Air Quality Analysis for the Creek Plan Specific Plan Update San Marcos, California

EIR 2006121080

Prepared for the
City of San Marcos
1 Civic Center Drive
San Marcos, CA 92069
Contact: Sean del Solar

Prepared by
RECON Environmental, Inc.
3111 Camino del Rio North, Suite 600
San Diego, CA 92108
P 619.308.9333

RECON Number 10624
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Jessica Fleming
Senior Air Quality/Noise/GHG Specialist

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Acronyms and Abbreviations

°C	degrees Celsius
°F	degrees Fahrenheit
$\mu g/m^3$	micrograms per cubic meter
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ACC	Advanced Clean Cars
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAP	Climate Action Plan
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
City	City of San Marcos
CO	carbon monoxide
DPM	diesel particulate matter
NAAQS	National Ambient Air Quality Standards
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
O_3	ozone
Pb	lead
PM_{10}	particulate matter with an aerodynamic diameter of 10 microns or less
$PM_{2.5}$	particulate matter with an aerodynamic diameter of 2.5 microns or less
ppb	parts per billion
ppm	parts per million
project	Creek Plan Specific Plan Update
RAQS	Regional Air Quality Strategy
ROG	reactive organic gases
SANDAG	San Diego Association of Governments
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_X	oxides of sulfur
TAC	toxic air contaminants
TCM	Transportation Control Measures
U.S. EPA	U.S. Environmental Protection Agency
USC	United States Code
VOC	volatile organic compounds
ZEV	zero-emission vehicle

Executive Summary

The Creek Plan Specific Plan Update (project) is in the southwest central portion of the City of San Marcos (City), California. The previously certified San Marcos Creek Specific Plan and Floodway Improvement Project Environmental Impact Report (2007 EIR; State Clearinghouse No. 2006121080; certified June 24, 2007) addressed impacts associated with the adopted San Marcos Creek Specific Plan (Adopted Specific Plan). The project proposes to modify the Adopted Specific Plan to establish a renewed vision for a distinct, mixed-use district that would serve as the City's cultural focal point and provide a mix of residential opportunities that couples urban living with a connection to nature. The project includes a General Plan Amendment, Specific Plan Amendment, and Rezone.

This report discusses potential air quality impacts resulting from the project. A summary of the findings is provided below.

Air Quality Plans

The primary goal of the San Diego Air Pollution Control District's Regional Air Quality Strategy (RAQS) is to reduce ozone precursor emissions. Projects that propose development that is consistent with the growth anticipated by the San Diego Association of Governments' growth projections and the City General Plan would not conflict with the RAQS. In the event that a project would propose development that is less dense than anticipated by the growth projections, the project would likewise be consistent with the RAQS. The project would result in less development and less traffic generation when compared to the Adopted Specific Plan. As a result, as calculated in this analysis, the project would result in a decrease in emissions when compared to buildout of the Adopted Specific Plan for all criteria pollutants. Therefore, the project would not result in an increase in emissions that are not already accounted for in the 2022 RAQS. The project would not obstruct or conflict with implementation of the RAQS, and impacts would be less than significant.

Criteria Pollutant Emissions

The region is classified as an attainment area for all criterion pollutants except ozone, particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}), and particulate matter with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$). The San Diego Air Basin is a non-attainment area for the federal ozone standard, and a non-attainment area for the state ozone standards, the state PM_{10} standard, and the state $PM_{2.5}$ standard. Air quality impacts can result from the construction and operation of a project which results in emissions above air quality standards.

As calculated in this analysis, construction emissions associated with a hypothetical construction project are projected to be less than the applicable thresholds for all criteria pollutants. These thresholds are designed to provide limits below which project emissions would not significantly change regional air quality. Therefore, as project construction emissions would be below these limits, project construction would not result in a cumulatively considerable net increase in emissions of ozone, PM_{10}, or $PM_{2.5}$. Through implementation of San Diego Air Pollution Control District rules and regulations and existing state regulations, construction emissions associated with development consistent with the Specific Plan Update would not result in a cumulatively considerable net increase

of any criteria pollutant for which the project region is non-attainment. Construction-related impacts would be less than significant.

Long-term emissions of regional air pollutants occur from operational sources within the Planning Area. Total operational emissions from buildout of the entire Planning Area would exceed the project-level significance thresholds for carbon monoxide (CO), PM_{10}, and $PM_{2.5}$. However, project level standards are not appropriate for a program level analysis, as the thresholds are conservative and intended to ensure many individual projects would not obstruct the timely attainment of the national and state ambient air quality standards. At the program level, project-related operational emissions would be less than those associated with the Adopted Specific Plan for all criteria pollutants, and therefore the project would not obstruct attainment or result in an exceedance of the emissions estimates included in the RAQS. In general, the project would reduce air quality impacts through implementation of proposed goals and policies, as well as the Climate Action Plan reduction measures. However, it is possible that for certain projects, adherence to the regulations may not adequately protect air quality, and such projects would require additional measures to avoid or reduce significant air quality impacts. Operational impacts would be potentially significant. Implementation of mitigation measures MM AQ-1 would future development to demonstrate that operational emissions would not exceed the applicable thresholds. With implementation of mitigation measures MM AQ-1, impacts associated with operational emissions would be reduced to less than significant.

Sensitive Receptors

Sensitive land uses include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities. The nearest sensitive receptors include residential uses adjacent to and within the Planning Area, Valley Christian School, and San Marcos High School. Residential uses are as close as approximately 240 feet from the developable area. Valley Christian School is located within the Planning area, approximately 100 feet from the developable area, and San Marcos High School is located approximately 250 feet from the Planning Area. Additionally, the project would construct future residential uses on-site that would be exposed to future construction activities as projects come forward.

The project is not anticipated to result in a CO hot spot at Planning Area intersections. Diesel particulate matter generated by construction activities within the Planning Area is not anticipated to result in a significant health risk. Project construction would not expose sensitive receptors to substantial pollutant concentration. Additionally, no sensitive receptors are proposed within 500 feet of SR-78 or any other freeway or roadway carrying more than 100,000 vehicles per day. Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations, and impacts would be less than significant. No mitigation is required.

Odors

The project does not include heavy industrial or agricultural uses that are typically associated with objectionable odors. Construction activities would involve the use of diesel-powered construction

equipment. Diesel exhaust may be noticeable temporarily at adjacent properties; however, construction activities would be temporary. Therefore, odor impacts would be less than significant.

1.0 Introduction

The purpose of this report is to assess potential short-term and long-term local and regional air quality impacts resulting from development of the proposed Creek Plan Specific Plan Update (Specific Plan Update; project).

Air pollution affects all Southern Californians. Effects can include increased respiratory infections, increased discomfort, missed days from work and school, and increased mortality. Polluted air also damages agriculture and our natural environment.

The state of California is divided geographically into 15 air basins for managing the air resources of the state on a regional basis. Areas within each air basin are considered to share the same air masses and, therefore, are expected to have similar ambient air quality. The project site is located within the San Diego Air Basin (SDAB). The SDAB is currently classified as a federal non-attainment area for ozone, and a state non-attainment area for particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}), particulate matter with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$), and ozone (O_3).

Air quality impacts can result from the construction and operation of the project. Construction impacts are short term and result from fugitive dust, equipment exhaust, and indirect effects associated with construction workers and deliveries. Operational impacts can occur on two levels: regional impacts resulting from growth-inducing development or local hot-spot effects stemming from sensitive receivers being placed close to highly congested roadways. In the case of this project, operational impacts would be primarily due to emissions to the basin from mobile sources associated with vehicular travel along the roadways within the Planning Area.

The analysis of impacts is based on federal and state Ambient Air Quality Standards and is assessed in accordance with the guidelines, policies, and standards established by the City of San Marcos (City) and the San Diego Air Pollution Control District (SDAPCD). Project compatibility with the adopted air quality plan for the area is also assessed. Measures are recommended, as required, to reduce potentially significant impacts.

2.0 Project Location and Description

2.1 Project Location

The Creek District (Planning Area) is in the southwest central portion of the City of San Marcos (City), approximately one mile southwest of the City's Town Center, and one mile northwest of California State University, San Marcos. The Planning Area is generally bounded on the north by San Marcos Boulevard, on the south and west by Discovery Street, and on the east by Grand Avenue and State Route 78 (SR-78). A mix of commercial and industrial land uses are located north and east of the Planning Area, and residential uses and schools are located south and west of the Planning Area.

The northern portion of the Planning Area is generally developed with a mix of commercial, industrial, and residential uses and undeveloped lots, and the southern portion of the Planning Area is preserved as park and open space. Figure 1 shows the regional location. Figure 2 shows an aerial photograph of the project site and vicinity.

2.2 Project Background and History

The previously certified San Marcos Creek Specific Plan and Floodway Improvement Project Environmental Impact Report (2007 EIR; State Clearinghouse No. 2006121080; certified June 24, 2007) addressed impacts associated with the adopted San Marcos Creek Specific Plan (Adopted Specific Plan). The project analyzed in the 2007 EIR included three component parts: (1) a program-level analysis of implementation of the San Marcos Creek Specific Plan (Adopted Specific Plan); (2) project-level analyses of floodway improvements to San Marcos Creek, including hydraulic improvements to SR-78; and (3) roadway and infrastructure improvements. The Adopted Specific Plan was adopted in 2007 to provide a comprehensive vision for the Planning Area, along with goals, policies, and development standards to guide future public and private actions relating to the Planning Area's development and conservation of open space and natural resources (City of San Marcos 2007). The Adopted Specific Plan was found to be consistent with, and currently serves as an extension of, the San Marcos General Plan. The Adopted Specific Plan includes goals and policies specific to the Planning Area. Development within the Planning Area was also held to design guidelines and development standards focused on a transformation from its uncoordinated and underutilized condition into a vibrant, commercial, mixed-use town center.

Since 2007, several major events have impeded the feasibility of on-going private development in the Planning Area, including the following:

- Economic uncertainty, starting with the 2008 global financial crisis
- Dissolution of redevelopment agencies by the State of California (taking away an important funding source)
- Build-out of the adjacent University District/North City area
- Shifting market demands for retail and office space following the COVID-19 pandemic

2.3 Project Description

The project proposes to modify the Adopted Specific Plan to establish a renewed vision for a distinct, mixed-use district that would serve as the City's cultural focal point and provide a mix of residential opportunities that couples urban living with a connection to nature. The project includes a General Plan Amendment, Specific Plan Amendment, and Rezone.

2.3.1 Land Use

The Planning Area is organized into nine distinct land use districts, each intended to support a cohesive mix of housing, commercial activity, cultural amenities, and open space while maintaining compatibility with surrounding uses. Together, these districts establish a graduated range of residential intensities, mixed-use and commercial areas, parkland, and protected open space along

San Marcos Creek. The framework is designed to promote walkability, economic vitality, community gathering spaces, and environmental stewardship.

Housing (H-1): This district would accommodate lower-intensity, small-scale residential development featuring a variety of housing types, including small-lot subdivisions, cottage clusters, townhomes, duplexes, triplexes, and fourplexes. Developments are encouraged to integrate multiple compatible housing types within a single project to respond to site conditions, expand housing choice, and create varied streetscapes that reinforce a cohesive neighborhood character. Limited neighborhood-serving commercial uses are permitted as a secondary use, provided they do not involve late-night operations or activities that generate excessive noise .

Housing (H-2): This district would allow for medium-intensity housing consisting of garden apartments, stacked flats, and units wrapped around a parking structure. Commercial uses would be allowed as a secondary use. .

Housing (H-3): This district would allow for the highest-density housing within the plan area, at an urban scale, consisting of multi-level apartments and condominiums, generally constructed over a podium containing commercial uses and parking. Fully integrated mixed-use buildings are encouraged, with commercial and office uses occupying the ground floor and offices allowed on upper floors as well. The district would also accommodate horizontal mixed-use development approaches, where stand-alone commercial buildings are constructed on the same site as residential, with the uses able to share parking facilities..

Entertainment, Arts, and Culture (EAC): This district would provide areas for live entertainment venues, museums, art galleries, community centers, public plazas, and similar facilities serving a broad community. Complementary commercial uses are allowed.

Commercial (C): This district would incorporate a broad array of retail commercial, dining, service-oriented, and office business uses that serve local residents and San Marcos visitors. The focus would be on active commercial uses. Specifically prohibited are self-storage facilities and drive-through establishments.

Creekside Promenade (CSP): This district would apply to properties fronting Creekside Drive, where the back parts of properties may have a separate district applied. Commercial uses are required along the Creekside Drive frontage, with ground-floor uses consisting of those that benefit from views to the creek, such as restaurants and cafes with an outdoor dining component. Given the pedestrian-oriented character of this district, drive-through establishments would not be allowed. Rooftop active uses would be encouraged.

Unmodified Specific Plan Area (USPA): The USPA designation would apply to properties developed prior to 2025 and pursuant to the Adopted Specific Plan. As these properties would not be subject to redevelopment, the use regulations reflect the original intent of this sub-district: mixed-use development combining moderate-density housing with ground-floor commercial uses, with new flexibility for ground-floor uses.

Open Space – Parks (OS-P): This district would reflect existing park space and recreation uses along San Marcos Creek and allows for any future enhancement. The intent of this district would be development of trails, green space, and recreation equipment within these public spaces, with full public access. Parks and recreation uses would also be permitted within any of the other land use districts, except for Open Space-Conservation.

Open Space – Conservation (OS-C): In contrast to the Open Space-Parks district, the Open Space-Conservation district consist consists of natural open space areas that would not allow public access. The designated areas are intended to support habitat and flood control areas, including properties subject to conservation easements.

The project's land use plan is shown in Figure 3, and Table 1 identifies the nine districts with dedicated acreages. All districts except OS-P, OS-C, C, and CC would allow a mix of residential and commercial uses.

Table 1
Land Use Districts/Acreages

Land Use District	Area (acres)
H-1 (Lowest Intensity Housing Focused)	15.87
H-2 (Medium Intensity Housing Focused)	24.42
H-3 (Highest Intensity Housing Focused)	8.31
EAC (Entertainment, Arts, and Culture)	9.44
C (Commercial)	12.18
CSP(Creekside Promenade)	2.47
USPA (Unmodified Specific Plan Area)	8.01
OS-P (Open Space – Parks)	17.89
OS-C (Open Space – Conservation)	83.45

2.3.2 Mobility Concepts

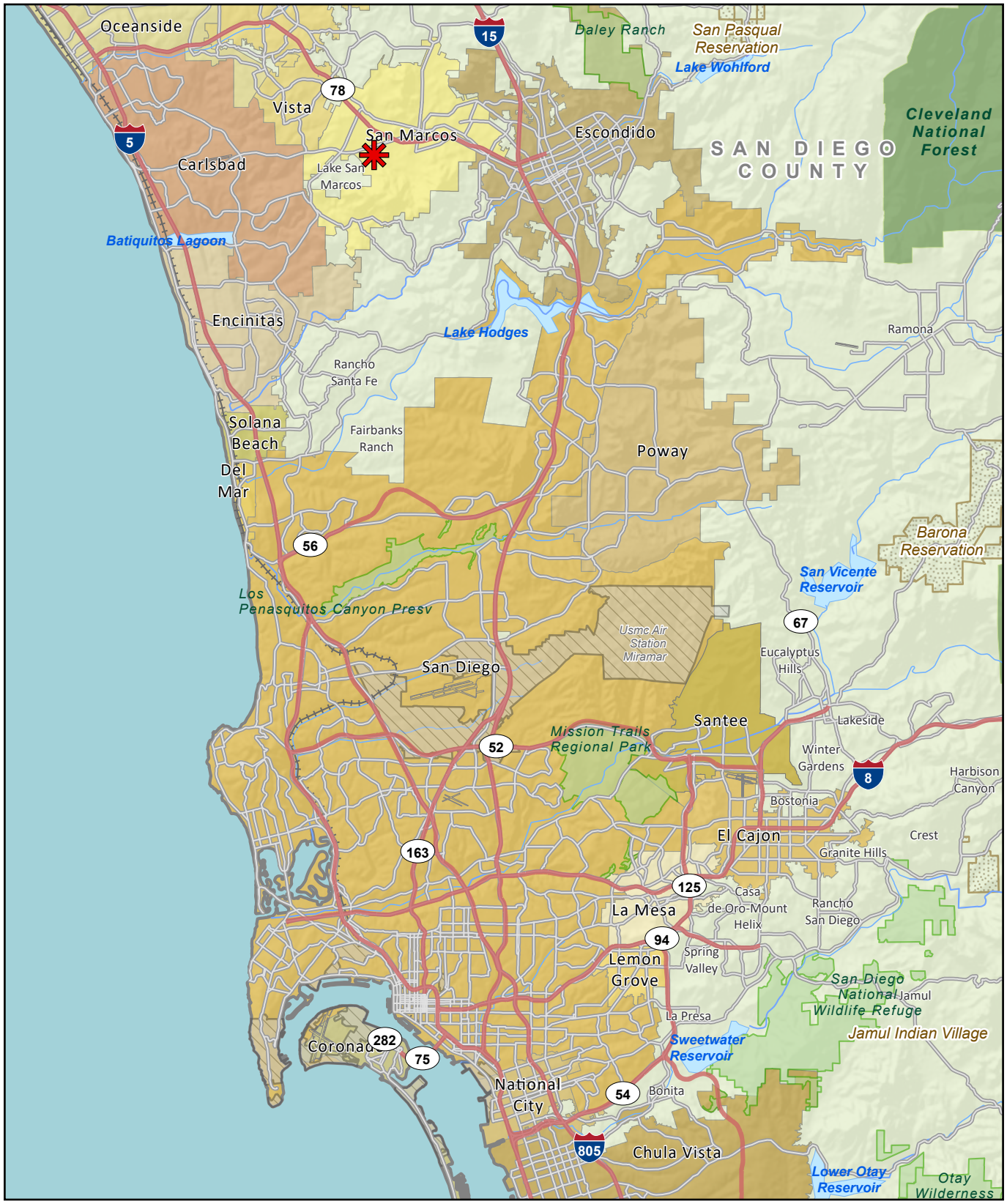
The Specific Plan Update includes a framework aimed at improving the internal circulation within the Planning Area. As an existing grid system, the street network currently consists of collectors and local access streets interconnected within a framework of primary, major, and secondary arterials that serve the Planning Area. The Specific Plan Update would improve opportunities to connect to planned regional bike routes and enhance access for cyclists and pedestrians. Additional connections to both light rail and regional transit would be encouraged. The proposed circulation system and its relationship to surrounding city and regional roadways is shown in Figure 4.

