with asthma, cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most susceptible to these symptoms. Continued exposure at elevated levels of SO_2 results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality* ***Invalid source specified.****.*

2.3.2 State Standards and Definitions

The State of California Air Resources Board (ARB) sets the laws and regulations for air quality at State level. The California Ambient Air Quality Standards (CAAQS) are either the same as or more restrictive than the NAAQS in that the State standards also restrict four additional contaminants. Table 2.1 on the following page identifies both the NAAQS and CAAQS. The additional contaminants as regulated by the CAAQS are defined below:

1. ***Visibility Reducing Particles****: Particles in the Air that obstruct the visibility* (CARB, 2023)*.*
2. ***Sulfates****: are salts of Sulfuric Acid. Sulfates occur as microscopic particles (aerosols) resulting from fossil fuel and biomass combustion. They increase the acidity of the atmosphere and form acid rain* (CARB, 2023)*.*
3. ***Hydrogen Sulfide (H_2S)****: is a colorless, toxic and flammable gas with a recognizable smell of rotten eggs or flatulence. H_2S occurs naturally in crude petroleum, natural gas, volcanic gases, and hot springs. Usually, H_2S is formed from bacterial breakdown of organic matter. Exposure to low concentrations of hydrogen sulfide may cause irritation to the eyes, nose, or throat. It may also cause difficulty in breathing for some asthmatics. Brief exposures to high concentrations of hydrogen sulfide (greater than 500 ppm) can cause a loss of consciousness and possibly death* (CARB, 2023)*.*
4. ***Vinyl Chloride****: also known as chloroethene and is a toxic, carcinogenic, colorless gas with a sweet odor. It is an industrial chemical mainly used to produce its polymer, polyvinyl chloride (PVC)* (CARB, 2023)*.*

Table 2.1: Ambient Air Quality Standards

Ambient Air Quality Standards						
Pollutant	**Average Time**	**California Standards[1]**		**Federal Standards[2]**		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m3)	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m3)		0.070 ppm (137 µg/m3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m3	Gravimetric or Beta Attenuation	150 µg/m3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m3		-		
Fine Particulate Matter (PM2.5)[9]	24 Hour	No Separate State Standard		35 µg/m3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m3	Gravimetric or Beta Attenuation	12.0 µg/m3	15 µg/m3	
Carbon Monoxide (CO)	8 hour	9.0 ppm (10mg/m3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m3)	-	Non-Dispersive Infrared Photometry
	1 hour	20 ppm (23 mg/m3)		35 ppm (40 mg/m3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m3)		-	-	-
Nitrogen Dioxide (NO_2)[10]	Annual Arithmetic Mean	0.030 ppm (57 µg/m3)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m3)[8]	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m3)		0.100 ppm[8] (188/ µg/m3)	-	
Sulfur Dioxide (SO_2)[11]	Annual Arithmetic Mean	-	Ultraviolet Fluorescence	0.030 ppm[10] (for Certain Areas)	-	Ultraviolet Flourescence; Spectrophotometry (Pararoosaniline Method)[9]
	24 Hour	0.04 ppm (105 µg/m3)		0.14 ppm[10] (for Certain Areas) (See Footnote 9)	-	
	3 Hour	-		-	0.5 ppm (1300 µg/m3)	
	1 Hour	0.25 ppm (655 µg/m3)		75 ppb (196 µg/m3)	-	
Lead[12,13]	30 Day Average	1.5 µg/m3	Atomic Absorption	-		-
	Calendar Quarter	-		1.5 µg/m3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average	-		0.15 µg/m3		
Visibility Reducing Particles	8 Hour	See footnote 13				
Sulfates	24 Hour	25 µg/m3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m3)	Gas Chromatography			

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m3 to 12.0 µg/m3 . The existing national 24- hour PM2.5 standards (primary and secondary) were retained at 35 µg/m3 , as was the annual secondary standard of 15 µg/m3 . The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: (California Air Resources Board, 05/04/2016)

2.3.3 Regional Standards

The State of California has 35 specific air districts, which are each responsible for ensuring that the criteria pollutants are below the NAAQS and CAAQS. Air basins that exceed either the NAAQS or the CAAQS for any criteria pollutants are designated as "non-attainment areas" for that pollutant. Currently, there are 15 non-attainment areas for the federal ozone standard and two non-attainment areas for the $PM_{2.5}$ standard and many areas are in non-attainment for PM_{10} as well. California therefore created the California State Implementation Plan (SIP), which is designed to provide control measures needed to attain ambient air quality standards.

The San Diego Air Pollution Control District (SDAPCD) is the government agency which regulates sources of air pollution within the county. Therefore, the SDAPCD developed a Regional Air Quality Strategy (RAQS) to provide control measures to try to achieve attainment status for state ozone standards with control measures focused on VOCs and NO_X. Currently, San Diego is in "non-attainment" status for federal and state O_3 and state PM_{10} and $PM_{2.5.}$ An attainment plan is available for O_3. The RAQS was adopted in 1992 and has been updated as recently as 2022 which was the latest update incorporating minor changes to the prior 2016 update.

The 2022 update mostly summarizes how the 2016 update has lowered NO_X and VOCs emissions which reduces ozone and clarifies and enhances emission reductions by introducing for discussion three new VOC and four new NO_X reduction measures. NO_X and VOCs are precursors to the formation of ozone in the atmosphere. The criteria pollutant standards are generally attained when each monitor within the region has had no exceedances during the previous three calendar years. A complete listing of the current attainment status for criteria pollutants with respect to both federal and state nonattainment status by pollutants for County is shown in Table 2.2 on the following page (SDAPCD, 2023).

The RAQS is largely based on population predictions by the San Diego Association of Governments (SANDAG). Projects that produce less growth than predicted by SANDAG would generally conform to the RAQS. Projects that create more growth than projected by SANDAG may create a significant impact if the Project produces unmitigable air quality emissions or if the Project produces cumulative impacts.

Table 2.2: San Diego County Air Basin Attainment Status by Pollutant

Criteria Pollutant	Federal Designation	State Designation
Ozone (8-Hour)	Nonattainment	Nonattainment
Ozone (1-Hour)	Attainment *	Nonattainment
Carbon Monoxide	Attainment	Attainment
PM10	Unclassifiable **	Nonattainment
PM2.5	Attainment	Nonattainment***
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	No Federal Standard	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Visibility	No Federal Standard	Unclassified

** The federal 1-hour standard of 12 pphm was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in State Implementation Plans.*
*** At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassifiable.*
****The California Air Resources Board (CARB) has not reclassified the region to attainment yet due to (1) incomplete data, and (2) the use of non-California Approved Samplers (CAS). While data collected does meet the requirements for designation of attainment with federal PM2.5 standards, the data completeness requirements for state PM2.5 standards substantially exceed federal requirements and mandates, and have historically not been feasible for most air districts to adhere to given local resources. APCD has begun replacing most regional filter-based PM2.5 monitors as they reach the end of their useful life with continuous PM2.5 air monitors to ensure collected data meets stringent completeness requirements in the future. APCD anticipates these new monitors will be approved as "CAS" monitors once CARB review the list of approved monitors, which has not been updated since 2013.*
(SDAPCD, 2023)

2.4 California Environmental Quality Act (CEQA) Significance Thresholds

The California Environmental Quality Act has provided a checklist to identify the significance of air quality impacts. These guidelines are found in Appendix G of the CEQA guidelines and are as follows:

AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:

A: Conflict with or obstruct implementation of the San Diego Regional Air Quality Strategy (RAQS) or applicable portions of the State Implementation Plan (SIP)?

B: Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard (PM_{10}, $PM_{2.5}$ or exceed quantitative thresholds for O_3 precursors, oxides of nitrogen [NO_X] and Volatile Organic Compounds [VOCs])?

C: Expose sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, or day-care centers) to substantial pollutant concentrations?

D: Result in other emission (such as those leading to odors) adversely affecting a substantial number of people?

2.5 SDAPCD Rule 20.2 – Air Quality Impact Assessment Screening Thresholds

The SDAPCD has established thresholds in Rule 20.2 for new or modified stationary sources. These screening criteria can be used to demonstrate that a project's total emissions would not result in a significant impact as defined by CEQA. Also, since SDAPCD does not have AQI threshold for Volatile Organic Compounds (VOCs), it is acceptable to use the Coachella Valley VOC threshold from South Coast Air Quality Management District. Should emissions be found to exceed these thresholds, additional modeling is required to demonstrate that the project's total air quality impacts are below the state and federal ambient air quality standards. These screening thresholds for construction and daily operations are shown in Table 2.3 below.

Table 2.3: Screening Level Thresholds for Criteria Pollutants

Pollutant	Total Emissions (Pounds per Day)
Construction Emissions	
Respirable Particulate Matter (PM_{10} and $PM_{2.5}$)	100 and 55
Nitrogen Oxide (NO_x)	250
Sulfur Oxide (SO_x)	250
Carbon Monoxide (CO)	550
Volatile Organic Compounds (VOCs)	75
Reactive Organic Gases (ROG) SCAQMD	75
Operational Emissions	
Respirable Particulate Matter (PM_{10} and $PM_{2.5}$)	100 and 55
Nitrogen Oxide (NO_x)	250
Sulfur Oxide (SO_x)	250
Carbon Monoxide (CO)	550
Lead and Lead Compounds	3.2
Volatile Organic Compounds (VOCs)	75
Reactive Organic Gases (ROG) SCAQMD	75

Non-Criteria pollutants such as Hazardous Air Pollutants (HAPs) or Toxic Air Contaminants (TACs) are also regulated by the SDAPCD. Rule 1200 (Toxic Air Contaminants - New Source Review) adopted on June 12, 1996, requires evaluation of potential health risks for any new,

relocated, or modified emission unit which may increase emissions of one or more toxic air contaminants. The rule requires that projects that propose to increase cancer risk to between 1 and 10 in one million need to implement toxics best available control technology (T-BACT) or impose the most effective emission limitation, emission control device or control technique to reduce the cancer risk. At no time shall the project increase the cancer risk to over 10 in one million. In addition, a project shall not generate either a chronic or acute health hazard index greater than one. Projects creating cancer risks less than one in one million are not required to implement T-BACT technology.

The U.S. Environmental Protection Agency (U.S. EPA) uses the term Volatile Organic Compounds (VOC) and the California Air Resources Board's (CARB's) Emission Inventory Branch (EIB) uses the term Reactive Organic Gases (ROG) to essentially define the same thing. There are minor deviations between compounds that define each term. However, for purposes of this study we will assume they are essentially the same due to the fact SCAQMD interchanges these words and because CalEEMod directly calculates ROG in place of VOC.

2.6 Local Air Quality

Criteria pollutants are measured continuously throughout the San Diego Air Basin. This data is used to track ambient air quality patterns throughout the County. As mentioned earlier, this data is also used to determine attainment status when compared to the NAAQS and CAAQS. The SDAPCD is responsible for monitoring and reporting monitoring data. The District operates 10 monitoring sites, which collect data on criteria pollutants. Table 2.4 identifies the criteria pollutants monitored at the aforementioned station.

SDAPCD published the five-year air quality summary for all of the monitoring stations within the San Diego basin (SDAPCD, 2022). The proposed development project is closest to the Camp Pendleton and Carmel Mountain Ranch Monitoring stations. Table 2.4 identifies the criteria pollutants monitored at the aforementioned station.

Table 2.4: Two-Year Ambient Air Quality Summary near the Project Site

Pollutant	Closest Recorded Ambient Monitoring Site	Averaging Time	CAAQS	NAAQS	2021	2022	Days Exceeded over 2 years
O_3 (ppm)	Camp Pendleton or Carmel Mountain Ranch	1 Hour	0.09 ppm	No Standard	0.07	0.08	0
		8 Hour	0.070 ppm	0.070 ppm	0.06	0.07	0
PM_{10} (µg/m3)		24 Hour	50 µg/m3	150 µg/m3	PM10 Data Not Available for Monitoring Sites near Project Site		
		Annual Arithmetic Mean	20 µg/m3	No Standard			
* $PM_{2.5}$ (µg/m^3)		24 Hour	No standard -	35 µg/m3	23.5	14.9	N/A
		Annual Arithmetic Mean	12 µg/m3	15 µg/m3	8.5	7.6	N/A
NO_2 (ppm)		Annual Arithmetic Mean	0.030 ppm	0.053 ppm	0.013	0.013	N/A
		1 Hour	0.18 ppm	0.100 ppm	0.059	0.059	N/A
* CO (ppm)		1 Hour	20 ppm	35 ppm	3.0	2.2	N/A
		8 Hour	9 ppm	9 ppm	1.8	1.2	N/A

Notes:
1. - Yearly maximums marked with "-" indicated data was not available for either monitoring station.
2. * Data was selected from the Carmel Mountain Ranch station which began in 2019. All other data presented was collected at the Camp Pendleton Monitoring Station.
3. SO_2 is only monitored at the El Cajon Monitoring Station. Within the entire County of San Diego, SO_2 emissions within the County are essentially Zero for all metrics including the Average, Maximum 24 hour and 1- hour standards. The Highest 1-hr measurement identified is 0.004 ppm and the most restrictive standard (CAAQS for SO_2) is 0.25 ppm.