2.3.3 Development Potential

The general mix of land uses within the 214-acre Planning Area would remain the same under the Specific Plan Update compared to the Adopted Specific Plan. The Planning Area would continue to support commercial and mixed-use residential development along with designated open space and community amenities. Tables 2 and 3 summarize modification to the land use mix and development potential under both plans.

Table 2 Development Acreages		
Districts	Adopted Specific Plan (acres)	Specific Plan Update (acres)
Developable Areas (includes residential, commercial uses)	81.3	72.97
USPA	Included in acreages for development and parks	8.01
Open Space - Parks	20.6	17.89
Open Space - Conservation	73.6	83.45
ROW	38.5	31.96
Total	**214**	**214**

Table 3 Build-Out Projections		
Use	Adopted Specific Plan	Specific Plan Update
Population	6,831 residents	6,831 residents
Employment	2,530 jobs	1,312 jobs
Residential	2,760,000 sf/ 2300 DU	2,261,701 sf/ 2,300 DU
Commercial	1,265,000 sf	655,856 sf
DU = dwelling units, sf=square feet		



Project Location

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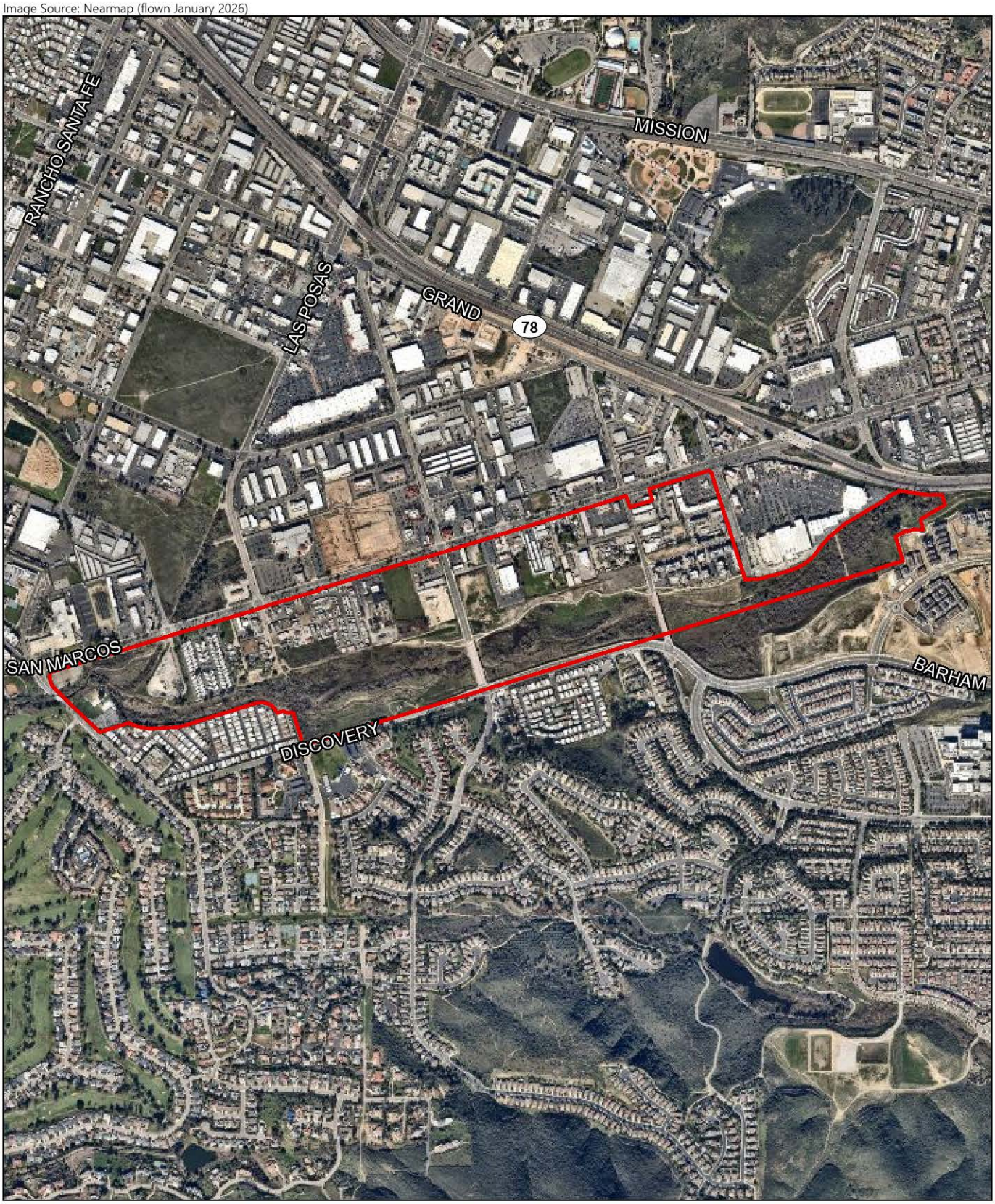
FIGURE 1
Regional Location

Image Source: Nearmap (flown January 2026)



0 Feet 1,400

Planning Area Boundary

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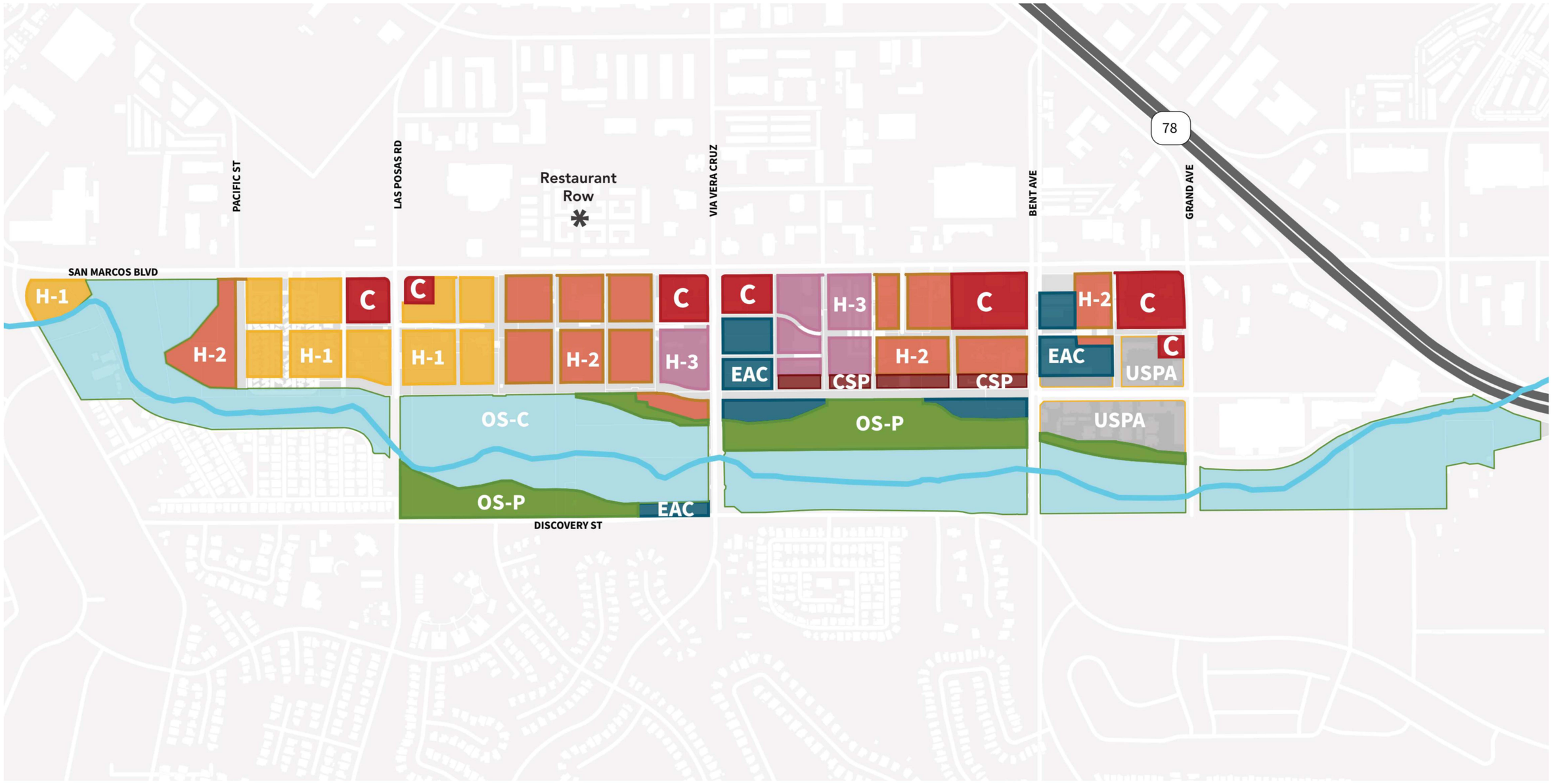
FIGURE 2
Project Location on Aerial Photograph



Plan Area Boundary
Creek

H-1: Lowest Intentisity Housing Focused
H-2: Medium Intensity Housing Focused
H-3: Highest Intensity Housing Focused
USPA: Unmodified Specific Plan Area

C: Commercial
CSP: Creekside Promenade
EAC: Entertainment, Arts, and Culture
OS-P: Open Space - Parks
OS-P: Open Space - Conservation

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FIGURE 3
Proposed Land Use Plan

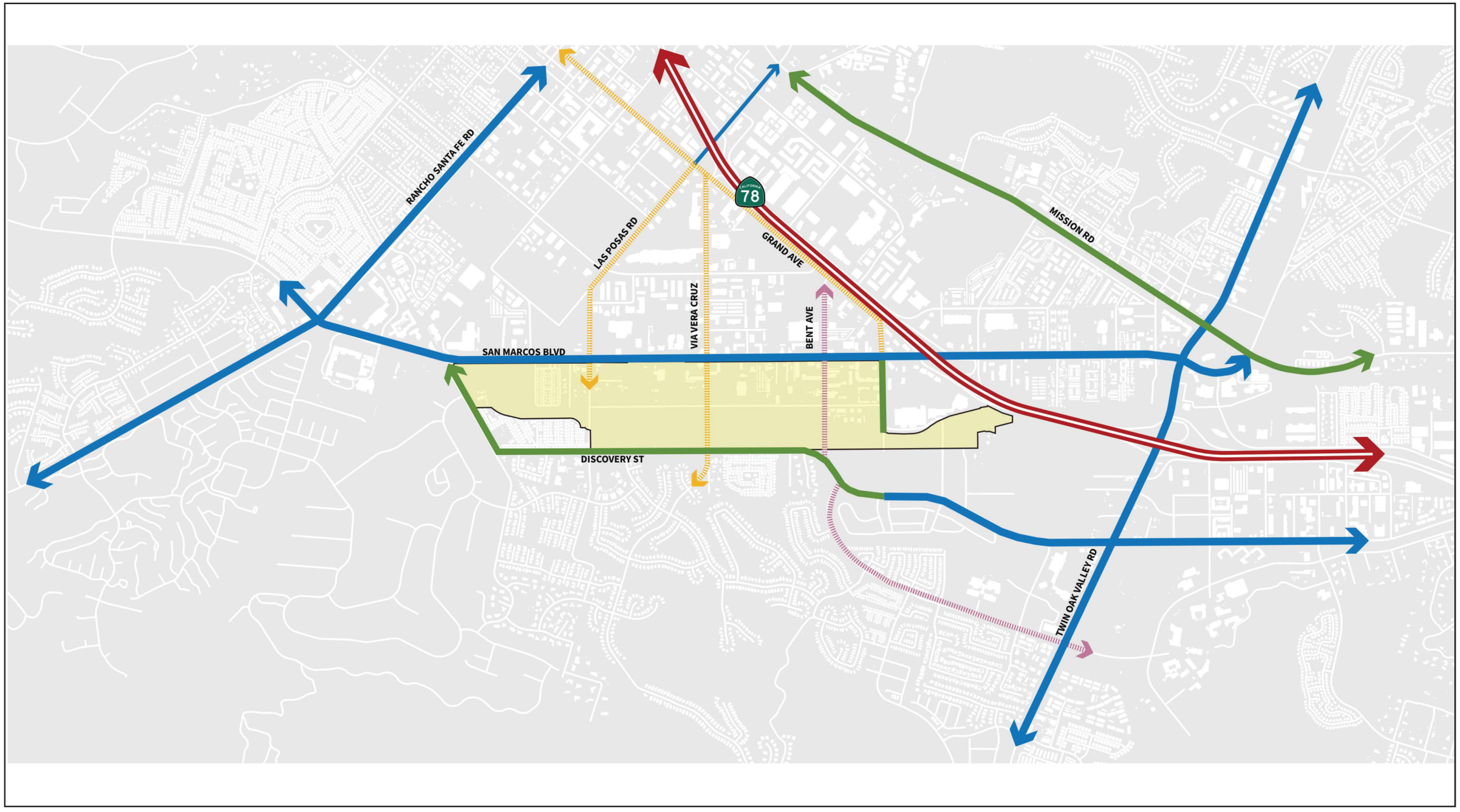

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FIGURE 4
Proposed Circulation System Use

3.0 Regulatory Framework

3.1 Federal Regulations

Ambient Air Quality Standards (AAQS) represent the maximum levels of background pollution considered safe, with an adequate margin of safety, to protect public health and welfare. The federal Clean Air Act (CAA) was enacted in 1970 and amended in 1977 and 1990 (42 United States Code [USC] 7401) for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. In 1971, in order to achieve the purposes of Section 109 of the CAA (42 USC 7409), the U.S. Environmental Protection Agency (U.S. EPA) developed primary and secondary National Ambient Air Quality Standards (NAAQS).

Six criteria pollutants of primary concern have been designated: ozone, carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), lead (Pb), and respirable particulate matter (PM_{10} and $PM_{2.5}$). The primary NAAQS ". . . in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health . . ." and the secondary standards ". . . protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air" (42 USC 7409[b][2]). The primary NAAQS were established, with a margin of safety, considering long-term exposure for the most sensitive groups in the general population (i.e., children, senior citizens, and people with breathing difficulties). The NAAQS are presented in Table 4 (California Air Resources Board [CARB] 2024).

An air basin is designated as either attainment or non-attainment for a particular pollutant. Once a non-attainment area has achieved the AAQS for a particular pollutant, it is redesignated as an attainment area for that pollutant. To be redesignated, the area must meet air quality standards for three consecutive years. After redesignation to attainment, the area is known as a maintenance area and must develop a 10-year plan for continuing to meet and maintain air quality standards, as well as satisfy other requirements of the federal CAA. The SDAB is a non-attainment area for the federal ozone standard.