3.0 METHODOLOGY

3.1 Construction Emissions Calculations

Air Quality impacts related to construction and daily operations were calculated using CalEEMod Version 2022.1 air quality model, which was developed by South Coast Air Quality Management District (SCAQMD) . The construction module in CalEEMod is used to calculate the emissions associated with the construction of the Project and uses methodologies presented in the US EPA AP-42 document with emphasis on Chapter 11.9. The CalEEMod input/output model is shown in ***Attachment A*** to this report.

The AERSCREEN dispersion model was used to determine the concentration for air pollutants at any location near the pollutant generator. Additionally, the model will predict the maximum exposure distance and concentrations. The AERSCREEN input/output file for the proposed Project is shown in ***Attachment B*** at the end of this report. The worst case exhaust emissions generated from the Project from construction equipment was utilized and calculated within the CalEEMod model.

Once the dispersed concentrations of diesel particulates are estimated in the surrounding air, they are used to evaluate estimated exposure to people. Exposure is evaluated by calculating the dose in milligrams per kilogram body weight per day (mg/kg/d). For residential exposure, the breathing rates are determined for specific age groups, so inhalation dose (Dose-air) is calculated for each of these age groups, 3rd trimester, 0<2, 2<9, 2<16, 16<30 and 16-70 years. The following algorithms calculate this dose for exposure through the inhalation pathways. The worst case cancer risk dose calculation is defined in Equation 1 below (OEHHA, 2015).

Equation 1 $$Dose_{air}=C_{air}*(BR/BW)*A*EF*(1x10^{-6})$$

$Dose_{air}$	=	Dose through inhalation (mg/kg/d)
C_{air}	=	Concentration in air (µg/m^3) Annual average DPM concentration in µg/m^3 - AERSCREEN predicts a 1-hr concentration and is corrected to an annual average by multiplying the 1-hr average by 0.08 (US EPA, 1992)
BR/BW	=	Daily breathing rate normalized to body weight (L/kg BW-day). See Table I.2 for the daily breathing rate for each age range.
A	=	Inhalation absorption factor (assumed to be 1)
EF	=	Exposure frequency (unitless, days/365 days)
$1x10^{-6}$	=	Milligrams to micrograms conversion (10^{-3} mg/ µg), cubic meters to liters conversion (10^{-3} m^3/l)

Cancer risk is calculated by multiplying the daily inhalation or oral dose, by a cancer potency factor, the age sensitivity factor, the frequency of time spent at home and the exposure duration divided by averaging time, to yield the excess cancer risk. As described below, the

excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk for any given location. Specific factors as modeled are shown within the Project models which is provided as ***Attachment C*** to this report. The worst case cancer risk calculation is defined in Equation 2 below (OEHHA, 2015).

Equation 2 $$RISKinh\text{-}res = DOSEair \times CPF \times ASF \times ED/AT \times FAH$$

RISKinh-res	=	Residential inhalation cancer risk
DOSEair	=	Daily inhalation dose (mg/kg-day)
CPF	=	Inhalation cancer potency factor ($mg/kg\text{-}day^{-1}$)
ASF	=	Age sensitivity factor for a specified age group (unitless)
ED	=	Exposure duration (in years) for a specified age group
AT	=	Averaging time for lifetime cancer risk (years)
FAH	=	Fraction of time spent at home (unitless)

Office of Environmental Health Hazard Assessment OEHHA recommends that an exposure duration (residency time) of 30 years be used to estimate individual cancer risk for the Maximally Exposed Individual Resident (MEIR). OEHHA also recommends that the 30-year exposure duration be used as the basis for public notification and risk reduction audits and plans. Exposure durations of 9-years and 70-years are also recommended to be evaluated for the MEIR to show the range of cancer risk based on residency periods. If a facility is notifying the public regarding cancer risk, the 9-and 70-year cancer risk estimates are useful for people who have resided in their current residence for periods shorter and longer than 30 years.

It should be noted that for construction activities, the exposure duration would be over a short term duration or less than 9, 30 or 70 years. Because of this, it is recommended that the risk assessment look at the exposure age group bins most effected be utilized to determine risk over the short-term construction duration. Chronic Non-Cancer risks are also known with respect to diesel particulate matter (DPM) and are determined by the hazard index. To calculate hazard index, DPM concentration is divided by its chronic Reference Exposure Levels (REL). Where the total equals or exceeds one, a health hazard is presumed to exist. RELs are published by the Office of Environmental Health Hazard Assessment (OEHHA, February 2015). Diesel Exhaust has a REL of 5 $\mu g/m^3$ and targets the respiratory system.

3.2 Construction Assumptions

The project would start grading sometime in 2025 with residential construction to start shortly thereafter. Grading for the project will consist of approximately 41,989 Cubic yards (CY) of cut material and approximately 50,270 CY of fill and 8,281 CY of import. For purposes of this analysis, it is assumed as much as 10,000 CY of import would be required, which is conservative. Earthwork associated with grading within CalEEMod uses a "Grading Equipment

Passes" methodology which has been approved by SCAQMD in consultation with building estimator references and is used as the basis of emission generation (CAPCOA, 2022). As a design feature, the project's construction contractor will utilize Tier IV rated diesel construction equipment to minimize diesel particulates from construction equipment. In addition, the Project also may require some blasting-related activities. Table 3.1 below describes the construction equipment and durations.

Table 3.1: Expected Construction Equipment

Equipment Identification	Proposed Start	Proposed Complete	Quantity
Site Preparation	6/1/2025	6/15/2025	
Rubber Tired Dozers			3
Tractors/Loaders/Backhoes			4
Grading	6/16/2025	7/25/2025	
Excavators			1
Graders			1
Rubber Tired Dozers			3
Tractors/Loaders/Backhoes			3
Crushing/Proc. Equipment			1
Building Construction	7/26/2025	6/12/2026	
Cranes			1
Forklifts			3
Generator Sets			1
Tractors/Loaders/Backhoes			3
Welders			1
Paving	6/13/2026	7/10/2026	
Pavers			2
Paving Equipment			2
Rollers			2
Architectural Coating	6/13/2026	8/7/2026	
Air Compressors			1
This equipment list is based upon equipment inventory within CalEEMod. The quantity and types are based upon assumptions provided by the project applicant.			

During blasting operations, grading operations would temporarily stop and resume once blasting is completed. Per conversations with the project Civil Engineer, it is expected that each blast, limited to once a day, would be limited to six tons Ammonium Nitrate for any given blast operation. The area of each blast would be limited to 20,000 SF or (100-foot x 200-foot) area. Blasting operations usually require a chemical material that is capable of extremely rapid combustion resulting in an explosion or detonation. These materials are usually mixtures of several ingredients but are often oxygen deficient as combustion reactions take place which

causes a formation of carbon monoxide and to a lesser extent, nitrogen oxides. For ammonium nitrate and fuel oil (ANFO) mixtures it is expected that carbon monoxide would be generated in quantities of 67 lbs per every ton of explosives and nitrogen oxides would be generated at 17 lbs per the same quantity (EPA, 1995). Particulate matter will also be generated from blasting and can be estimated using Table 11.9-1 of the aforementioned document (EPA, 1995) using the following equation:

$$PM_{10}(lb/Blast) = 0.000014 * (BlastArea(ft^2)) * 0.52$$

3.3 Operational Emissions

Once construction is completed the proposed project would generate emissions from daily operations which would include sources such as Area, Energy, Mobile, Waste and Water uses, which are also calculated within CalEEMod. Area Sources include consumer products, landscaping and architectural coatings as part of regular maintenance. Energy sources would be from uses such as onsite natural gas and electrical use. The operational model results are also shown in ***Attachment A*** at the end of this report.

The traffic inputs for CalEEMod were adjusted to be consistent with the proposed project traffic study. Based on that study, the proposed project would generate 368 daily trips (LL&G, 2023). The CalEEMod 2022.1 Model was run for both the winter and summer scenarios and assumed average winter and summer temperatures.

The model also estimates emission predictions for ROG, NO_x, CO, SO_2, PM_{10} and $PM_{2.5}$ for area source assumptions. Additionally, it was assumed that an average of 10% of the structural surface area will be re-painted each year. Finally, since the proposed project would not be installing hearth options, CalEEMod default hearth settings were modified to represent no hearth options. CalEEMod includes landscaping and consumer product assumptions which would apply to this project. Consumer product emissions are generated by a wide range of product categories, including air fresheners, automotive products, household cleaners, and personal care products. Emissions associated with these products primarily depend on the increased population associated with residential development.

3.4 Odor Impacts

Potential onsite odor generators would include short-term construction odors from activities such as paving and possibly painting. Given this, short-term construction odors would not be considered an impact. Also, since the project is a residential development, no operational odor sources are expected.

4.0 FINDINGS

4.1 Construction Findings

The project would start grading sometime in 2025 and all building construction would be completed early 2026. Grading will consist of approximately 41,989 cubic yards (CY) of cut material and 50,270 CY of fill material requiring an import of approximately 8,281 CY of material. Conservatively as indicated in Section 3.2 10,000 CY of import was assumed. In addition some blasting may be required during grading. The following design features were assumed within the CalEEMod analysis:

- *Construction Design Feature 1: all heavy diesel construction equipment will be classified as Tier IV.*

Table 4.1 shows the expected construction emissions. Based on the cumulative totals, project construction would not exceed any of the SDAPCD screening thresholds and impacts would be less than significant.

During blasting operations, grading operations would stop and it is expected that each blast operation would require between 10,000 - 12,000 lbs of Ammonium Nitrate.

The proposed project would utilize approximately 6 tons of ammonium nitrate per a blast which would generate up to 402 lbs (67 lbs/ton * 6 tons) of carbon monoxide and up to 102 lbs (17 lbs/ton * 6 tons) of nitrogen oxides during a blast utilizing 6 tons of ammonium nitrate. These quantities would be additive to the mass grading operations for the entire project site and could be added to the worst-case mass grading daily CO and NO_x output. Additional particulates derived from each blast is estimated over a 20,000 SF area roughly 100-foot by 200-foot in dimension as identified in Section 3.2 above. Given this, it is estimated that each blast would generate 20.59 lb/blast as is shown in the equation below:

$$PM_{10}(lb/Blast) = 0.000014 * (20{,}000ft^2)^{1.5} * 0.52 = 20.59(lb/blast)$$

It should be noted, a blasting permit is required from the San Marcos Fire Department which would include required terms and should limit the blasting material to 6 tons per day as this was indicated as the expected blast charge.

Table 4.1: Expected Construction Emissions Summary

Year	ROG	NO_x	CO	SO_2	PM_{10} (Dust)	PM_{10} (Exhaust)	PM_{10} (Total)	$PM_{2.5}$ (Dust)	$PM_{2.5}$ (Exhaust)	$PM_{2.5}$ (Total)
2025	7.17	6.57	33.2	0.07	0.15	20.9	21	0.15	10.4	10.5
2026	0.37	2.31	15.7	0.02	0.04	0.31	0.36	0.04	0.07	0.12
Blasting Emissions calculations shown in text above		102	402		20.59		20.59			
Construction w/ Blasting (Maximum)	7.17	108.57	435.2	0.07	20.74	20.9	41.59	0.15	10.4	10.5
Screening Level Threshold (lb/day)	**75**	**250**	**550**	**250**	**-**	**-**	**100**	**-**	**-**	**55**
SDAPCD Impact?	**No**	**No**	**No**	**No**	-	-	**No**	-	-	**No**

4.2 Health Risk

Based upon the air quality modeling, worst-case onsite PM_{10} from onsite construction exhaust would cumulatively produce 0.0074 tons over the construction duration (432-calendar days) or an average of $1.80x10^{-4}$ grams/second. Utilizing the AERSCREEN dispersion model, the peak maximum 1-hr concentration is 0.197 µg/m^3 during the worst-case construction period. Converting the peak 1-hr concentration to an annual concentration by multiplying it by 0.08 (US EPA, 1992) yields an annual concentration of 0.016 µg/m^3. Therefore, utilizing the risk equation identified above in Section 3.1, the inhalation cancer risk is 2.8 per million over the construction duration. This risk would be expressed at the point of maximum exposure 125 meters away (410 feet) as predicted by AERSCREEN and shown in the model outputs provided within ***Attachment B***. As a condition of project approval, the Project would be required to utilize Tier 4 diesel equipment. Since the threshold is 10 per million exposed with T-BACT installed, the project would have a less than significant impact and would be in compliance with SDAPCD thresholds.

It should be noted that sensitive residential receptors are adjacent to the project site which is approximately 100 feet south or east. Since the maximum risk is 2.8 per million exposed (and the threshold is 10 per million), all sensitive receptors would have cancer risks at or less than 2.8 per million exposed which would also represent a less than significant impact.

There are known chronic health risks associated with diesel exhaust which are considered non-cancer risks. These risks are calculated based on methods identified in Section 3.1 of this

report. From this we find that the hourly concentration of 0.197 µg/m^3 divided by the REL of 5 µg/m^3 yields a Health Hazard Index of 0.04, which is less than one. Therefore, based on thresholds for non-cancer risks in Section 3.1 above, non-cancer health risks are considered less than significant.