There have been recent congressional actions that affect California emission standards. They include the following:

<u>Public Law No. 119-15</u>

- On June 12, 2025, Public Law 119-15, enacting House Joint Resolution 87, was signed into law. The law used the Congressional Review Act to nullify U.S. EPA's rule that had granted California a waiver to enforce stricter emissions standards for heavy-duty vehicles under the Clean Air Act. The disapproved rule included programs such as the Advanced Clean Trucks regulation and zero-emission requirements for airport shuttles. Passed under the Congressional Review Act, the law prevents U.S. EPA from implementing or reissuing the same or similar rules without new congressional authorization. This effectively blocks California, and other states that follow its standards, from enforcing these specific vehicle emission and warranty regulations.

Public Law No. 119-16

- Similarly on June 12, 2025, Public Law No. 119-16, enacting House Joint Resolution 88, became law. The law also relied on the Congressional Review Act to void the U.S. EPA's December 2024 waiver under the CAA that allowed California to implement and enforce the Advanced Clean Cars (ACC) II regulation. ACC II included a zero-emission vehicle (ZEV) mandate targeting 100 percent new light-duty ZEV sales by 2035. Public Law No. 119-16 marks the first ever occurrence that waivers under the CAA have been revoked under the Congressional Review Act. The implications of this law on the state's capability to enforce its independent fuel economy standards are uncertain at this time, as the California Attorney General is pursuing legal action challenging Public Law No. 119-16.

Public Law No. 119-17

- Public Law 119–17, enacted on June 12, 2025, disapproves, under the Congressional Review Act, the U.S. EPA's rule titled "California State Motor Vehicle and Engine and Nonroad Engine Pollution Control Standards; The 'Omnibus' Low NO_X Regulation; Waiver of Preemption; Notice of Decision." The law nullifies the U.S. EPA's January 6, 2025, Low-NO_X rule that would have granted California a waiver to enforce stricter emissions standards for both on-road and non-road heavy-duty engines. Similar to the other Congressional Review Act resolutions listed above targeting emissions waivers, this law prohibits the EPA from reissuing the same or substantially similar rule without new authorization from Congress. The law effectively blocks California, and any states following its standards, from implementing this omnibus Low-NO_X regulatory package.

3.2 State Regulations

3.2.1 Criteria Pollutants

The CARB has developed the California Ambient Air Quality Standards (CAAQS) and generally has set more stringent limits on the criteria pollutants than the NAAQS (see Table 4). In addition to the federal criteria pollutants, the CAAQS also specify standards for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride.

Similar to the federal CAA, the state classifies as either "attainment" or "non-attainment" areas for each pollutant based on the comparison of measured data with the CAAQS. The SDAB is a non-attainment area for the state ozone standards, the state PM_{10} standard, and the state $PM_{2.5}$ standard.

Table 4
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.07 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM_{10})[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		–		
Fine Particulate Matter ($PM_{2.5}$)[9]	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	9 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-dispersive Infrared Photometry	35 ppm (40 mg/m^3)	–	Non-dispersive Infrared Photometry
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–	–	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemi-luminescence	100 ppb (188 µg/m^3)	–	Gas Phase Chemi-luminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	–	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3 Hour	–		–	0.5 ppm (1,300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[11]	–	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	–		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chroma-tography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chroma-tography			

See footnotes on next page.

Table 4
Ambient Air Quality Standards

ppm = parts per million; ppb = parts per billion; μg/m^3 = micrograms per cubic meter; – = not applicable.

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, particulate matter (PM_{10}, $PM_{2.5}$, 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 PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m^3 is equal to or less than one. For $PM_{2.5}$, 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 measurement method which can be shown to the satisfaction of the CARB 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 U.S. 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 U.S. 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 February 7, 2024, the national annual $PM_{2.5}$ primary standard was lowered from 12.0 μg/m^3 to 9.0 μg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m^3, as was the annual secondary standards of 15 μg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/m^3 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 standards are in units of ppb. California standards are in units of ppm. To directly compare the national standards 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 SO_2 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 SO_2 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 non-attainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[12] The CARB 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/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated non-attainment 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 CARB 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: CARB 2024.

3.2.2 Toxic Air Contaminants

The public's exposure to toxic air contaminants (TACs) is a significant public health issue in California. Diesel-exhaust particulate matter emissions have been established as TACs. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (Assembly Bill [AB] 1807: Health and Safety Code Sections 39650–39674). The California Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process.

The California Air Toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk. Additionally, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly Bill) was enacted in 1987 and requires stationary sources to report the types and quantities of certain substances routinely released into the air.

The goals of the Air Toxics "Hot Spots" Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels.

The Children's Environmental Health Protection Act, California Senate Bill 25 (Chapter 731, Escutia, Statutes of 1999), focuses on children's exposure to air pollutants. The act requires CARB to review its air quality standards from a children's health perspective, evaluate the statewide air monitoring network, and develop any additional air toxic control measures needed to protect children's health. Locally, toxic air pollutants are regulated through the SDAPCD's Regulation XII. Of particular concern statewide are diesel-exhaust particulate matter emissions. Diesel-exhaust particulate matter was established as a TAC in 1998 and is estimated to represent a majority of the cancer risk from TACs statewide (based on the statewide average). Diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB and are listed as carcinogens either under the state's Proposition 65 or under the federal Hazardous Air Pollutants program.

Following the identification of diesel particulate matter (DPM) as a TAC in 1998, CARB has worked on developing strategies and regulations aimed at reducing the risk from DPM. The overall strategy for achieving these reductions is found in the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (CARB 2000). To monitor the effectiveness of the efforts to reduce DPM, CARB has supported field campaigns that measure real-world emissions from heavy-duty vehicles, and results indicate that regulations aimed at reducing emissions of DPM have been successful.

In April 2005, CARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005). The handbook makes recommendations directed at protecting sensitive land uses from air pollutant emissions while balancing a myriad of other land use issues (e.g., housing, transportation needs, economics). It notes that the handbook is not regulatory or binding on local agencies and recognizes that application takes a qualitative approach. As reflected in the

CARB Handbook, there is currently no adopted standard for the significance of health effects from mobile sources. Therefore, the CARB has provided guidelines for the siting of land uses near heavily traveled roadways. Of pertinence to this study, the CARB guidelines indicate that siting new sensitive land uses within 500 feet of a freeway or urban roads with 100,000 or more vehicles per day should be avoided when possible.

However, transit-oriented, infill, and compact development characterizes many communities located near heavily traveled roadways. This type of development pattern has many benefits, including reducing traffic. To address these issues, in April 2017, CARB published the *Technical Advisory: Strategies to Reduce Air Pollution Exposure Near High Volume Roadways* (Technical Advisory; CARB 2017). The Technical Advisory acknowledges the benefits of transit-oriented infill development, which often occurs adjacent to high-volume roadways, and identifies strategies to reduce exposure, including practices and technologies that reduce traffic emissions, increase dispersion of traffic pollution, and remove pollution from the air. Strategies that reduce traffic emissions include speed reduction mechanisms (e.g., reduced speed limits, speed bumps, roundabouts) and traffic signal management. Strategies that increase the dispersion of traffic emissions include land use designs that promote airflow and pollutant dispersion along street corridors, solid barriers (such as sound walls), and vegetation. Strategies that remove pollution from the air include indoor high efficiency filtration.

As an ongoing process, CARB will continue to establish new programs and regulations for the control of diesel particulate and other air-toxics emissions as appropriate. The continued development and implementation of these programs and policies will ensure that the public's exposure to DPM will continue to decline.

3.2.3 State Implementation Plan

The State Implementation Plan (SIP) is a collection of documents that set forth the state's strategies for achieving the NAAQS. In California, the SIP is a compilation of new and previously submitted plans, programs (air quality management plans, monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. The CARB is the lead agency for all purposes related to the SIP under state law. Local air districts and other agencies, such as the Department of Pesticide Regulation and the Bureau of Automotive Repair, prepare SIP elements and submit them to CARB for review and approval. The CARB then forwards SIP revisions to the U.S. EPA for approval and publication in the Federal Register. All the items included in the California SIP are listed in the Code of Federal Regulations (CFR) at 40 CFR 52.220.

The SDAPCD is responsible for preparing and implementing the portion of the SIP applicable to the SDAB. The SIP plans for San Diego County specifically include the Redesignation Request and Maintenance Plan for the 1997 National Ozone Standard for San Diego County (SDAPCD 2012), the 2004 Revision to the California State Implementation Plan for Carbon Monoxide–Updated Maintenance Plan for Ten Federal Planning Areas (CARB 2004), and the 2020 Plan for Attaining the National Ambient Air Quality Standard for Ozone in San Diego County (SDAPCD 2020).

3.2.4 The California Environmental Quality Act

Section 15125(d) of the California Environmental Quality Act (CEQA) Guidelines requires discussion of any inconsistencies between the project and applicable general plans and regional plans, including the applicable air quality attainment or maintenance plan (or SIP).

3.3 San Diego Air Pollution Control District

3.3.1 Regional Air Quality Strategy

The SDAPCD is the agency that regulates air quality in the SDAB. The SDAPCD prepared the Regional Air Quality Strategy (RAQS) in response to the requirements set forth in the California CAA AB 2595 (SDAPCD 1992) and the federal CAA. Motor vehicles are San Diego County's leading source of air pollution (SDAPCD 2022). In addition to these sources, other mobile sources include construction equipment, trains, and airplanes. Reducing mobile source emissions requires the technological improvement of existing mobile sources and the examination of future mobile sources, such as those associated with new or modification projects (e.g., retrofitting older vehicles with cleaner emission technologies). In addition to mobile sources, stationary sources also contribute to air pollution in the SDAB. Stationary sources include gasoline stations, power plants, dry cleaners, and other commercial and industrial uses. Stationary sources of air pollution are regulated by the local air pollution control or management district, in this case the SDAPCD.

The SDAPCD is responsible for preparing and implementing the RAQS. As part of the RAQS, the SDAPCD developed Transportation Control Measures (TCMs) for the air quality plan prepared by the San Diego Association of Governments (SANDAG) in accordance with AB 2595 and adopted by SANDAG on March 27, 1992, as Resolution Number 92-49 and Addendum. The RAQS and TCM set forth the steps needed to accomplish attainment of NAAQS and CAAQS. The most recent update of the RAQS and TCM occurred in 2022 (SDAPCD 2022).

3.3.2 Rules and Regulations

The SDAPCD has also established a set of rules and regulations initially adopted on January 1, 1969, and periodically reviewed and updated. The following rules and regulations are applicable to the project:

- **SDAPCD Regulation IV: Prohibitions; Rule 50: Visible Emissions.** Prohibits discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than three minutes in any period of 60 consecutive minutes that is darker in shade than that designated as Number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 1 on the Ringelmann Chart.

- **SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance.** Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property.

- **SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust.** Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site.

- **SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings.** Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce volatile organic compounds (VOC) emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

- **SDAPCD Regulation XII: Toxic Air Contaminates; Rule 1200: Toxic Air Contaminants – New Source Review.** Requires new or modified stationary source units with the potential to emit TACs above rule threshold levels to either demonstrate that they will not increase the maximum incremental cancer risk above one in one million at every receptor location, or demonstrate that toxics best available control technology will be employed if maximum incremental cancer risk is equal to or less than 10 in one million, or demonstrate compliance with SDAPCD's protocol for those sources with an increase in maximum incremental cancer risk at any receptor location of greater than 10 in one million but less than 100 in one million.

- **SDAPCD Regulation XII: Toxic Air Contaminates; Rule 1210: Toxic Air Contaminant Public Health Risks – Public Notification and Risk Reduction.** Requires each stationary source that is required to prepare a public risk assessment to provide written public notice of risks at or above the following levels: maximum incremental cancer risks equal to or greater than 10 in one million, or cancer burden equal to or greater than 1.0, or total acute non-cancer health hazard index equal to or greater than 1.0, or total chronic non-cancer health hazard index equal to or greater than 1.0.

3.4 City of San Marcos General Plan

Since certification of the 2007 EIR, the City adopted an updated General Plan on February 14, 2012. The General Plan policy framework addresses issues related to air quality. Future projects within the Planning Area would be required to adhere to all relevant General Plan goals and policies, examples of which are summarized herein. This is not an all-inclusive list, and future project proponents are required to review the General Plan to ensure project consistency.

Conservation and Open Space Element

- **Goal COS-4: Improve regional air quality and reduce greenhouse gas emissions that contribute to climate change.**

- Policy COS-4.1: Continue to work with the U.S. Environmental Protection Agency (U.S. EPA), California Air Resources Board, SANDAG, and the San Diego Air Pollution Control District (SDAPCD) to meet State and federal ambient air quality standards.
- Policy COS-4.2: Require new sensitive-use development, such as schools, day care centers, and hospitals, located near mobile and stationary toxic air contaminants be designed with consideration of site and building orientation, location of trees, and incorporation of appropriate technology (i.e., ventilation and filtration) for improved air quality to lessen any potential health risks.

Environmental Justice Element

- Goal EJ-1: Reduce greenhouse gas emissions, enhance air quality, and reduce impacts associated with climate change.
  - Policy EJ-1.9: Continue to work with the U.S. EPA, CARB, SANDAG, and the SDAPCD to meet State and federal ambient air quality standards.

4.0 Environmental Setting

4.1 Geographic Setting

The Planning Area is about seven miles east of the Pacific Ocean. The eastern portion of the SDAB is surrounded by mountains to the north, east, and south. These mountains tend to restrict airflow and concentrate pollutants in the valleys and low-lying areas below.

4.2 Climate

The Planning Area, like the rest of San Diego County, has a Mediterranean climate characterized by warm, dry summers and mild winters. The mean annual temperature for the Planning Area is 63 degrees Fahrenheit (°F). The average annual precipitation is 10 inches, falling primarily from November to April. Winter low temperatures in the Planning Area average about 47°F, and summer high temperatures average about 75°F (National Oceanic and Atmospheric Administration 2024).

The dominant meteorological feature affecting the region is the Pacific High Pressure Zone, which produces the prevailing westerly to northwesterly winds. These winds tend to blow pollutants away from the coast toward the inland areas. Consequently, air quality near the coast is generally better than that which occurs at the base of the coastal mountain range.

Fluctuations in the strength and pattern of winds from the Pacific High Pressure Zone interacting with the daily local cycle produce periodic temperature inversions that influence the dispersal or containment of air pollutants in the SDAB. Beneath the inversion layer pollutants become “trapped” as their ability to disperse diminishes. The mixing depth is the area under the inversion layer. Generally, the morning inversion layer is lower than the afternoon inversion layer. The greater the

change between the morning and afternoon mixing depths, the greater the ability of the atmosphere to disperse pollutants.

Throughout the year, the height of the temperature inversion in the afternoon varies between approximately 1,500 and 2,500 feet above mean sea level. In winter, the morning inversion layer is about 800 feet above mean sea level. In summer, the morning inversion layer is about 1,100 feet above mean sea level. Therefore, air quality generally tends to be better in the winter than in the summer.

The prevailing westerly wind pattern is sometimes interrupted by regional "Santa Ana" conditions. A Santa Ana occurs when a strong high pressure develops over the Nevada-Utah area and overcomes the prevailing westerly coastal winds, sending strong, steady, hot, dry northeasterly winds over the mountains and out to sea.

Strong Santa Anas tend to blow pollutants out over the ocean, producing clear days. However, at the onset or during breakdown of these conditions, or if the Santa Ana is weak, local air quality may be adversely affected. In these cases, emissions from the South Coast Air Basin to the north are blown out over the ocean, and low pressure over Baja California draws this pollutant-laden air mass southward. As the high pressure weakens, prevailing northwesterly winds reassert themselves and send this cloud of contamination ashore in the SDAB. When this event does occur, the combination of transported and locally produced contaminants produce the worst air quality measurements recorded in the basin.

4.3 Existing Air Quality

Air quality at a particular location is a function of the kinds, amounts, and dispersal rates of pollutants being emitted into the air locally and throughout the basin. The major factors affecting pollutant dispersion are wind speed and direction, the vertical dispersion of pollutants (which is affected by inversions), and the local topography.

Air quality is commonly expressed as the number of days in which air pollution levels exceed state standards set by the CARB or federal standards set by the U.S. EPA. The SDAPCD currently maintains nine air quality monitoring stations located throughout the greater San Diego metropolitan region. Air pollutant concentrations and meteorological information are continuously recorded at these stations. Measurements are then used by scientists to help forecast daily air pollution levels.