4.3 Odor Impact Findings

Potential onsite odor generators would include short-term construction odors from activities such as paving and possibly painting. Given this, short-term construction odors would be considered less than significant. Also, the proposed project would not be expected to generate odors during operation since the project is residential in nature. Odor impacts would be less than significant.

4.4 Operational Findings

The proposed project would generate 368 daily trips (LL&G, 2023) once the proposed project is fully operational in the year 2026. This assumption has been incorporated into the CalEEMod file output shown in *Attachment A* to this report.

The expected daily pollutant generation can be calculated utilizing the product of the average daily miles traveled and the expected emissions inventory calculated by CALEEMOD 2022.1 and can be seen in Tables 4.2 and 4.3 for the summer and winter scenarios, respectively. Based upon these calculations, the project's operational emissions in both the summer and winter scenario will not exceed the SDAPCD screening thresholds and impacts are less than significant.

Table 4.2: Daily Pollutant Generation (Summer)

	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Summer Scenario						
Mobile Source Emission Estimates (Lb/Day)	1.35	0.8	8.37	0.02	1.73	0.45
Area Emission Estimates (Lb/Day)	1.25	0.02	2.61	< 0.005	< 0.005	< 0.005
Energy Emission Estimates (Lb/Day)	< 0.005	0.08	0.03	< 0.005	0.01	0.01
Total (Lb/Day)	**2.61**	**0.9**	**11**	**0.02**	**1.74**	**0.46**
Screening Level Thresholds	75	250	550	250	100	55
Significant?	No	No	No	No	No	No
Daily pollutant generation assumes trip distances within CalEEMod						

Table 4.3: Daily Pollutant Generation (Winter)

	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Winter Scenario						
Mobile Source Emission Estimates (Lb/Day)	1.31	0.86	8	0.02	1.72	0.45
Area Emission Estimates (Lb/Day)	1.13	0.01	1.29	< 0.005	< 0.005	11.9
Energy Emission Estimates (Lb/Day)	< 0.005	0.08	0.03	< 0.005	0.01	0.01
Total (Lb/Day)	**2.45**	**0.96**	**9.32**	**0.02**	**1.73**	**0.45**
Screening Level Thresholds	75	250	550	250	100	55
Significant?	No	No	No	No	No	No
Daily pollutant generation assumes trip distances within CalEEMod						

4.5 Cumulative Impacts

Projects that are consistent with the currently adopted General Plan are determined to be consistent with SDAB's air quality plans, including the RAQS and the SIP. If a project proposes development that is consistent with or less than estimates provided in the General Plan, the project would not conflict with or obstruct implementation of the RAQS or SIP.

The project site has a General Plan Designation of SPA (Specific Plan Area) and is associated with the Heart of the City Specific Plan (HOCSP). The HOCSP comprises approximately 1,528 acres in the geographic center of the City. In the HOCSP, certain properties along the Mission Road corridor, including the project site, have a sub-plan designation of Richmar Specific Plan.

Development criteria for the Richmar Specific Plan has not been adopted by the City and there is no current City effort to do so. Therefore, properties requesting development within this sub-plan area are required to establish individual specific plans based on the underlying land use for the property as designated by the HOCSP. As such, there is no fixed land use or density currently assigned to the project site. The Richmar Specific Plan identifies commercial, office and multifamily residential as land use options within the Richmar planning area. Given the topographical constraints of the site and the adjacent residential land uses, a multifamily residential land use with a maximum of 50 multifamily residential units could be built on the site given the topographical constraints and the lack of availability of a secondary/emergency vehicle access point. This would result in a density of 5.9 du/acre. The proposed project has a proposed density of 5.7 du/acre. Therefore, the project's development intensity and density would be slightly less than what is identified in the current General Plan.

Also, since the project would not generate significant direct or cumulative construction or operational impacts, the Project would be consistent with the County's RAQS and the State's air quality SIP.

4.6 Conclusion of Findings

During construction of the proposed Project, fugitive dust emissions will be expected during grading and equipment usage. However, these emissions would not exceed SDAPCD thresholds and impacts would be less than significant. The project has been designed and planned by incorporating design elements and best management practices which are a condition of approval to the project as shown below:

- *Construction Design Feature 1: all heavy diesel construction equipment will be classified as Tier IV.*

Additionally, emissions will be generated from both area and operational sources by the proposed Project which are the result of Project generated traffic, landscaping maintenance equipment, consumer products, and annual maintenance and painting. Operational air quality impacts would be less than significant. This analysis assumes the project would not install hearth options within the development.

The project site is currently zoned SPA as part of the Heart of the City Specific Plan (HOCSP) with residential uses (2 to 4 dwelling units per acre) contemplated for the site. As part of the requested approvals, the project would modify the HOCSP via a Specific Plan Amendment; remove the current Richmar Sub-Plan designation for the site; and establish a new Specific Plan (Woodward 46 Specific Plan) which would allow for the development of 46 residential condominiums on the project site. Due to its location and the adjacent residential land uses, a multifamily residential development, under a Specific Plan, is the most suitable land use for the subject property. City policy requires that a secondary access be provided if more than 50 units are proposed. Given the topographical constraints of the site and the adjacent residential land uses, a multifamily residential land use with a maximum of 50 multifamily residential units could be built on the site given the topographical constraints and the lack of availability of a secondary/emergency vehicle access point. This would result in a density of 5.9 du/acre. The proposed project has a proposed density of 5.7 du/acre. Therefore, the project's development intensity and density would be slightly less than what is identified in the current General Plan. Since no direct impacts are expected, the Project would not generate cumulative operational impacts.

Cumulative construction impact could be expected if construction of the proposed Project and potentially a hypothetical project in the immediate vicinity. An impact would exist if the cumulative totals of both projects when added together exceed the screening significance

thresholds. Based on discussions with the applicant, no large construction projects are expected to occur simultaneously and within the immediate vicinity to the Proposed Project. Because of this, a less than significant cumulative construction impact would be expected.

Also, since the project would not generate significant direct or cumulative construction or operational impacts, the Project would be consistent with the County's RAQS and the State's air quality SIP.

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ATTACHMENT A

CalEEMod

Woodward 46 Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Woodward 46
Construction Start Date	1/1/2025
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.20
Precipitation (days)	12.8
Location	33.14424278725711, -117.15948514975167
County	San Diego
City	San Marcos
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6278
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.21

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	46.0	Dwelling Unit	8.57	44,160	46,000	—	128	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	7.17	6.57	33.2	0.07	0.15	20.9	21.0	0.15	10.4	10.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	0.37	2.31	15.7	0.02	0.04	0.31	0.36	0.04	0.07	0.12
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	0.89	1.41	8.46	0.01	0.03	2.38	2.41	0.03	1.16	1.19
Annual (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	0.16	0.26	1.54	< 0.005	0.01	0.43	0.44	0.01	0.21	0.22

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—
2025	0.68	6.57	33.2	0.07	0.15	20.9	21.0	0.15	10.4	10.5
2026	7.17	2.64	15.8	0.02	0.04	0.31	0.36	0.04	0.07	0.12

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—
2025	0.37	2.31	15.7	0.02	0.04	0.31	0.36	0.04	0.07	0.12
2026	0.35	2.30	15.6	0.02	0.04	0.31	0.36	0.04	0.07	0.12
Average Daily	—	—	—	—	—	—	—	—	—	—
2025	0.19	1.41	8.46	0.01	0.03	2.38	2.41	0.03	1.16	1.19
2026	0.89	0.91	5.74	0.01	0.02	0.11	0.13	0.02	0.03	0.04
Annual	—	—	—	—	—	—	—	—	—	—
2025	0.03	0.26	1.54	< 0.005	0.01	0.43	0.44	0.01	0.21	0.22
2026	0.16	0.17	1.05	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	2.61	0.90	11.0	0.02	0.02	1.72	1.74	0.02	0.44	0.46
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	2.35	0.96	8.08	0.02	0.02	1.72	1.74	0.02	0.44	0.46
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	2.45	0.96	9.32	0.02	0.02	1.70	1.73	0.02	0.43	0.45
Annual (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	0.45	0.17	1.70	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Mobile	1.35	0.80	8.37	0.02	0.01	1.72	1.73	0.01	0.44	0.45
Area	1.25	0.02	2.61	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Energy	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01
Water	—	—	—	—	—	—	—	—	—	—
Waste	—	—	—	—	—	—	—	—	—	—
Refrig.	—	—	—	—	—	—	—	—	—	—
Total	2.61	0.90	11.0	0.02	0.02	1.72	1.74	0.02	0.44	0.46
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Mobile	1.32	0.88	8.05	0.02	0.01	1.72	1.73	0.01	0.44	0.45
Area	1.02	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Energy	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01
Water	—	—	—	—	—	—	—	—	—	—
Waste	—	—	—	—	—	—	—	—	—	—
Refrig.	—	—	—	—	—	—	—	—	—	—
Total	2.35	0.96	8.08	0.02	0.02	1.72	1.74	0.02	0.44	0.46
Average Daily	—	—	—	—	—	—	—	—	—	—
Mobile	1.31	0.86	8.00	0.02	0.01	1.70	1.72	0.01	0.43	0.45
Area	1.13	0.01	1.29	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Energy	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01
Water	—	—	—	—	—	—	—	—	—	—
Waste	—	—	—	—	—	—	—	—	—	—
Refrig.	—	—	—	—	—	—	—	—	—	—
Total	2.45	0.96	9.32	0.02	0.02	1.70	1.73	0.02	0.43	0.45
Annual	—	—	—	—	—	—	—	—	—	—

Mobile	0.24	0.16	1.46	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08
Area	0.21	< 0.005	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Energy	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Water	—	—	—	—	—	—	—	—	—	—
Waste	—	—	—	—	—	—	—	—	—	—
Refrig.	—	—	—	—	—	—	—	—	—	—
Total	0.45	0.17	1.70	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10
Dust From Material Movement	—	—	—	—	—	19.7	19.7	—	10.1	10.1
Onsite truck	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	0.07	0.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Dust From Material Movement	—	—	—	—	—	0.54	0.54	—	0.28	0.28

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.05	0.05
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.05	0.81	0.00	0.00	0.15	0.15	0.00	0.03	0.03
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	3.93	1.47	0.02	0.06	0.77	0.83	0.06	0.21	0.27
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.11	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01
Annual	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

3.3. Grading (2025) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	3.39	31.2	0.05	0.11	—	0.11	0.11	—	0.11
Dust From Material Movement	—	—	—	—	—	20.2	20.2	—	10.2	10.2
Onsite truck	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	0.28	2.57	< 0.005	0.01	—	0.01	0.01	—	0.01
Dust From Material Movement	—	—	—	—	—	1.66	1.66	—	0.84	0.84
Onsite truck	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	0.05	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Dust From Material Movement	—	—	—	—	—	0.30	0.30	—	0.15	0.15
Onsite truck	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	0.09	0.07	1.04	0.00	0.00	0.19	0.19	0.00	0.04	0.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	2.62	0.98	0.01	0.04	0.52	0.55	0.04	0.14	0.18
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.22	0.08	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01
Annual	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005

3.5. Building Construction (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	2.03	14.3	0.02	0.04	—	0.04	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	2.03	14.3	0.02	0.04	—	0.04	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
Average Daily	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.63	4.45	0.01	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
Annual	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.12	0.81	< 0.005	< 0.005	—	< 0.005	< 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
Offsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.10	1.53	0.00	0.00	0.28	0.28	0.00	0.07	0.07
Vendor	< 0.005	0.16	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.11	1.34	0.00	0.00	0.28	0.28	0.00	0.07	0.07
Vendor	< 0.005	0.17	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.42	0.00	0.00	0.09	0.09	0.00	0.02	0.02
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2026) - Unmitigated

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

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

Off-Road Equipment	0.23	2.03	14.3	0.02	0.04	—	0.04	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	2.03	14.3	0.02	0.04	—	0.04	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
Average Daily	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.65	4.56	0.01	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
Annual	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.12	0.83	< 0.005	< 0.005	—	< 0.005	< 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
Offsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.09	1.43	0.00	0.00	0.28	0.28	0.00	0.07	0.07
Vendor	< 0.005	0.16	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.10	1.26	0.00	0.00	0.28	0.28	0.00	0.07	0.07
Vendor	< 0.005	0.16	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.41	0.00	0.00	0.09	0.09	0.00	0.02	0.02
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03
Paving	0.00	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.11	0.58	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Paving	0.00	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Paving	0.00	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.65	0.00	0.00	0.13	0.13	0.00	0.03	0.03
Vendor	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005
Vendor	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
Annual	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	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

3.11. Architectural Coating (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Architectural Coatings	6.91	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.07	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Architectural Coatings	0.76	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Architectural Coatings	0.14	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.29	0.00	0.00	0.06	0.06	0.00	0.01	0.01
Vendor	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005
Vendor	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
Annual	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	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

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	1.35	0.80	8.37	0.02	0.01	1.72	1.73	0.01	0.44	0.45
Total	1.35	0.80	8.37	0.02	0.01	1.72	1.73	0.01	0.44	0.45
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	1.32	0.88	8.05	0.02	0.01	1.72	1.73	0.01	0.44	0.45
Total	1.32	0.88	8.05	0.02	0.01	1.72	1.73	0.01	0.44	0.45
Annual	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.24	0.16	1.46	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08
Total	0.24	0.16	1.46	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