The Camp Pendleton monitoring station, located at 21441 West B Street, approximately 13 miles northwest of the project site, is the nearest station to the project site. The Camp Pendleton monitoring station measures ozone (O_3), nitrogen dioxide (NO_2), and $PM_{2.5}$. The closest station of the project site that has more complete $PM_{2.5}$ data is the San Diego–Kearny Villa Road monitoring station located at 6125A Kearny Villa Road, approximately 20 miles south of the project site. The San Diego–Kearny Villa Road monitoring station measures ozone, NO_2, and $PM_{2.5}$. Table 5 provides a summary of measurements collected at the Camp Pendleton and Kearny Villa Road monitoring station for the years 2020 through 2024.

Table 5
Summary of Air Quality Measurements Recorded at the Camp Pendleton and Kearny Villa Road Monitoring Stations

Pollutant/Standard	2020	2021	2022	2023	2024
CAMP PENDLETON MONITORING STATION					
Ozone					
Federal Max 8-hr (ppm)	0.074	0.059	0.067	0.077	0.065
Days 2015 Federal 8-hour Standard Exceeded (0.07 ppm)	3	0	0	1	0
Days 2008 Federal 8-hour Standard Exceeded (0.075 ppm)	0	0	0	1	0
State Max 8-hr (ppm)	0.074	0.059	0.067	0.077	0.065
Days State 8-hour Standard Exceeded (0.07 ppm)	3	0	0	1	0
Max. 1-hour (ppm)	0.094	0.074	0.076	0.090	0.074
Days State 1-hour Standard Exceeded (0.09 ppm)	0	0	0	0	0
Nitrogen Dioxide					
Max 1-hour (ppm)	0.058	0.059	0.0504	0.0632	0.0454
Days State 1-hour Standard Exceeded (0.18 ppm)	0	0	0	0	0
Days Federal 1-hour Standard Exceeded (0.100 ppb)	0	0	0	0	0
Annual Average (ppm)	0.006	--	0.005	0.005	0.004
$PM_{2.5}$*					
Federal Max. Daily ($\mu g/m^3$)	--	--	17.0	26.5	25.8
Measured Days Federal 24-hour Standard Exceeded (35 $\mu g/m^3$)	--	--	0	0	0
Calculated Days Federal 24-hour Standard Exceeded (35 $\mu g/m^3$)	--	--	--	0.0	0.0
Federal Annual Average ($\mu g/m^3$)	--	--	--	7.8	7.6
State Max. Daily ($\mu g/m^3$)	61.1	20.7	17.7	--	--
State Annual Average ($\mu g/m^3$)	9.5	--	--	--	--
SAN DIEGO – KEARNY VILLA ROAD MONITORING STATION					
Ozone					
Federal Max 8-hr (ppm)	0.102	0.071	0.083	0.079	0.080
Days 2015 Federal 8-hour Standard Exceeded (0.07 ppm)	10	1	2	3	3
Days 2008 Federal 8-hour Standard Exceeded (0.075 ppm)	6	0	1	1	1
State Max 8-hr (ppm)	0.102	0.072	0.083	0.080	0.081
Days State 8-hour Standard Exceeded (0.07 ppm)	12	2	2	3	3
Max. 1-hour (ppm)	0.123	0.095	0.095	0.091	0.112
Days State 1-hour Standard Exceeded (0.09 ppm)	2	1	1	0	2
Nitrogen Dioxide					
Max 1-hour (ppm)	0.052	0.060	0.0512	0.0384	0.0421
Days State 1-hour Standard Exceeded (0.18 ppm)	0	0	0	0	0
Days Federal 1-hour Standard Exceeded (0.100 ppb)	0	0	0	0	0
Annual Average (ppm)	0.007	0.007	0.008	0.006	0.005
$PM_{2.5}$*					
Federal Max. Daily ($\mu g/m^3$)	57.5	20.9	13.9	24.5	21.1
Measured Days Federal 24-hour Standard Exceeded (35 $\mu g/m^3$)	2	0	0	0	0
Calculated Days Federal 24-hour Standard Exceeded (35 $\mu g/m^3$)	5.8	0.0	0.0	0.0	0.0
Federal Annual Average ($\mu g/m^3$)	8.7	7.6	6.8	7.0	8.0
State Max. Daily ($\mu g/m^3$)	--	--	--	--	--
State Annual Average ($\mu g/m^3$)	--	--	--	--	--

SOURCE: CARB 2025.
ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter; -- = Not available.
* Calculated days value. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

4.3.1 Ozone

Nitrogen oxides (NO_X) and hydrocarbons (reactive organic gases [ROG]) are known as the chief "precursors" of ozone. These compounds react in the presence of sunlight to produce ozone, which is the primary air pollution problem in the SDAB. Because sunlight plays such an important role in its formation, ozone pollution—or smog—is mainly a concern during the daytime in summer months. The SDAB is currently designated a federal and state non-attainment area for ozone. During the past three decades, San Diego had experienced a decline in the number of days with unhealthy levels of ozone despite the region's growth in population and vehicle miles traveled (SDAPCD 2022).

About half of smog-forming emissions come from automobiles. Population growth in San Diego has resulted in a large increase in the number of automobiles expelling ozone-forming pollutants while operating on area roadways. In addition, the occasional transport of smog-filled air from the South Coast Air Basin only adds to the SDAB's ozone problem. Stricter automobile emission controls, including more efficient automobile engines, have played a large role in why ozone levels have steadily decreased.

The adverse health effects associated with exposure to ozone pertain primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect not only sensitive receptors, such as asthma sufferers and children, but healthy adults as well. Exposure to ozone has been found to significantly alter lung functions by increasing respiratory rates and pulmonary resistance, decreasing tidal volumes (the amount of air inhaled and exhaled), and impairing respiratory mechanics. Symptomatic responses include throat dryness, chest tightness, headache, and nausea.

4.3.2 Carbon Monoxide

The SDAB is classified as a state attainment area and as a federal maintenance area for CO. Until 2003, no violations of the state standard for CO had been recorded in the SDAB since 1991, and no violations of the national standard had been recorded in the SDAB since 1989. The violations that took place in 2003 were likely the result of massive wildfires that occurred throughout the county. No violations of the state or federal CO standards have occurred since 2003.

Small-scale, localized concentrations of CO above the state and national standards have the potential to occur at intersections with stagnation points such as those that occur on major highways and heavily traveled and congested roadways. Localized high concentrations of CO are referred to as "CO hot spots" and are a concern at congested intersections, where automobile engines burn fuel less efficiently and their exhaust contains more CO.

Adverse health effects associated with high concentrations of CO include the reduction of the oxygen-carrying capacity of the blood, which can cause headaches, nausea, dizziness, and fatigue; impair central nervous system function; and induce angina (chest pain) in persons with serious heart disease. CO exposure is especially harmful to individuals who suffer from cardiovascular and respiratory diseases. Very high levels of CO can be fatal.

4.3.3 Nitrogen Dioxide

Nitrogen dioxide is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. The national and state standards for NO_2 are being met in the SDAB. Inhalation is the most common route of exposure to NO_2. Because NO_2 has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects depends primarily on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation during or shortly after exposure. After a period of approximately 4 to 12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat.

4.3.4 Sulfur Dioxide

Sulfur dioxide is a combustion product, with the primary source being power plants and heavy industries that use coal or oil as fuel. SO_2 is also a product of diesel engine combustion. The national and state standards for SO_2 are being met in the SDAB. The health effects of SO_2 include lung disease and breathing problems for people with asthma. SO_2 in the atmosphere contributes to the formation of acid rain.

4.3.5 Particulate Matter

Particulate matter (PM) is a complex mixture of microscopic solid or liquid particles including chemicals, soot, and dust. Anthropogenic sources of direct particulate emissions include crushing or grinding operations, dust stirred up by vehicle traffic, and combustion sources such as motor vehicles, power plants, wood burning, forest fires, agricultural burning, and industrial processes. Additionally, indirect emissions may be formed when aerosols react with compounds found in the atmosphere.

Health studies have shown a significant association between exposure to particulate matter and premature death in people with heart or lung diseases. Other important effects include aggravation of respiratory and cardiovascular disease, lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems such as heart attacks and irregular heartbeat (U.S. EPA 2025).

As its properties vary based on the size of suspended particles, particulate matter is generally categorized as PM_{10} or $PM_{2.5}$.

PM_{10}, occasionally referred to as “inhalable coarse particles” has an aerodynamic diameter of about one-seventh of the diameter of a human hair. High concentrations of PM_{10} are often found near roadways, construction, mining, or agricultural operations.

$PM_{2.5}$, occasionally referred to as “inhalable fine particles” has an aerodynamic diameter of about one-thirtieth of the diameter of a human hair. $PM_{2.5}$ is the main cause of haze in many parts of the U.S. Federal standards applicable to $PM_{2.5}$ were first adopted in 1997.

4.3.6 Lead

Lead is a metal found naturally in the environment as well as in manufactured products. At high levels of exposure, lead can have detrimental effects on the central nervous system. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase out of leaded gasoline, metal processing is currently the primary source of lead emissions. The previous standards for lead are being met in the SDAB.

4.3.7 Other Criteria Pollutants

The SDAB is in attainment of the state standards for vinyl chloride, hydrogen sulfide, sulfates, and visibility-reducing particulates.

5.0 Thresholds of Significance

Thresholds used to evaluate potential impacts to air quality are based on applicable criteria in the CEQA Guidelines Appendix G. The project would have a significant air quality impact if it would:

1. Obstruct or conflict with the implementation of the RAQS.
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Result in other emissions such as those leading to odors adversely affecting a substantial number of people.

The City has not adopted air quality significance thresholds. The SDAPCD also does not provide specific numeric thresholds for determining the significance of air quality impacts under CEQA. However, the SDAPCD does specify Air Quality Impact Analysis trigger levels for new or modified stationary sources (SDAPCD Rules 20.1, 20.2, and 20.3). The SDAPCD does not consider these trigger levels to represent adverse air quality impacts, rather, if these trigger levels are exceeded by a project, the SDAPCD requires an air quality analysis to determine if a significant air quality impact would occur. While these trigger levels do not generally apply to mobile sources or general land development projects, for comparative purposes these levels are used to evaluate the increased emissions that would be discharged to the SDAB if the project were approved. The air quality impact screening levels used in this analysis are shown in Table 6.

Table 6 Air Quality Impact Screening Levels			
	Emission Rate		
Pollutant	Pounds/Hour	Pounds/Day	Tons/Year
NO_X	25	250	40
SO_X	25	250	40
CO	100	550	100
PM_{10}	--	100	15
Lead	--	3.2	0.6
VOC, ROG[1]	--	250	--
$PM_{2.5}$	--	67	10
SOURCE: SDAPCD, Rules 20.1, 20.2, 20.3. [1]ROG threshold based on federal General Conformity *de minimus* levels for ozone precursors.			

6.0 Air Quality Calculations

Air quality impacts can result from the construction and operation of a project which results in emissions above air quality standards. Construction impacts are short term and result from fugitive dust, equipment exhaust, and indirect effects associated with construction workers and deliveries. Operational impacts can occur on two levels: regional impacts resulting from development or local effects stemming from sensitive receivers being placed close to roadways or stationary sources.

Construction and operation air emissions were calculated using California Emissions Estimator Model (CalEEMod) 2022.1.44 (California Air Pollution Control Officers Association 2022). The CalEEMod program is a tool used to estimate air emissions resulting from land development projects based on California-specific emission factors. The model estimates mass emissions from two basic sources: construction sources and operational sources (i.e., area, energy, and mobile sources). Construction emissions were calculated for a hypothetical project that could be constructed under the project. Operational emissions were calculated for both buildout of the project and buildout of the Adopted Specific Plan.

Inputs to CalEEMod include such items as the air basin containing the project, land uses, trip generation rates, trip lengths, vehicle fleet mix (i.e., percentage of autos, medium truck), trip destination (i.e., percent of trips from home to work), duration of construction phases, construction equipment usage, grading areas, season, and ambient temperature, as well as other parameters. The CalEEMod output files contained in Attachments 1 through 3 indicate the specific outputs for each model run. Emissions of NO_X, CO, SO_X, PM_{10}, $PM_{2.5}$, and ROG are calculated. Emission factors are not available for lead, and consequently, lead emissions are not calculated. The SDAB is currently in attainment of the federal and state lead standards. Furthermore, fuel used in construction equipment and most other vehicles is not leaded. Note that the 2007 EIR did not calculate emissions of $PM_{2.5}$ even though $PM_{2.5}$ NAAQS were adopted in 1997 and CAAQS were adopted in 2002 because no screening-level thresholds for this pollutant were identified. Based on more recent methodologies and thresholds, $PM_{2.5}$ emissions associated with both the project and the Adopted Specific Plan were calculated in this analysis.

6.1 Construction Emissions

Construction-related activities are temporary, short-term sources of air emissions. Sources of construction-related air emissions include the following:

- Fugitive dust from grading activities
- Construction equipment exhaust
- Construction-related trips by workers, delivery trucks, and material-hauling trucks
- Construction-related power consumption

Construction-related pollutants result from dust raised during demolition, grading, emissions from construction vehicles, and chemicals used during construction. Fugitive dust emissions vary greatly during construction and are dependent on the amount and type of activity, silt content of the soil, and the weather. Vehicles moving over paved and unpaved surfaces, demolition, excavation, earth movement, grading, and wind erosion from exposed surfaces are all sources of fugitive dust. Construction operations are subject to the requirements established in Regulation 4, Rules 52, 54, and 55 of the SDAPCD's rules and regulations.

Heavy-duty construction equipment is usually diesel powered. In general, emissions from diesel-powered equipment contain more NO_X, SO_X, and particulate matter than gasoline-powered engines. However, diesel-powered engines generally produce less CO and less ROG than gasoline-powered engines. Standard construction equipment includes tractors/loaders/backhoes, rubber-tired dozers, excavators, graders, cranes, forklifts, rollers, paving equipment, generator sets, welders, cement and mortar mixers, and air compressors.

Air pollutants generated by future development within the Planning Area would vary depending upon the number of projects occurring simultaneously and the size of each individual project. The exact number and timing of all development projects that could occur under project buildout are unknown. As such, construction-related emissions cannot be accurately determined at the program level of analysis. However, typical construction emissions associated with a typical project that could be developed were calculated to illustrate the potential construction-related air quality impacts that could occur. The hypothetical project analyzed is a five-acre mixed-use development consisting of the demolition of a 20,000-square-foot structure, the export of 10,000 cubic yards of soil, and the construction of 275 multi-family residential units (which is based on the maximum density of 55 du/acre in the H-3 land use district) and 20,000 square feet of retail uses. As the project does not specifically identify any specific development project, CalEEMod default estimates were used to develop the construction scenario. Emissions were modeled for the soonest construction start year of 2027. This is conservative since statewide regulations on construction fleets generally result in emissions that decrease over time. The results are summarized in Table 7. CalEEMod output is provided in Attachment 1.

Table 7 Maximum Daily Construction Emissions (pounds per day)						
Construction	Pollutant					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Demolition	2	21	20	<1	2	1
Site Preparation	3	28	29	<1	9	5
Grading	2	20	20	<1	5	2
Building Construction	2	11	22	<1	2	1
Paving	1	6	9	<1	<1	<1
Architectural Coatings	89	1	3	<1	<1	<1
Maximum Daily Emissions	**89**	**28**	**29**	**<1**	**9**	**5**
Significance Threshold	*250*	*250*	*550*	*250*	*100*	*67*

As shown in Table 7, maximum daily construction emissions associated with the hypothetical construction project are projected to be less than the applicable thresholds for all criteria pollutants.

6.2 Operation Emissions

Mobile source emissions would originate from traffic generated by the project. Energy source emissions result from the combustion of natural gas. Area source emissions would result from the use of consumer products, architectural coatings, and landscaping activities. For comparison to the analysis provided in the 2007 EIR, operational emissions were calculated for both buildout of the project and buildout of the Adopted Specific Plan.

6.2.1 Mobile Source Emissions

Mobile source operational emissions are based on the trip rate and trip length. Table 8 summarizes the trip generation and VMT associated with buildout of the project and the Adopted Specific Plan (Intersecting Metrics 2026a and 2026b). Default vehicle emission factors for the buildout year of 2050 were used.