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

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

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01
Total	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01
Total	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01
Annual	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Total	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Consumer Products	0.95	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.08	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.23	0.02	2.61	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Total	1.25	0.02	2.61	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Consumer Products	0.95	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.08	—	—	—	—	—	—	—	—	—
Total	1.02	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
Consumer Products	0.17	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	< 0.005	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005

Total	0.21	< 0.005	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

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

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

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

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

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	6/1/2025	6/15/2025	5.00	10.0	—
Grading	Grading	6/16/2025	7/25/2025	5.00	30.0	—
Building Construction	Building Construction	7/26/2025	6/12/2026	5.00	230	—
Paving	Paving	6/13/2026	7/10/2026	5.00	20.0	—
Architectural Coating	Architectural Coating	6/13/2026	8/7/2026	5.00	40.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	8.00	84.0	0.37
Grading	Crushing/Proc. Equipment	Diesel	Tier 4 Final	1.00	6.00	310	0.30
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20

Building Construction	Generator Sets	Diesel	Tier 4 Final	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Final	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	41.7	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	22.5	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	27.8	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	33.1	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	4.92	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT

Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	6.62	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.5. 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	89,424	29,808	0.00	0.00	—

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	540	0.03	< 0.005
2026	0.00	45.1	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	368	368	368	134,320	2,432	2,432	2,432	887,661

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	46
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)
89424	29,808	0.00	0.00	—

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	155,980	45.1	0.0330	0.0040	325,608

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	1,616,121	840,194

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	33.9	—

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

8. User Changes to Default Data

Screen	Justification
Land Use	Site is 8.57 acres
Construction: Construction Phases	Estimated Construction Schedule
Operations: Vehicle Data	Per TS
Construction: Dust From Material Movement	Material Import
Construction: Off-Road Equipment	Construction Equipment
Construction: Off-Road Equipment EF	Tier 4
Operations: Hearths	—

ATTACHMENT B

AERSCREEN for PM_{10} Exhaust

TITLE: WOODWARD 46

**** AREA PARAMETERS ****

SOURCE EMISSION RATE: 0.180E-03 g/s 0.143E-02 lb/hr

AREA EMISSION RATE: 0.518E-08 g/(s-m2) 0.411E-07 lb/(hr-m2)
AREA HEIGHT: 3.00 meters 9.84 feet
AREA SOURCE LONG SIDE: 186.23 meters 610.99 feet
AREA SOURCE SHORT SIDE: 186.23 meters 610.99 feet
INITIAL VERTICAL DIMENSION: 1.00 meters 3.28 feet
RURAL OR URBAN: URBAN
POPULATION: 79000

FLAGPOLE RECEPTOR HEIGHT: 1.50 meters 4.92 feet

INITIAL PROBE DISTANCE = 5000. meters 16404. feet

**** BUILDING DOWNWASH PARAMETERS ****

BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES

**** FLOW SECTOR ANALYSIS ****
25 meter receptor spacing: 1. meters - 5000. meters

MAXIMUM IMPACT RECEPTOR

Zo SECTOR	SURFACE ROUGHNESS	1-HR CONC (ug/m3)	RADIAL (deg)	DIST (m)	TEMPORAL PERIOD
1*	1.000	0.1969	45	125.0	WIN

* = worst case diagonal

**** MAKEMET METEOROLOGY PARAMETERS ****

MIN/MAX TEMPERATURE: 250.0 / 310.0 (K)

MINIMUM WIND SPEED: 0.5 m/s

ANEMOMETER HEIGHT: 10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
DOMINANT CLIMATE TYPE: Average Moisture
DOMINANT SEASON: Winter

ALBEDO: 0.35
BOWEN RATIO: 1.50
ROUGHNESS LENGTH: 1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED

METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT

YR	MO	DY	JDY	HR

```
 10 01 10  10 01

    H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50

    HT  REF TA     HT
- - - - - - - - - -
  10.0   310.0    2.0
```

********** AERSCREEN AUTOMATED DISTANCES **********

OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	DIST (m)	MAXIMUM 1-HR CONC (ug/m3)
1.00	0.1439	2524.99	0.3917E-02
25.00	0.1562	2550.00	0.3866E-02
50.01	0.1678	2575.00	0.3816E-02
75.00	0.1783	2600.00	0.3767E-02
100.00	0.1880	2625.01	0.3718E-02
125.00	0.1969	2650.00	0.3671E-02
150.01	0.1408	2675.00	0.3625E-02
174.99	0.1149	2700.00	0.3580E-02
200.00	0.9449E-01	2725.00	0.3536E-02
225.00	0.8082E-01	2750.00	0.3493E-02
250.00	0.7086E-01	2775.00	0.3450E-02
274.99	0.6316E-01	2800.00	0.3409E-02
300.00	0.5698E-01	2825.00	0.3368E-02
325.00	0.5191E-01	2850.00	0.3328E-02
350.00	0.4760E-01	2875.00	0.3289E-02
375.01	0.4392E-01	2900.00	0.3251E-02
400.00	0.4074E-01	2925.00	0.3214E-02
425.00	0.3793E-01	2950.00	0.3177E-02
450.00	0.3547E-01	2975.00	0.3141E-02
475.01	0.3326E-01	2999.99	0.3106E-02
500.00	0.3131E-01	3025.00	0.3071E-02
525.00	0.2952E-01	3050.00	0.3038E-02
550.00	0.2791E-01	3075.00	0.3004E-02
575.01	0.2645E-01	3100.00	0.2972E-02
599.99	0.2511E-01	3125.00	0.2940E-02
625.00	0.2389E-01	3150.00	0.2908E-02
650.00	0.2277E-01	3175.00	0.2923E-02
675.00	0.2174E-01	3200.00	0.2892E-02
700.00	0.2078E-01	3225.00	0.2861E-02
725.00	0.1989E-01	3250.00	0.2831E-02
750.00	0.1907E-01	3275.00	0.2802E-02
775.00	0.1831E-01	3300.00	0.2773E-02
800.01	0.1759E-01	3325.00	0.2744E-02
825.00	0.1692E-01	3350.00	0.2716E-02
850.00	0.1629E-01	3375.00	0.2689E-02
875.00	0.1571E-01	3400.00	0.2662E-02
900.01	0.1516E-01	3425.00	0.2635E-02
924.99	0.1464E-01	3450.00	0.2609E-02
950.00	0.1415E-01	3475.00	0.2583E-02
975.00	0.1369E-01	3500.00	0.2558E-02
1000.00	0.1325E-01	3525.00	0.2533E-02
1024.99	0.1284E-01	3550.00	0.2509E-02
1050.00	0.1244E-01	3575.00	0.2485E-02
1075.00	0.1207E-01	3600.00	0.2461E-02
1100.00	0.1172E-01	3625.00	0.2438E-02
1125.01	0.1139E-01	3650.00	0.2415E-02
1150.00	0.1107E-01	3675.00	0.2393E-02
1175.00	0.1077E-01	3700.00	0.2371E-02
1200.00	0.1047E-01	3725.00	0.2349E-02
1225.00	0.1020E-01	3750.00	0.2328E-02
1250.00	0.9931E-02	3775.00	0.2307E-02
1275.00	0.9677E-02	3800.00	0.2286E-02
1300.00	0.9435E-02	3825.00	0.2265E-02
1325.00	0.9204E-02	3850.00	0.2245E-02
1350.00	0.8983E-02	3875.00	0.2226E-02
1375.00	0.8771E-02	3900.00	0.2206E-02
1400.00	0.8568E-02	3925.00	0.2187E-02