Table 8 Trip Generation and Vehicle Miles Traveled				
Land Use	Adopted Specific Plan		Specific Plan Update	
	Trips	VMT	Trips	VMT
Residential	12,420	83,249	11,480	81,574
Commercial	101,682	568,632	65,888	375,562
Total	114,102	651,881	77,368	457,136
SOURCE: Intersecting Metrics 2026a and 2026b				

6.2.2 Area Source Emissions

Area source emissions associated with the project include consumer products, architectural coatings, and landscaping equipment. Hearths (fireplaces) and woodstoves are also a source of area emissions; however, no fireplaces or woodstoves were modeled. Consumer products are chemically formulated products used by household and institutional consumers, including, but not limited to, detergents, cleaning compounds, polishes, floor finishes, disinfectants, sanitizers, and aerosol paints but not including other paint products, furniture coatings, or architectural coatings. Emissions due to consumer products are calculated using total building area and product emission factors.

For architectural coatings, emissions result from evaporation of solvents contained in surface coatings such as in paints and primers. Emissions are based on the building surface area, architectural coating emission factors, and a reapplication rate of 10 percent of area per year. Landscaping maintenance includes fuel combustion emission from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers as well as air compressors, generators, and pumps. Emission calculations take into account building area, equipment emission factors, and the number of operational days (summer days).

6.2.3 Energy Source Emissions

Energy sources of emissions include natural gas used in space and water heating. Emissions are generated from the combustion of natural gas used in space and water heating. Emissions are based on the Residential Appliance Saturation Survey which is a comprehensive energy use assessment that includes the end use for various climate zones in California. The Specific Plan Update includes development and design standards that would apply to all future development within the Planning Area. These standards include all-electric development with no natural gas appliances. However, as a conservative quantification of emissions, energy-source emissions associated with natural gas were modeled using CalEEMod default assumptions.

6.2.4 Total Operational Emissions

Table 9 provides a summary of the operational emissions generated by the Adopted Specific Plan and the project. CalEEMod output files for project operation are contained in Attachment 2. CalEEMod output files for Adopted Specific Plan operation are contained in Attachment 3. As shown, project-related operational emissions would be less than those associated with the Adopted Specific Plan for all criteria pollutants.

Table 9 Maximum Daily Operational Emissions						
Scenario/Source	Emissions (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Adopted Specific Plan						
Summer						
Mobile	218	117	1,495	4	461	118
Area	113	2	186	<1	<1	<1
Energy	<1	6	3	<1	<1	<1
Total Daily Emissions[1]	**331**	**124**	**1,684**	**4**	**462**	**119**
Winter						
Mobile	218	129	1,419	4	461	118
Area	93	<1	<1	<1	<1	<1
Energy	<1	6	3	<1	<1	<1
Total Daily Emissions[1]	**311**	**135**	**1,422**	**4**	**462**	**119**
Specific Plan Update						
Summer						
Mobile	149	81	1,040	3	324	82
Area	84	1	160	<1	<1	<1
Energy	<1	5	2	<1	<1	<1
Total Daily Emissions[1]	**233**	**87**	**1,202**	**3**	**324**	**83**
Winter						
Mobile	148	89	984	2	324	82
Area	68	<1	<1	<1	<1	<1
Energy	<1	5	2	<1	<1	<1
Total Daily Emissions[1]	**216**	**94**	**987**	**3**	**324**	**83**
Difference (Adopted Specific Plan – Specific Plan Update)						
Summer	-99	-37	-482	-1	-138	-35
Winter	-95	-41	-435	-1	-187	-35

[1] Emissions were rounded to the nearest whole number. Emissions reported as <1 indicate that emissions were calculated to be less than 0.5 pound per day.

7.0 Project Impacts, Significance, and Mitigation Measures/Project Design Features

7.1 Threshold 1: Air Quality Plans

Would the project obstruct or conflict with the implementation of the RAQS?

7.1.1 Analysis of Impacts

The RAQS is the applicable regional air quality plan that sets forth the SDAPCD's strategies for achieving the NAAQS and CAAQS. The SDAB is designated non-attainment for the federal and state ozone standard. Accordingly, the RAQS was developed to identify feasible emission control

measures and provide expeditious progress toward attaining the standards for ozone. The two pollutants addressed in the RAQS are ROG and NO_X, which are precursors to the formation of ozone. Projected increases in motor vehicle usage, population, and growth create challenges in controlling emissions and by extension to maintaining and improving air quality. The RAQS was most recently updated in 2022.

The growth projections used by the SDAPCD to develop the RAQS emissions budgets are based on the population, vehicle trends, and land use plans developed in general plans and used by SANDAG in the development of the regional transportation plans and sustainable communities strategy. As such, projects that propose development that is consistent with the growth anticipated by SANDAG's growth projections and/or the general plan would not conflict with the RAQS. In the event that a project would propose development that is less dense than anticipated by the growth projections, the project would likewise be consistent with the RAQS. In the event a project proposes development that is greater than anticipated in the growth projections, further analysis would be warranted to determine if the project would exceed the growth projections used in the RAQS for the specific subregional area.

As discussed, the RAQS is based in part on the land uses established in the City's General Plan which includes the adopted land uses assumed under the Adopted Specific Plan. The project would result in less development and less traffic generation when compared to the Adopted Specific Plan. As summarized in Table 9, the Specific Plan Update would result in a decrease in emissions when compared to buildout of the Adopted Specific Plan for all criteria pollutants. Therefore, the project would not result in an increase in emissions that are not already accounted for in the 2022 RAQS. The project would not obstruct or conflict with implementation of the RAQS, and impacts would be less than significant.

7.1.2 Mitigation Measures and Design Considerations

Impacts associated with consistency with air quality plans would be less than significant. No mitigation is required.

7.1.3 Significance After Mitigation

The project would not obstruct or conflict with implementation of the RAQS, and impacts would be less than significant. No mitigation is required.

7.2 Threshold 2: Criteria Pollutant Emissions

Would the project 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?

7.2.1 Analysis of Impacts

The region is classified as an attainment area for all criterion pollutants except ozone, PM_{10}, and $PM_{2.5}$. The SDAB is a non-attainment area for the federal ozone standard, and a non-attainment area

for the state ozone standards, the state PM_{10} standard, and the state $PM_{2.5}$ standard. Ozone is not emitted directly but is a result of atmospheric activity on precursors. NO_X and ROG are known as the chief "precursors" of ozone. These compounds react in the presence of sunlight to produce ozone. $PM_{2.5}$ includes fine particles that are found in smoke and haze and is emitted from all types of combustion activities (motor vehicles, power plants, wood burning, etc.) and certain industrial processes. PM_{10} includes both fine and coarse dust particles, and sources include crushing or grinding operations and dust from paved or unpaved roads.

Construction Emissions

As shown in Table 7, construction emissions associated with a hypothetical construction project are projected to be less than the applicable thresholds for all criteria pollutants. As the individual project thresholds are designed to help achieve attainment with cumulative basin-wide standards, they are also appropriate for assessing the project's contribution to cumulative impacts. Therefore, development implemented under the project would not generate emissions in quantities that would result in an exceedance of the NAAQS or CAAQS for ozone, PM_{10}, or $PM_{2.5}$, and direct and cumulative impacts would be less than significant.

The modeled project is illustrative only. Approval of the project would not specifically permit the construction of an individual project, and no specific development details are available at this program level of analysis. The thresholds presented above would be applied to future development within the Planning Area on a project-by-project basis and are not used for assessment of regional planning impacts. The information is presented to illustrate the potential scope of air impacts for a site-specific project that could be developed in the future. Additionally, the regulations at the federal, state, and local level provide a framework for developing project level air quality protection measures for future projects.

All projects would be required to adhere to all existing regulations during construction to protect air quality including SDAPCD rules and regulations and existing state regulations which include, but are not limited to the following:

- The California Airborne Toxics Control Measure (Title 13, Section 2485 of the CCR), which requires that construction contractors shall minimize equipment idling times either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes.
- SDAPCD Rule 50 (Visible Emissions) prohibits the discharge of any air contaminant other than uncombined water vapor for a period aggregating more than 3 minutes in any 60-minute period that is of a certain opacity specified in the rule. This regulation addresses diesel emissions associated with diesel pile driving, asphalt paving, among other activities that can result in visible emissions.
- SDAPCD Rule 51 (Nuisance) prohibits discharge of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to a considerable number of persons or which endanger the comfort, repose, health, or safety of such persons or cause injury or damage to business or property.
- SDAPCD Rule 52 (Particulate Matter) prohibits discharge of particulate matter in excess of 0.10 grain per dry standard cubic foot (0.23 grams per dry standard cubic meter) of gas.

- SDAPCD Rule 54 (Dust and Fumes) prohibits discharge of specified quantities of pollutants into the atmosphere within any one hour, including lead and lead compounds, as specified in the regulation.
- SDAPCD Rule 55 (Fugitive Dust Control) prohibits airborne dust beyond the property line for a period aggregating more than 3 minutes in any 60-minute period. This is typically achieved by watering during grading activities, installing erosion control measures and track-out grates or gravel beds and egress points to preventing dirt "track out" onto streets, using soil stabilizers, mulching, or seeding, in addition to other measures.
- SDAPCD Rule 67.0.1 (Architectural Coatings) establishes volatile organic compounds (VOC) limits on architectural coatings that are produced, sold, or applied within San Diego County.

Through implementation of SDAPCD rules and regulations and existing state regulations, construction emissions associated with development consistent with the Specific Plan Update would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment. Construction-related impacts would be less than significant.

Operational Emissions

Long-term emissions of regional air pollutants occur from operational sources within the Planning Area. Total operational emissions from buildout of the entire Planning Area would exceed the project-level significance thresholds for CO, PM_{10}, and $PM_{2.5}$. However, project level standards are not appropriate for a program level analysis, as the thresholds are conservative and intended to ensure many individual projects would not obstruct the timely attainment of the national and state ambient air quality standards. Generally, discretionary, program level planning activities, such as general plans, community plans, specific plans, etc., are evaluated for consistency with the local air quality plan. In contrast, project level thresholds are applied to individual project-specific approvals, such as a proposed development project. Therefore, the analysis of the project is based on the future emissions estimates and related to attainment strategies derived from the adopted land use plan. At the program level, the analysis compares emissions generated by project buildout to emissions generated under buildout of the Adopted Specific Plan land use and zoning designations to determine if the emissions would exceed the emissions estimates included in the RAQS, and to determine whether it would obstruct attainment of pollutants standards or conflict with the RAQS. As such, this analysis evaluates the potential for future development within the Planning Area to result in a cumulatively considerable net increase in emissions based on the change in pollutant emissions that would result from buildout of the Adopted Specific Plan in the year 2050 compared to buildout of the project in the year 2050. As shown in Table 9, project-related operational emissions would be less than those associated with the Adopted Specific Plan for all criteria pollutants.

The regulations at the federal, state, and local levels provide a framework for developing project level air quality protection measures for future site-specific projects that could be developed in the future. The City's process for evaluation of future development that could be implemented under the project would also include environmental review and documentation pursuant to CEQA, as well as an analysis of those site-specific projects for consistency with the goals, policies, and recommendations of the City General Plan and the Specific Plan Update. The Specific Plan Update includes goals and policies as well as development and design standards that would apply to all future development within the Planning Area with a focus on the reduction of mobile-source

emission. Representative provisions include the following. This summary is not intended to be exhaustive, and future implementing projects would be reviewed by the City for consistency with all applicable goals, policies, and development standards of the Specific Plan Update.

Goal LU.5 Interconnected neighborhoods and commercial districts that promote internal walking and bicycling, and that link directly to the City's active transportation routes

Policy LU.5.1 Establish a strong pedestrian and transit orientation throughout the Creek District by prohibiting primarily auto-oriented land uses.

Policy LU.5.2 Allow for shared parking arrangements among uses at convenient locations.

Policy LU.5.3 Require that new development provide well-marked, onsite pedestrian walkways that link to sidewalks and other pedestrian-oriented public rights-of-way.

Policy LU.5.4 Consider provision of publicly owned parking lots and structures that promote park-once strategies for non-residential uses.

Policy LU5.5 Require bicycle parking facilities for all new development projects beyond any State code requirements.

Goal DP.1 High-quality, eclectic design in all development projects

Policy DP.1.1 Apply the design standards in Chapter 4.0 to all development projects.

Goal M.1 An internal circulation system that prioritizes pedestrians and cyclists, with accommodation for cars and trucks at low speeds within the Creek District

Policy DP.1.1 Design internal streets pursuant to the network and standards defined in Chapter 5.0., and to provide convenient, attractive, and pedestrian-friendly connections between urban parks and natural open space areas along the Creek.

Policy M.1.2 Require developers to provide the public rights-of-way needed and identified in Chapter 5.0 to connect their planned projects to off-site streets and ensure circulation for emergency purposes. Create a mechanism that allows for fair-share reimbursements to developers from subsequent projects that use that infrastructure.

Policy M.1.3 Encourage new development to incorporate internal pedestrian-only streets and passages to enhance the pedestrian orientation of the development and provide linkages to plazas and other open space areas.

Policy M.1.4 Connect the internal pedestrian and bicycle circulation systems to planned regional systems.

Policy M.1.5 Provide continuous sidewalk improvements or off-street paths along all street corridors, and close gaps in the existing pedestrian system.

Policy M.1.6 Provide convenient and direct pedestrian access to all buildings (commercial and residential) from street frontages, rather than through parking lots.

Policy M.1.7 Encourage developers to provide pedestrian streets (i.e., "paseos") in mid-block areas that provide for pedestrian access through the block and to parking areas located behind buildings.

Policy M.1.8 Integrate traffic-calming measures such as roundabouts, traffic circles, curb extensions, textured paving, pedestrian refuges/islands, and on-street parking into the street network.

Goal M.2 A circulation system that maintains and improves access and connectivity between the Creek District and adjacent neighborhoods while allowing San Marcos Boulevard to maintain its function of moving cross-town traffic efficiently

Policy M.2.1 Incorporate wayfinding signage onsite that directs motorists to use Discovery Street and S. Las Posas Road as an alternative to San Marcos Boulevard.

Policy M.2.2 Provide pedestrian crossings of San Marcos Boulevard with signals timed for pedestrian convenience and safety.

Policy M.2.3 Provide a pedestrian bridge crossing of the creek at the terminus of McMahr Road.

Goal M.3 Increased use of public transit by Creek District residents and visitors to the District

Policy M.3.1 Pursue establishment of shuttle service, on-demand transit, or other programs that connect the Creek District to nearby Sprinter stations and destinations such as Civic Center, Palomar College, Cal State San Marcos, North City, or Kaiser Permanente facilities.

Policy M.3.2 Work with the North County Transit District (NCTD) to provide more regular, more frequent, and more convenient transit service to the Creek District.

Goal M.4 A parking management system that encourages shared parking facilities

Policy M.4.1 Allow developers to coordinate on provision of shared parking or to provide stand-alone parking facilities that encourage a "park once" approach for visitors.

Through implementation of the land use pattern along with these goals and policies, the project would create a mixed-use environment that is transit-oriented, prioritizes pedestrians and cyclists, and is interconnected to adjacent neighborhoods and transportation routes.

Additionally, as discussed in detail in the Greenhouse Gas Analysis prepared for the project (RECON 2026), the City implements a Climate Action Plan (CAP) that outlines strategies and measures that the City will undertake to achieve its proportional share of State GHG emissions reduction targets (City of San Marcos 2020). Implementation of the CAP also serves to reduce emissions of criteria pollutants, especially those associated with mobile sources. All future development would be required to implement the following CAP measures as detailed in the City's CAP Consistency Checklist:

Electric Vehicle Charging Stations (Measure T-2)

- Multi-Family Residential and Non-Residential: Install electric vehicle charging stations (Level 2 or better) in at least five percent of the total parking spaces provided on-site.

Bicycle Infrastructure (Measure T-8)

- Residential and Non-Residential Projects: If the following conditions are met, the project shall pay its fair-share contribution to bicycle infrastructure improvements:
    - Intersection or roadway segment improvements are proposed as part of the project.
    - The City's General Plan Mobility Element identifies bicycle infrastructure improvements at any intersection(s) or roadway segment(s) that would be improved as part of the project.

Transportation Demand Management (Measure T-9)

- Residential and Non-Residential: Comply with the City's Transportation Demand Management (TDM) Ordinance (Chapter 20.350 of the Municipal Code) and the TDM Policy.

Reduce Parking Near Transit (Measure T-12)

- Multi-Family Residential: If located within a half-mile of a major transit stop, provide at least 27 percent fewer parking spaces than required for the same use based on the City's municipal code parking requirements.

Water Heaters (Measure E-1)

- Residential: Install one of, or a combination of, the following water heater types in place of natural gas water heaters:
    - Electric heat pump water heater
    - Instantaneous electric water heater
    - Electric tank
    - Solar water heater with heat pump water heater backup
    - Solar water heater with electric tank backup

Photovoltaic Installation (Measure E-2)

- Non-Residential: Install photovoltaic systems with a minimum capacity of two watts per square foot of gross floor area.

Landscaping Water Use (Measure W-1)

- Residential and Non-Residential: Comply with the City's Water Efficient Landscape Ordinance.

Urban Tree Canopy (Measure C-2)

- Single-Family Residential: Plant a minimum of one tree per single-family residential unit, or
- Multi-Family Residential and Non-Residential: If the project is providing more than 10 parking spaces, plant at least one tree per five parking spaces provided.

In general, through implementation of proposed goals and policies, as well as future projects' implementation of the City's CAP reduction measures, air quality impacts associated with operational activities within the Planning Area would be within allowable thresholds. However, it is possible that for certain projects, adherence to the regulations may not adequately protect air quality, and such projects would require additional measures to avoid or reduce significant air quality impacts. In such a situation, operational impacts would be potentially significant.

7.2.2 Mitigation Measures and Design Considerations

Construction Emissions

Impacts associated with construction emissions would be less than significant. No mitigation is required.

Operational Emissions

MM AQ-1: Daily Operational Emissions

For individual projects that may exceed the daily operational emissions thresholds established by the City and the SDAPCD, the owner/permitee shall conduct an analysis of the project's operational air quality impacts using the latest available CalEEMod mode or other analytical method determined in conjunction with the City. If such analyses identify potentially significant regional or local air quality impacts, project level mitigation and/or project design features would be required to reduce operational impacts to less than significant. Mitigation to reduce operational impacts depends on the specific project, but may include measures such as, but not limited to the following:

- Demonstration of net zero energy expenditure
- Implementation of transportation demand management measures
- Prohibition of the installation of woodstoves, hearths, and fireplaces in new construction

- Expansion and facilitation of the completion of planned networks of active transportation infrastructure
- Implementation of electric vehicle charging infrastructure beyond requirements set forth in the 2025 California Green Building Standards Code mandatory measures, such as Tier 2 voluntary measures or future more stringent standards
- Implementation of traffic demand measures, such as unbundling parking fees from rent/lease options, encouraging/developing a ride-share program for the community, and providing car/bike sharing services, that will reduce daily individual car usage and reduce project VMT

7.2.3 Significance After Mitigation

Construction Emissions

Impacts associated with construction emissions would be less than significant. No mitigation is required.

Operational Emissions

With implementation of mitigation measures MM AQ-1, impacts associated with operational emissions would be reduced to less than significant.

7.3 Threshold 3: Sensitive Receptors

Would the project expose sensitive receptors to substantial pollutant concentrations?

7.3.1 Analysis of Impacts

Sensitive land uses include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities. The nearest sensitive receptors include residential uses adjacent to and within the Planning Area, Valley Christian School, and San Marcos High School. Residential uses are as close as approximately 240 feet from the developable area. Valley Christian School is located within the Planning Area, approximately 100 feet from the developable area, and San Marcos High School is located approximately 250 feet from the Planning Area. Additionally, the project would construct future residential uses on-site that would be exposed to future construction activities as projects come forward.

Carbon Monoxide Hot Spots

Localized CO concentration is a direct function of motor vehicle activity at signalized intersections (e.g., idling time and traffic flow conditions), particularly during peak commute hours and meteorological conditions. The SDAB is a CO maintenance area under the federal CAA. This means that SDAB was previously a non-attainment area and is currently implementing a 10-year plan for continuing to meet and maintain air quality standards.

Due to increased requirements for cleaner vehicles, equipment, and fuels, CO levels in the state have dropped substantially. All air basins are attainment or maintenance areas for CO. Therefore, more recent screening procedures based on more current methodologies have been developed. The Bay Area Air Quality Management District developed a screening threshold in their 2022 CEQA Guidelines (Bay Area Air Quality Management District 2022). These screening criteria are considered applicable in the SDAB because the San Francisco Bay Air Basin and the SDAB have the same CO maintenance designations, and the vehicle classifications in the regions are similar. If the following screening criteria are met, operation of a project would result in less than significant impacts related to CO:

- The project is consistent with an applicable congestion management program established by the County of San Diego 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).

Intersection turning volumes for the existing condition, buildout of the Adopted Specific Plan, and buildout of the project were obtained from the traffic engineer and are provided in Attachment 4 (Intersecting Metrics 2026c). Maximum peak hour intersection turning volumes would occur at the intersection of San Marcos Boulevard and Grand Avenue under buildout of both the Adopted Specific Plan and the project. With buildout of the Adopted Specific Plan, peak hour turning volumes at this intersection would be 5,970 vehicles per hour. With buildout of the project, peak hour turning volumes at this intersection would be 5,560 vehicles per hour. Peak hour turning volumes would be well less than CO hotspot screening criteria of 44,000 vehicles per hour. Therefore, the project is not anticipated to result in a CO hot spot.

<u>Diesel Particulate Matter – Construction</u>

Construction of future development within the Planning Area would result in short-term diesel exhaust emissions from on-site heavy-duty equipment. Other construction-related sources of DPM would include material delivery trucks and construction worker vehicles; however, these sources are minimal relative to construction equipment. Not all construction worker vehicles would be diesel-fueled and most DPM emissions associated with material delivery trucks and construction worker vehicles would occur off-site.

For purposes of analyzing construction-related toxic air contaminant emissions and their impact on sensitive receptors, the maximum annual PM_{10} emissions from equipment exhaust from the hypothetical construction scenario were used to develop an average daily emission rate. The exhaust emissions were calculated by CalEEMod, and the maximum annual DPM concentration was calculated using AERSCREEN. AERSCREEN calculates a worst-case maximum 1-hour concentration at

a specific distance and specific angle from the source. The maximum 1-hour concentration is then converted to an annual concentration using a 0.08 conversion factor (U.S. EPA 1992).

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: third trimester of pregnancy, 0<2, 2<9, 2<16, 16<30 and 16–70 years. The equation for dose through inhalation (Dose-air) is as follows:

Dose-air = (C_{air} x DBR × A × EF × 10^{-6});
Where:

Dose-air	=	Chronic daily intake, mg/kg/d
C_{air}	=	Ground-level concentration of toxic air contaminants to which the receptor is exposed, micrograms/cubic meter
DBR	=	Daily breathing rate, normalized to body weight (liters per kilogram body weight per day (Office of Environmental Health Hazard Assessment [OEHHA] 2015)
A	=	Inhalation absorption factor (OEHHA recommended factor of 1)
EF	=	Exposure frequency, days/year (OEHHA recommended factor of 0.96 for resident and 0.68 for workers)

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. The excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk for any given location. The worst-case cancer risk is calculated as follows:

Excess Cancer Risk = Dose-air × CPF × ASF × FAH × ED/AT;
Where:

Dose-air	=	Chronic daily intake, mg/kg body weight per day
CPF	=	Cancer potency factor (mg/kg/d)
ASF	=	Age sensitivity factor
FAH	=	Fraction of time at home
ED	=	Exposure duration (years)
AT	=	Averaging time for lifetime cancer risk (years)

Non-cancer risks are defined as chronic or acute. With respect to DPM, only chronic risks are calculated and are determined by the hazard index. To calculate hazard index, DPM concentration is divided by its chronic Reference Exposure Levels. Where the total equals or exceeds one, a health hazard is presumed to exist.

In this analysis, non-carcinogenic impacts are evaluated for chronic exposure inhalation exposure. Estimates of health impacts from non-carcinogenic concentrations are expressed as a hazard quotient (HQ) for individual substances, such as DPM. An HQ of one or less indicates that adverse health effects are not expected to result from exposure to emissions of that substance. Reference Exposure Levels are defined as the concentration at which no adverse health effects are anticipated. Generally, the inhalation pathway is the largest contributor to the total dose. The HQ is calculated with the flowing equation:

HQ = Ground-Level Concentration ($\mu g/m^3$)/Reference Exposure Level ($\mu g/m^3$)

It should also be noted that all construction equipment is subject to the CARB In-Use Off-Road Diesel-Fueled Fleets Regulation. This regulation, which applies to all off-road diesel vehicles 25 horsepower or greater, limits unnecessary idling to five minutes, requires all construction fleets to be labeled and reported to CARB, bans Tier 0 equipment and phases out Tier 1 and 2 equipment (thereby replacing fleets with cleaner equipment), and requires that fleets comply with Best Available Control Technology requirements.

Based on the CalEEMod calculations for the hypothetical construction project discussed in Section 6.1, construction activities would result in on-site average annual emissions of 0.0570 ton of PM_{10} exhaust. Although multiple construction projects could occur simultaneously, projects would occur throughout the entire developable area of the Planning Area and would not all be located adjacent to the same sensitive receptors. As a conservative analysis, on-site average emissions were multiplied by three, for a total of 0.1711 ton of PM_{10} exhaust, to represent three simultaneous projects near any given sensitive receptor. It was assumed that this level of construction activity would occur within the Planning Area each year for the entire approximately 25-year buildout of the project.

Based on AERSCREEN modeling results, the maximum 1-hour ground-level DPM concentration from construction activities would be 0.0328 micrograms per cubic meter ($\mu g/m^3$). This was converted to an annual average concentration 0.00262 $\mu g/m^3$ using a conversion factor of 0.08 (U.S. EPA 1992). The resulting annual concentration was used in the equations discussed above. Using this methodology, it was calculated that the excess cancer risk would be 1.79 in a million. The HQ would be 0.0005. AERSCREEN and cancer risk calculations are provided in Attachment 5.

Therefore, DPM generated by project construction is not expected to create conditions where the probability is greater than 10 in 1 million of contracting cancer for the Maximally Exposed Individual or to generate ground-level concentrations of noncarcinogenic TACs that exceed a Hazard Index greater than 1 for the Maximally Exposed Individual. Additionally, with ongoing implementation of U.S. EPA and CARB requirements for cleaner fuels; off-road diesel engine retrofits; and new, low-emission diesel engine types, the DPM emissions of individual equipment would be substantially reduced. Therefore, project construction would not expose sensitive receptors to substantial pollutant concentration.

<u>Diesel Particulate Matter – Freeways</u>

The CARB handbook indicates that siting new sensitive land uses within 500 feet of a freeway or urban roads with 100,000 or more vehicles per day should be avoided when possible (CARB 2005). The eastern boundary of the Planning Area is located adjacent to SR-78. However, this easternmost

area would be preserved as open space and would not include any sensitive receptors. The nearest sensitive receptors are the residential uses located within the PC district approximately 950 feet from SR-78. No sensitive receptors are proposed within 500 feet of SR-78 or any other freeway or roadway carrying more than 100,000 vehicles per day. Therefore, project operation would not expose sensitive receptors to substantial pollutant concentrations associated with DPM, and impacts would be less than significant.

7.3.2 Mitigation Measures and Design Considerations

Carbon Monoxide Hot Spots

The project is not anticipated to result in a CO hot spot. Impacts would be less than significant. No mitigation is required.

Diesel Particulate Matter – Construction

DPM generated by construction activities within the Planning Area is not anticipated to result in a significant health risk. Project construction would not expose sensitive receptors to substantial pollutant concentration. Impacts would be less than significant. No mitigation is required.

Diesel Particulate Matter – Freeways

No sensitive receptors are proposed within 500 feet of SR-78 or any other freeway or roadway carrying more than 100,000 vehicles per day. Therefore, project operation would not expose sensitive receptors to substantial pollutant concentrations associated with DPM, and impacts would be less than significant. No mitigation is required.

7.3.3 Significance After Mitigation

Impacts associated with the exposure of sensitive receptors to substantial pollutant concentrations would be less than significant. No mitigation is required.

7.4 Threshold 4: Odors

Would the project result in other emissions such as those leading to odors adversely affecting a substantial number of people?

7.4.1 Analysis of Impacts

The potential for an odor impact is dependent on a number of variables, including the nature of the odor source, distance between the receptor and odor source, and local meteorological conditions. During construction activities, diesel equipment may generate some nuisance odors from equipment exhaust. Odors would also be generated during paving activities and during the application of architectural coatings. Sensitive receptors surrounding the project site include residential uses and schools, and on-site residents would be exposed to construction-related odors as development

throughout the Planning Area occurs. However, exposure to odors associated with construction would be short-term and temporary in nature. Although the overall construction activities are anticipated to occur over an indeterminate overall time frame, equipment would only be located near any given receptor for a much shorter duration as development is proposed and equipment moves throughout the entire Planning Area. In addition, all construction activities would be required to comply with SDAPCD Rule 51, which prohibits the discharge of odorous emissions that would create a public nuisance. Further, per CARB's Airborne Toxic Control Measure 13 (California Code of Regulations Chapter 10 Section 2485), contractors shall not allow idling time to exceed 5 minutes unless more time is required per engine manufacturers' specifications or for safety reasons. Compliance with this regulation would reduce odors from equipment exhaust. Given the short-term nature of construction near any given receptor and compliance with these regulations, construction would not generate odors that would affect a substantial number of people, and impacts would be less than significant.

The CARB Air Quality and Land Use Handbook (CARB 2005) identifies a list of the most common sources of odor complaints received by local air districts. Land uses typically associated with odors include wastewater treatment facilities, waste-disposal facilities, or agricultural operations. Residential, commercial, and retail uses are not typically characterized as uses that create an objectionable odor. Therefore, project operation would not generate odors adversely affecting a substantial number of people, and impacts would be less than significant.

7.4.2 Mitigation Measures and Design Considerations

Construction and operation of future development in the Planning Area implemented under the project is not anticipated to result in other emissions such as those leading to odors adversely affecting a substantial number of people. Impacts would be less than significant. No mitigation is required.

7.4.3 Significance After Mitigation

Impacts associated with the exposure of sensitive receptors to substantial pollutant concentrations would be less than significant. No mitigation is required.

8.0 Conclusions

The primary goal of the RAQS is to reduce ozone precursor emissions. The RAQS is based in part on the land uses established in the City's General Plan which includes the adopted land uses assumed under the Adopted Specific Plan. The project would result in less development and less traffic generation when compared to the Adopted Specific Plan. As a result, as summarized in Table 9, the project would result in a decrease in emissions when compared to buildout of the Adopted Specific Plan for all criteria pollutants. Therefore, the project would not result in an increase in emissions that are not already accounted for in the 2022 RAQS. The project would not obstruct or conflict with implementation of the RAQS, and impacts would be less than significant.

As shown in Table 7, construction emissions associated with a hypothetical construction project are projected to be less than the applicable thresholds for all criteria pollutants. These thresholds are designed to provide limits below which project emissions would not significantly change regional air quality. Therefore, as project construction emissions would be below these limits, project construction would not result in a cumulatively considerable net increase in emissions of ozone, PM_{10}, or $PM_{2.5}$. Through implementation of SDAPCD rules and regulations and existing state regulations, construction emissions associated with development consistent with the Specific Plan Update would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment. Construction-related impacts would be less than significant.

Long-term emissions of regional air pollutants occur from operational sources within the Planning Area. Total operational emissions from buildout of the entire Planning Area would exceed the project-level significance thresholds for CO, PM_{10}, and $PM_{2.5}$. However, project level standards are not appropriate for a program level analysis, as the thresholds are conservative and intended to ensure many individual projects would not obstruct the timely attainment of the national and state ambient air quality standards. At the program level, project-related operational emissions would be less than those associated with the Adopted Specific Plan for all criteria pollutants, and therefore the project would not obstruct attainment or result in an exceedance of the emissions estimates included in the RAQS. In general, the project would reduce air quality impacts through implementation of proposed goals and policies, as well as the CAP reduction measures. However, it is possible that for certain projects, adherence to the regulations may not adequately protect air quality, and such projects would require additional measures to avoid or reduce significant air quality impacts. Operational impacts would be potentially significant. Implementation of mitigation measures MM AQ-1 would future development to demonstrate that operational emissions would not exceed the applicable thresholds. With implementation of mitigation measures MM AQ-1, impacts associated with operational emissions would be reduced to less than significant.

Sensitive land uses include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities. The nearest sensitive receptors include residential uses adjacent to and within the Planning Area, Valley Christian School, and San Marcos High School. Residential uses are as close as approximately 240 feet from the developable area. Valley Christian School is located within the Planning area, approximately 100 feet from the developable area, and San Marcos High School is located approximately 250 feet from the Planning Area. Additionally, the project would construct future residential uses on-site that would be exposed to future construction activities as projects come forward. The project is not anticipated to result in a CO hot spot at Planning Area intersections. DPM generated by construction activities within the Planning Area is not anticipated to result in a significant health risk. Project construction would not expose sensitive receptors to substantial pollutant concentration. Additionally, no sensitive receptors are proposed within 500 feet of SR-78 or any other freeway or roadway carrying more than 100,000 vehicles per day. Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations, and impacts would be less than significant. No mitigation is required.