1425.00	0.8372E-02	3950.00	0.2168E-02
1449.99	0.8183E-02	3975.00	0.2149E-02
1475.00	0.8001E-02	4000.00	0.2131E-02
1500.00	0.7825E-02	4025.00	0.2113E-02
1525.00	0.7657E-02	4050.00	0.2095E-02
1550.00	0.7494E-02	4075.00	0.2077E-02
1575.00	0.7337E-02	4100.00	0.2060E-02
1600.00	0.7186E-02	4125.00	0.2043E-02
1625.00	0.7040E-02	4150.00	0.2026E-02
1650.00	0.6900E-02	4175.00	0.2010E-02
1675.00	0.6764E-02	4200.00	0.1993E-02
1700.00	0.6633E-02	4225.00	0.1977E-02
1725.00	0.6506E-02	4250.00	0.1961E-02
1750.00	0.6384E-02	4275.00	0.1946E-02
1775.00	0.6265E-02	4300.00	0.1930E-02
1800.00	0.6150E-02	4325.00	0.1915E-02
1825.00	0.6039E-02	4350.00	0.1900E-02
1850.00	0.5931E-02	4375.00	0.1885E-02
1875.01	0.5827E-02	4400.00	0.1870E-02
1900.00	0.5725E-02	4425.00	0.1856E-02
1925.00	0.5627E-02	4450.00	0.1842E-02
1950.00	0.5531E-02	4475.00	0.1828E-02
1975.00	0.5438E-02	4500.00	0.1814E-02
2000.01	0.5347E-02	4525.00	0.1800E-02
2025.00	0.5259E-02	4550.00	0.1787E-02
2050.00	0.5173E-02	4575.00	0.1773E-02
2075.00	0.5091E-02	4600.00	0.1760E-02
2100.00	0.5011E-02	4625.00	0.1747E-02
2125.00	0.4933E-02	4650.00	0.1734E-02
2150.00	0.4857E-02	4675.00	0.1722E-02
2175.00	0.4783E-02	4700.00	0.1709E-02
2200.00	0.4710E-02	4725.00	0.1697E-02
2225.00	0.4640E-02	4750.00	0.1685E-02
2250.00	0.4571E-02	4774.99	0.1673E-02
2275.00	0.4504E-02	4800.00	0.1661E-02
2300.00	0.4438E-02	4825.00	0.1649E-02
2325.00	0.4374E-02	4850.00	0.1637E-02
2350.00	0.4311E-02	4875.00	0.1626E-02
2375.00	0.4251E-02	4900.00	0.1614E-02
2399.99	0.4191E-02	4925.00	0.1603E-02
2425.00	0.4134E-02	4950.00	0.1592E-02
2450.00	0.4078E-02	4975.00	0.1581E-02
2475.00	0.4023E-02	5000.00	0.1570E-02
2500.00	0.3970E-02		

********** AERSCREEN MAXIMUM IMPACT SUMMARY **********

3-hour, 8-hour, and 24-hour scaled
concentrations are equal to the 1-hour concentration as referenced in
SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY
IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)
Report number EPA-454/R-92-019
http://www.epa.gov/scram001/guidance_permit.htm
under Screening Guidance

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	0.1982	0.1982	0.1982	0.1982	N/A
DISTANCE FROM SOURCE	129.00 meters				
IMPACT AT THE AMBIENT BOUNDARY	0.1439	0.1439	0.1439	0.1439	N/A
DISTANCE FROM SOURCE	1.00 meters				

ATTACHMENT C

Cancer Risk Calculations

Air Quality Health Risk Calculations (Worst-Case)
Woodward 46 Unit (PDF Tier 4)

From CalEE Annual Output	Emission per day (Ton/Total Construction Duration)	**0.0074**
	Construction Start	**6/1/2025**
	Construction Complete	**8/7/2026**
	Days	**432**
	Construction Emission per day (lb/day)	**0.034259259**
	Annual Duration (Days)	**365**
	Annualized Emission Rate (Grams/Second)	**1.80E-04**
	Project Site Size (Acres)	**8.57**
	Project Site Size (meters^2)	**34681.55954**
	Length of Smalles Side (meters)	**186.2298567**
Used as an input to AERSCREEN	Emission Rate over Grading Area(g/s-m^2)	**1.97E-01**
From AERSCREEN*0.08	Concentration Annual (Ug/M^3)	**0.015752**

	Days	Days to years					
Duration	432	1.183561644					
Age (Years)	3rd Trimester (0.25)	0-2	2-9	2-16	16-30	16-70	
Cair (annual) - From F15	0.015752	0.015752	0.015752	0.015752	0.015752	0.015752	
Breathing Rate per agegroup BR/BW (Page 5-25)	361	1090	861	745	335	290	
A (Default is 1)	1	1	1	1	1	1	
Exposure Frequency = EF (days/365days)	0.96	0.96	0.96	0.96	0.96	0.96	
10^-6 Microgram to Milligram / liters to m3	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	
Dose-inh	0.00000546	0.00001648	0.00001302	0.00001127	0.00000507	0.00000439	
Construction Days	432	1.183561644					
potency factor for Diesel	1.1	1.1	1.1	1.1	1.1	1.1	
Age Sensitivity Factor	10	10	3	3	1	1	
ED	0.25	1.183561644	1.183561644	1.183561644	1.183561644	1.183561644	
AT	70	70	70	70	70	70	
FAH	0.85	0.85	0.72	0.72	0.73	0.73	
Risk for Each Age Group	1.82292E-07	2.60578E-06	5.23057E-07	4.52587E-07	6.87797E-08	5.95406E-08	
Risk per million Exposed	0.182292045	2.605780845	0.523057419	0.45258743	0.068779677	0.059540616	
Cancer Risk Over Construction Duration	2.79						