The project does not include heavy industrial or agricultural uses that are typically associated with objectionable odors. Construction activities would involve the use of diesel-powered construction equipment. Diesel exhaust may be noticeable temporarily at adjacent properties; however, construction activities would be temporary. Therefore, odor impacts would be less than significant.

9.0 Summary of Mitigation Measures/Project Design Features

Implementation of the following mitigation measure would be required to reduce air quality impacts.

MM AQ-1: Daily Operational Emissions

For individual projects that may exceed the daily operational emissions thresholds established by the City and the SDAPCD, the owner/permitee shall conduct an analysis of the project's operational air quality impacts using the latest available CalEEMod mode, or other analytical method determined in conjunction with the City. If such analyses identify potentially significant regional or local air quality impacts, project level mitigation and/or project design features would be required to reduce operational impacts to less than significant. Mitigation to reduce operational impacts depends on the specific project, but may include measures such as, but not limited to the following:

- Demonstration of net zero energy expenditure
- Implementation of transportation demand management measures
- Prohibition of the installation of woodstoves, hearths, and fireplaces in new construction
- Expansion and facilitation of the completion of planned networks of active transportation infrastructure
- Implementation of electric vehicle charging infrastructure beyond requirements set forth in the 2025 California Green Building Standards Code mandatory measures, such as Tier 2 voluntary measures or future more stringent standards
- Implementation of traffic demand measures, such as unbundling parking fees from rent/lease options, encouraging/developing a ride-share program for the community, and providing car/bike sharing services, that will reduce daily individual car usage and reduce project VMT

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11.0 List of Preparers

Jessica Fleming, Senior Air Quality Specialist
Lori Spar, CEQA Director
Morgan Weintraub, Associate Project Manager
Steven Gaughran, Production Specialist
David Slayton, Production Specialist
Mauro Guevara, GIS Specialist

ATTACHMENTS

ATTACHMENT 1

CalEEMod Output – Construction Emissions

San Marcos Creek Specific Plan Update - Construction Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	San Marcos Creek Specific Plan Update - Construction
Construction Start Date	1/1/2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.20000
Precipitation (days)	9.80000
Location	33.134156038444246, -117.18492354341717
County	San Diego
City	San Marcos
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6271
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.44

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	275.000	Dwelling Unit	4.50000	268,613	0.00000	—	767.000	—
Strip Mall	20.0000	1000sqft	0.50000	20,000.0	0.00000	—	—	—

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.	2.07714	1.77817	10.8861	21.7835	0.02889	0.34757	1.93779	2.28536	0.32064	0.46297	0.78362	—	5,050.43	5,050.43	0.21263	0.19710	7.80777	5,122.29
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	88.9815	88.9446	28.0263	28.9094	0.05626	1.17173	7.81424	8.98597	1.07799	3.97465	5.05264	—	7,383.37	7,383.37	0.34609	0.70860	0.23178	7,603.42
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.04149	5.01447	9.31514	14.8779	0.02301	0.31244	1.60892	1.92135	0.28659	0.47689	0.76347	—	3,627.91	3,627.91	0.15972	0.16133	2.19209	3,682.17
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.92007	0.91514	1.70001	2.71522	0.00420	0.05702	0.29363	0.35065	0.05230	0.08703	0.13933	—	600.642	600.642	0.02644	0.02671	0.36293	609.625
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	250.000	250.000	550.000	250.000	—	—	100.0000	—	—	67.0000	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Threshold	—	250.000	250.000	550.000	250.000	—	—	100.0000	—	—	67.0000	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.07714	1.77817	10.8861	21.7835	0.02889	0.34757	1.93779	2.28536	0.32064	0.46297	0.78362	—	5,050.43	5,050.43	0.21263	0.19710	7.80777	5,122.29
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.69810	3.11186	28.0263	28.9094	0.05626	1.17173	7.81424	8.98597	1.07799	3.97465	5.05264	—	7,383.37	7,383.37	0.34609	0.70860	0.23178	7,603.42
2028	88.9815	88.9446	10.4735	20.3324	0.02890	0.31123	1.93779	2.24902	0.28721	0.46297	0.75019	—	4,896.56	4,896.56	0.16249	0.19710	0.18248	4,959.54
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.55202	1.30771	9.31514	14.8779	0.02301	0.31244	1.60892	1.92135	0.28659	0.47689	0.76347	—	3,627.91	3,627.91	0.15972	0.16133	2.19209	3,682.17
2028	5.04149	5.01447	1.00870	1.89700	0.00256	0.03125	0.14486	0.17612	0.02880	0.03447	0.06328	—	407.805	407.805	0.01374	0.01372	0.22326	412.460
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.28324	0.23866	1.70001	2.71522	0.00420	0.05702	0.29363	0.35065	0.05230	0.08703	0.13933	—	600.642	600.642	0.02644	0.02671	0.36293	609.625
2028	0.92007	0.91514	0.18409	0.34620	0.00047	0.00570	0.02644	0.03214	0.00526	0.00629	0.01155	—	67.5168	67.5168	0.00228	0.00227	0.03696	68.2875

2.2.2. Onsite Construction Emissions by Year, Unmitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	0.00000	0.33657	0.30965	0.00000	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	0.00000	2,405.30
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.63178	3.05170	27.9724	28.2794	0.04891	1.17173	7.66623	8.83797	1.07799	3.93995	5.01795	—	5,297.82	5,297.82	0.21490	0.04298	0.00000	5,316.00
2028	88.8293	88.8068	8.92495	12.9352	0.02340	0.30024	0.00000	0.30024	0.27622	0.00000	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	0.00000	2,405.68
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.05085	0.88039	8.00290	10.1353	0.01799	0.30079	0.41580	0.71659	0.27673	0.18937	0.46610	—	1,864.88	1,864.88	0.07565	0.01513	0.00000	1,871.28
2028	4.98014	4.96056	0.90626	1.32821	0.00222	0.03058	0.00000	0.03058	0.02814	0.00000	0.02814	—	226.747	226.747	0.00920	0.00184	0.00000	227.525
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.19178	0.16067	1.46053	1.84969	0.00328	0.05489	0.07588	0.13078	0.05050	0.03456	0.08506	—	308.751	308.751	0.01252	0.00250	0.00000	309.811
2028	0.90888	0.90530	0.16539	0.24240	0.00041	0.00558	0.00000	0.00558	0.00514	0.00000	0.00514	—	37.5405	37.5405	0.00152	0.00030	0.00000	37.6693

2.2.3. Offsite Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.84638	0.74829	1.49515	8.84555	0.00550	0.01099	1.93779	1.94878	0.01099	0.46297	0.47397	—	2,653.35	2,653.35	0.11539	0.17765	7.80777	2,716.99
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.83070	0.72810	5.68866	7.83376	0.02894	0.08267	1.93779	1.94878	0.05512	0.46297	0.47397	—	4,423.30	4,423.30	0.22602	0.68458	0.23178	4,633.19
2028	0.81646	0.71459	1.54855	7.39711	0.00550	0.01099	1.93779	1.94878	0.01099	0.46297	0.47397	—	2,499.10	2,499.10	0.06524	0.17765	0.18248	2,553.86
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.50117	0.42732	1.31225	4.74263	0.00502	0.01165	1.19312	1.20476	0.00986	0.28752	0.29737	—	1,763.03	1,763.03	0.08407	0.14620	2.19209	1,810.89

2028	0.06135	0.05390	0.10244	0.56879	0.00033	0.00067	0.14486	0.14553	0.00067	0.03447	0.03514	—	181.059	181.059	0.00455	0.01188	0.22326	184.935
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.09146	0.07799	0.23948	0.86553	0.00092	0.00213	0.21774	0.21987	0.00180	0.05247	0.05427	—	291.890	291.890	0.01392	0.02420	0.36293	299.814
2028	0.01120	0.00984	0.01869	0.10380	0.00006	0.00012	0.02644	0.02656	0.00012	0.00629	0.00641	—	29.9763	29.9763	0.00075	0.00197	0.03696	30.6182

3. Construction Emissions Details

3.1. Demolition (2027)

3.1.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.63907	2.21478	19.9005	18.6307	0.03253	0.79594	—	0.79594	0.73226	—	0.73226	—	3,426.90	3,426.90	0.13901	0.02780	—	3,438.66
Demolition	—	—	—	—	—	—	0.98427	0.98427	—	0.14905	0.14905	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14461	0.12136	1.09044	1.02086	0.00178	0.04361	—	0.04361	0.04012	—	0.04012	—	187.775	187.775	0.00762	0.00152	—	188.420
Demolition	—	—	—	—	—	—	0.05393	0.05393	—	0.00817	0.00817	—	—	—	—	—	—	—

Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02639	0.02215	0.19901	0.18631	0.00033	0.00796	—	0.00796	0.00732	—	0.00732	—	31.0883	31.0883	0.00126	0.00025	—	31.1950
Demolition	—	—	—	—	—	—	0.00984	0.00984	—	0.00149	0.00149	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05685	0.05157	0.04621	0.54000	0.00000	0.00000	0.12686	0.12686	0.00000	0.02974	0.02974	—	129.450	129.450	0.00693	0.00528	0.01149	131.209
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.05781	0.01699	1.03821	0.39424	0.00532	0.01521	0.21321	0.22842	0.01014	0.05837	0.06851	—	790.068	790.068	0.04031	0.12499	0.04053	828.364
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00310	0.00281	0.00251	0.02995	0.00000	0.00000	0.00691	0.00691	0.00000	0.00162	0.00162	—	7.15662	7.15662	0.00036	0.00027	0.01051	7.25701
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00321	0.00096	0.05690	0.02148	0.00029	0.00083	0.01163	0.01246	0.00056	0.00318	0.00374	—	43.2810	43.2810	0.00221	0.00683	0.03695	45.4100
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00057	0.00051	0.00046	0.00547	0.00000	0.00000	0.00126	0.00126	0.00000	0.00030	0.00030	—	1.18486	1.18486	0.00006	0.00004	0.00174	1.20148
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Hauling	0.00059	0.00017	0.01038	0.00392	0.00005	0.00015	0.00212	0.00227	0.00010	0.00058	0.00068	—	7.16566	7.16566	0.00037	0.00113	0.00612	7.51814

3.2. Site Preparation (2027)

3.2.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.63178	3.05170	27.9724	28.2794	0.04891	1.17173	—	1.17173	1.07799	—	1.07799	—	5,297.82	5,297.82	0.21490	0.04298	—	5,316.00
Dust From Material Movement	—	—	—	—	—	—	7.66623	7.66623	—	3.93995	3.93995	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09950	0.08361	0.76637	0.77478	0.00134	0.03210	—	0.03210	0.02953	—	0.02953	—	145.146	145.146	0.00589	0.00118	—	145.644
Dust From Material Movement	—	—	—	—	—	—	0.21003	0.21003	—	0.10794	0.10794	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01816	0.01526	0.13986	0.14140	0.00024	0.00586	—	0.00586	0.00539	—	0.00539	—	24.0305	24.0305	0.00097	0.00019	—	24.1130
Dust From Material Movement	—	—	—	—	—	—	0.03833	0.03833	—	0.01970	0.01970	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06632	0.06016	0.05391	0.63000	0.00000	0.00000	0.14800	0.14800	0.00000	0.03469	0.03469	—	151.025	151.025	0.00809	0.00616	0.01341	153.077
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00181	0.00164	0.00147	0.01747	0.00000	0.00000	0.00403	0.00403	0.00000	0.00094	0.00094	—	4.17469	4.17469	0.00021	0.00016	0.00613	4.23326
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00033	0.00030	0.00027	0.00319	0.00000	0.00000	0.00074	0.00074	0.00000	0.00017	0.00017	—	0.69117	0.69117	0.00003	0.00003	0.00102	0.70086
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3. Grading (2027)

3.3.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.88795	1.58640	14.2321	17.2743	0.02733	0.59767	—	0.59767	0.54986	—	0.54986	—	2,960.07	2,960.07	0.12007	0.02401	—	2,970.23
Dust From Material Movement	—	—	—	—	—	—	2.77092	2.77092	—	1.33697	1.33697	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10345	0.08693	0.77984	0.94654	0.00150	0.03275	—	0.03275	0.03013	—	0.03013	—	162.196	162.196	0.00658	0.00132	—	162.752
Dust From Material Movement	—	—	—	—	—	—	0.15183	0.15183	—	0.07326	0.07326	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.01888	0.01586	0.14232	0.17274	0.00027	0.00598	—	0.00598	0.00550	—	0.00550	—	26.8534	26.8534	0.00109	0.00022	—	26.9455
Dust From Material Movement	—	—	—	—	—	—	0.02771	0.02771	—	0.01337	0.01337	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05685	0.05157	0.04621	0.54000	0.00000	0.00000	0.12686	0.12686	0.00000	0.02974	0.02974	—	129.450	129.450	0.00693	0.00528	0.01149	131.209
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.31416	0.09232	5.64246	2.14262	0.02894	0.08267	1.15875	1.24142	0.05512	0.31725	0.37236	—	4,293.85	4,293.85	0.21908	0.67930	0.22029	4,501.98
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00310	0.00281	0.00251	0.02995	0.00000	0.00000	0.00691	0.00691	0.00000	0.00162	0.00162	—	7.15662	7.15662	0.00036	0.00027	0.01051	7.25701
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.01744	0.00521	0.30925	0.11672	0.00159	0.00453	0.06319	0.06772	0.00302	0.01731	0.02033	—	235.223	235.223	0.01200	0.03715	0.20082	246.793
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00057	0.00051	0.00046	0.00547	0.00000	0.00000	0.00126	0.00126	0.00000	0.00030	0.00030	—	1.18486	1.18486	0.00006	0.00004	0.00174	1.20148
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00318	0.00095	0.05644	0.02130	0.00029	0.00083	0.01153	0.01236	0.00055	0.00316	0.00371	—	38.9438	38.9438	0.00199	0.00615	0.03325	40.8595

3.4. Building Construction (2027)

3.4.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.70329	0.58850	5.36625	7.39311	0.01337	0.19233	—	0.19233	0.17694	—	0.17694	—	1,369.76	1,369.76	0.05556	0.01111	—	1,374.46
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12835	0.10740	0.97934	1.34924	0.00244	0.03510	—	0.03510	0.03229	—	0.03229	—	226.779	226.779	0.00920	0.00184	—	227.557

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

3.4.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.78819	0.72073	0.50375	8.37770	0.00000	0.00000	1.72866	1.72866	0.00000	0.40520	0.40520	—	1,867.76	1,867.76	0.08548	0.06746	6.05501	1,896.05
Vendor	0.05819	0.02756	0.99140	0.46785	0.00550	0.01099	0.20913	0.22012	0.01099	0.05778	0.06877	—	785.598	785.598	0.02991	0.11020	1.75276	820.936
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.77467	0.70270	0.62966	7.35843	0.00000	0.00000	1.72866	1.72866	0.00000	0.40520	0.40520	—	1,763.97	1,763.97	0.09450	0.07196	0.15658	1,787.94
Vendor	0.05603	0.02540	1.02707	0.47532	0.00550	0.01099	0.20913	0.22012	0.01099	0.05778	0.06877	—	786.124	786.124	0.03063	0.11020	0.04551	819.773
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44009	0.39897	0.35723	4.25601	0.00000	0.00000	0.98159	0.98159	0.00000	0.22999	0.22999	—	1,017.00	1,017.00	0.05142	0.03855	1.49419	1,031.27
Vendor	0.03243	0.01493	0.58237	0.27105	0.00314	0.00628	0.11887	0.12515	0.00628	0.03286	0.03914	—	449.039	449.039	0.01750	0.06297	0.43297	468.674
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08032	0.07281	0.06519	0.77672	0.00000	0.00000	0.17914	0.17914	0.00000	0.04197	0.04197	—	168.376	168.376	0.00851	0.00638	0.24738	170.738
Vendor	0.00592	0.00272	0.10628	0.04947	0.00057	0.00115	0.02169	0.02284	0.00115	0.00600	0.00714	—	74.3435	74.3435	0.00290	0.01043	0.07168	77.5943
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5. Building Construction (2028)

3.5.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	—	0.30024	0.27622	—	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	—	2,405.68
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07188	0.06015	0.54144	0.78472	0.00142	0.01821	—	0.01821	0.01676	—	0.01676	—	145.443	145.443	0.00590	0.00118	—	145.942
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01312	0.01098	0.09881	0.14321	0.00026	0.00332	—	0.00332	0.00306	—	0.00306	—	24.0797	24.0797	0.00098	0.00020	—	24.1623
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.2. Offsite - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.76115	0.68919	0.57121	6.93566	0.00000	0.00000	1.72866	1.72866	0.00000	0.40520	0.40520	—	1,732.68	1,732.68	0.03605	0.06746	0.14193	1,753.83
Vendor	0.05531	0.02540	0.97734	0.46145	0.00550	0.01099	0.20913	0.22012	0.01099	0.05778	0.06877	—	766.420	766.420	0.02919	0.11020	0.04056	800.029
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04563	0.04126	0.03438	0.42646	0.00000	0.00000	0.10421	0.10421	0.00000	0.02442	0.02442	—	106.052	106.052	0.00219	0.00409	0.14366	107.470
Vendor	0.00344	0.00154	0.05881	0.02760	0.00033	0.00067	0.01262	0.01329	0.00067	0.00349	0.00416	—	46.4757	46.4757	0.00177	0.00669	0.04096	48.5531
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00833	0.00753	0.00627	0.07783	0.00000	0.00000	0.01902	0.01902	0.00000	0.00446	0.00446	—	17.5582	17.5582	0.00036	0.00068	0.02378	17.7929
Vendor	0.00063	0.00028	0.01073	0.00504	0.00006	0.00012	0.00230	0.00242	0.00012	0.00064	0.00076	—	7.69459	7.69459	0.00029	0.00111	0.00678	8.03852
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6. Paving (2028)

3.6.1. Onsite - Unmitigated

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

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

Off-Road Equipm	0.74648	0.62588	5.84990	8.80025	0.01296	0.21041	—	0.21041	0.19358	—	0.19358	—	1,350.28	1,350.28	0.05477	0.01095	—	1,354.92
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04090	0.03429	0.32054	0.48221	0.00071	0.01153	—	0.01153	0.01061	—	0.01061	—	73.9880	73.9880	0.00300	0.00060	—	74.2419
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00746	0.00626	0.05850	0.08800	0.00013	0.00210	—	0.00210	0.00194	—	0.00194	—	12.2496	12.2496	0.00050	0.00010	—	12.2916
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07448	0.06743	0.05589	0.67864	0.00000	0.00000	0.16915	0.16915	0.00000	0.03965	0.03965	—	169.538	169.538	0.00353	0.00660	0.01389	171.607

Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00403	0.00365	0.00304	0.03769	0.00000	0.00000	0.00921	0.00921	0.00000	0.00216	0.00216	—	9.37272	9.37272	0.00019	0.00036	0.01270	9.49803
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00074	0.00067	0.00055	0.00688	0.00000	0.00000	0.00168	0.00168	0.00000	0.00039	0.00039	—	1.55176	1.55176	0.00003	0.00006	0.00210	1.57251
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7. Architectural Coating (2028)

3.7.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12985	0.10731	0.80814	1.11833	0.00173	0.01536	—	0.01536	0.01413	—	0.01413	—	133.517	133.517	0.00542	0.00108	—	133.975
Architectural Coatings	88.6994	88.6994	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00711	0.00588	0.04428	0.06128	0.00009	0.00084	—	0.00084	0.00077	—	0.00077	—	7.31600	7.31600	0.00030	0.00006	—	7.34111
Architectural Coatings	4.86024	4.86024	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00130	0.00107	0.00808	0.01118	0.00002	0.00015	—	0.00015	0.00014	—	0.00014	—	1.21125	1.21125	0.00005	0.00001	—	1.21540
Architectural Coatings	0.88699	0.88699	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15223	0.13784	0.11424	1.38713	0.00000	0.00000	0.34573	0.34573	0.00000	0.08104	0.08104	—	346.536	346.536	0.00721	0.01349	0.02839	350.766
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00824	0.00745	0.00621	0.07704	0.00000	0.00000	0.01883	0.01883	0.00000	0.00441	0.00441	—	19.1578	19.1578	0.00040	0.00074	0.02595	19.4140
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00150	0.00136	0.00113	0.01406	0.00000	0.00000	0.00344	0.00344	0.00000	0.00080	0.00080	—	3.17180	3.17180	0.00007	0.00012	0.00430	3.21421
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	1/1/2027	1/29/2027	5.00000	20.0000	—
Site Preparation	Site Preparation	1/30/2027	2/13/2027	5.00000	10.00000	—
Grading	Grading	2/14/2027	3/14/2027	5.00000	20.0000	—

Building Construction	Building Construction	3/15/2027	1/31/2028	5.00000	230.000	—
Paving	Paving	2/1/2028	2/29/2028	5.00000	20.0000	—
Architectural Coating	Architectural Coating	3/1/2028	3/29/2028	5.00000	20.0000	—

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	Rubber Tired Dozers	Diesel	Average	2.00000	8.00000	367.000	0.40000
Demolition	Concrete/Industrial Saws	Diesel	Average	1.000000	8.00000	33.0000	0.73000
Demolition	Excavators	Diesel	Average	3.00000	8.00000	36.0000	0.38000
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00000	8.00000	367.000	0.40000
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	4.00000	8.00000	84.0000	0.37000
Grading	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Grading	Excavators	Diesel	Average	1.000000	8.00000	36.0000	0.38000
Grading	Tractors/Loaders/Back hoes	Diesel	Average	3.00000	8.00000	84.0000	0.37000
Grading	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Building Construction	Cranes	Diesel	Average	1.000000	7.00000	367.000	0.29000
Building Construction	Forklifts	Diesel	Average	3.00000	8.00000	82.0000	0.20000
Building Construction	Generator Sets	Diesel	Average	1.000000	8.00000	14.0000	0.74000
Building Construction	Welders	Diesel	Average	1.000000	8.00000	46.0000	0.45000
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	3.00000	7.00000	84.0000	0.37000
Paving	Tractors/Loaders/Back hoes	Diesel	Average	1.000000	8.00000	84.0000	0.37000
Paving	Cement and Mortar Mixers	Diesel	Average	2.00000	6.00000	10.00000	0.56000

Paving	Pavers	Diesel	Average	1.000000	8.00000	81.0000	0.42000
Paving	Paving Equipment	Diesel	Average	2.00000	6.00000	89.0000	0.36000
Paving	Rollers	Diesel	Average	2.00000	6.00000	36.0000	0.38000
Architectural Coating	Air Compressors	Diesel	Average	1.000000	6.00000	37.0000	0.48000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	15.0000	11.9700	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63000	HHDT,MHDT
Demolition	Hauling	11.5000	20.0000	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	17.5000	11.9700	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	15.0000	11.9700	LDA,LDT1,LDT2
Grading	Vendor	—	7.63000	HHDT,MHDT
Grading	Hauling	62.5000	20.0000	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	204.400	11.9700	LDA,LDT1,LDT2
Building Construction	Vendor	32.6755	7.63000	HHDT,MHDT
Building Construction	Hauling	0.00000	20.0000	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	20.0000	11.9700	LDA,LDT1,LDT2
Paving	Vendor	—	7.63000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT

Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	40.8800	11.9700	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	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	543,941	181,314	30,000.0	10,000.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00000	0.00000	0.00000	20,000.0	0.00000
Site Preparation	—	—	15.0000	0.00000	0.00000
Grading	—	10,000.00	20.0000	0.00000	0.00000
Paving	0.00000	0.00000	0.00000	0.00000	0.00000

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

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	Apartments Mid Rise	—	0%
Paving	Strip Mall	0.00000	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00000	588.983	0.03300	0.00400
2028	0.00000	588.983	0.03300	0.00400

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	14.7400	annual days of extreme heat
Extreme Precipitation	5.15000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	10.4800	annual hectares burned

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

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

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

6.3. Adjusted Climate Risk Scores

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	42.5638

AQ-PM	28.1394
AQ-DPM	76.8015
Drinking Water	24.1539
Lead Risk Housing	39.5337
Pesticides	35.7241
Toxic Releases	27.8445
Traffic	61.5375
Effect Indicators	—
CleanUp Sites	78.6114
Groundwater	67.4747
Haz Waste Facilities/Generators	82.7399
Impaired Water Bodies	43.7841
Solid Waste	96.6323
Sensitive Population	—
Asthma	3.21535
Cardio-vascular	14.0952
Low Birth Weights	40.4670
Socioeconomic Factor Indicators	—
Education	78.3346
Housing	82.7883
Linguistic	77.8590
Poverty	78.2035
Unemployment	36.4394

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	14.57718465
Employed	17.95200821
Median HI	15.05196972
Education	—
Bachelor's or higher	34.96727833
High school enrollment	100
Preschool enrollment	1.873476197
Transportation	—
Auto Access	7.878865649
Active commuting	68.52303349
Social	—
2-parent households	81.04709355
Voting	41.66559733
Neighborhood	—
Alcohol availability	17.16925446
Park access	56.96137559
Retail density	84.51174131
Supermarket access	77.74926216
Tree canopy	38.40626203
Housing	—
Homeownership	8.623123316
Housing habitability	19.36353137
Low-inc homeowner severe housing cost burden	79.81521879
Low-inc renter severe housing cost burden	64.18580778
Uncrowded housing	31.19466188
Health Outcomes	—
Insured adults	5.902733222
Arthritis	9.2

Asthma ER Admissions	99.1
High Blood Pressure	21.8
Cancer (excluding skin)	21.2
Asthma	30.0
Coronary Heart Disease	3.1
Chronic Obstructive Pulmonary Disease	5.5
Diagnosed Diabetes	18.3
Life Expectancy at Birth	13.9
Cognitively Disabled	11.9
Physically Disabled	7.5
Heart Attack ER Admissions	99.6
Mental Health Not Good	25.4
Chronic Kidney Disease	2.7
Obesity	34.9
Pedestrian Injuries	81.7
Physical Health Not Good	17.6
Stroke	5.6
Health Risk Behaviors	—
Binge Drinking	68.3
Current Smoker	35.6
No Leisure Time for Physical Activity	16.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	16.3
Elderly	23.2
English Speaking	15.1
Foreign-born	80.3

Outdoor Workers	11.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	47.4
Traffic Density	77.2
Traffic Access	23.0
Other Indices	—
Hardship	72.9
Other Decision Support	—
2016 Voting	49.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	59.0000
Healthy Places Index Score for Project Location (b)	15.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Hypothetical construction scenario: 5 acres 275 units (max density of 55 du/acre) 20,000 sf retail Residential square footage based on average unit size of 977 sf under SPU

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	7.23684	4.50000
Building Area	sq. ft	264,000	268,613
Landscape Area	sq. ft	—	0.00000
Lot Area	acre	0.45914	0.50000
Landscape Area	sq. ft	—	0.00000

ATTACHMENT 2

CalEEMod Output – Operational Emissions – Specific Plan Update

San Marcos Creek Specific Plan Update Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	San Marcos Creek Specific Plan Update
Operational Year	2050
Lead Agency	City of San Marcos
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.20000
Precipitation (days)	9.80000
Location	33.134156038444246, -117.18492354341717
County	San Diego
City	San Marcos
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6271
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.44

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	2,300.00	Dwelling Unit	54.7300	2,261,701	476,764	—	6,417.00	—
Strip Mall	655.856	1000sqft	26.2500	655,856	228,733	—	—	—

City Park	17.8900	Acre	17.8900	0.00000	389,644	389,644	—	—
Other Asphalt Surfaces	31.9600	Acre	31.9600	0.00000	0.00000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.3. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	244.218	232.509	86.9520	1,201.78	2.98833	1.69635	322.346	324.042	1.59233	81.6983	83.2906	1,536.52	313,385	314,921	166.697	12.1066	53.6531	322,750
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	227.104	216.355	93.9796	986.707	2.84631	1.58822	322.346	323.934	1.51068	81.6983	83.2089	1,536.52	299,299	300,835	167.327	12.7932	21.1485	308,852
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	233.170	221.931	92.8069	1,064.83	2.87019	1.64147	320.313	321.954	1.55087	81.1901	82.7410	1,536.52	301,576	303,113	167.153	12.6502	34.6921	311,096
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	42.5534	40.5025	16.9373	194.332	0.52381	0.29957	58.4571	58.7567	0.28303	14.8172	15.1002	254.388	49,929.4	50,183.8	27.6741	2.09438	5.74367	51,505.5
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	250.000	250.000	550.000	250.000	—	—	100.0000	—	—	67.0000	—	—	—	—	—	—	—
Unmit.	—	No	No	Yes	No	—	—	Yes	—	—	Yes	—	—	—	—	—	—	—

Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	250.000	250.000	550.000	250.000	—	—	100.0000	—	—	67.0000	—	—	—	—	—	—	—
Unmit.	—	No	No	Yes	No	—	—	Yes	—	—	Yes	—	—	—	—	—	—	—

2.4. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	159.020	148.619	80.6345	1,039.72	2.95016	1.19708	322.346	323.543	1.11958	81.6983	82.8178	—	300,009	300,009	10.6040	11.3272	33.3699	303,683
Area	84.6331	83.6069	1.44463	159.671	0.00736	0.10899	—	0.10899	0.08247	—	0.08247	0.00000	466.178	466.178	0.01950	0.00390	—	467.829
Energy	0.56488	0.28244	4.87288	2.38953	0.03081	0.39028	—	0.39028	0.39028	—	0.39028	—	12,438.6	12,438.6	1.77004	0.16036	—	12,530.7
Water	—	—	—	—	—	—	—	—	—	—	—	247.936	471.169	719.105	25.5147	0.61515	—	1,540.29
Waste	—	—	—	—	—	—	—	—	—	—	—	1,288.58	0.00000	1,288.58	128.789	0.00000	—	4,508.31
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.2831	20.2831
Total	244.218	232.509	86.9520	1,201.78	2.98833	1.69635	322.346	324.042	1.59233	81.6983	83.2906	1,536.52	313,385	314,921	166.697	12.1066	53.6531	322,750
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	158.955	148.488	89.1067	984.317	2.81550	1.19794	322.346	323.544	1.12040	81.6983	82.8187	—	286,389	286,389	11.2530	12.0176	0.86538	290,252
Area	67.5842	67.5842	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Energy	0.56488	0.28244	4.87288	2.38953	0.03081	0.39028	—	0.39028	0.39028	—	0.39028	—	12,438.6	12,438.6	1.77004	0.16036	—	12,530.7
Water	—	—	—	—	—	—	—	—	—	—	—	247.936	471.169	719.105	25.5147	0.61515	—	1,540.29
Waste	—	—	—	—	—	—	—	—	—	—	—	1,288.58	0.00000	1,288.58	128.789	0.00000	—	4,508.31
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.2831	20.2831
Total	227.104	216.355	93.9796	986.707	2.84631	1.58822	322.346	323.934	1.51068	81.6983	83.2089	1,536.52	299,299	300,835	167.327	12.7932	21.1485	308,852

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	156.613	146.163	87.2216	983.700	2.83575	1.19744	320.313	321.510	1.11992	81.1901	82.3100	—	288,437	288,437	11.0694	11.8728	14.4090	292,266
Area	75.9919	75.4858	0.71242	78.7418	0.00363	0.05375	—	0.05375	0.04067	—	0.04067	0.00000	229.896	229.896	0.00962	0.00192	—	230.710
Energy	0.56488	0.28244	4.87288	2.38953	0.03081	0.39028	—	0.39028	0.39028	—	0.39028	—	12,438.6	12,438.6	1.77004	0.16036	—	12,530.7
Water	—	—	—	—	—	—	—	—	—	—	—	247.936	471.169	719.105	25.5147	0.61515	—	1,540.29
Waste	—	—	—	—	—	—	—	—	—	—	—	1,288.58	0.00000	1,288.58	128.789	0.00000	—	4,508.31
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.2831	20.2831
Total	233.170	221.931	92.8069	1,064.83	2.87019	1.64147	320.313	321.954	1.55087	81.1901	82.7410	1,536.52	301,576	303,113	167.153	12.6502	34.6921	311,096
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	28.5818	26.6748	15.9179	179.525	0.51752	0.21853	58.4571	58.6756	0.20439	14.8172	15.0216	—	47,754.0	47,754.0	1.83267	1.96567	2.38557	48,388.0
Area	13.8685	13.7762	0.13002	14.3704	0.00066	0.00981	—	0.00981	0.00742	—	0.00742	0.00000	38.0619	38.0619	0.00159	0.00032	—	38.1967
Energy	0.10309	0.05155	0.88930	0.43609	0.00562	0.07123	—	0.07123	0.07123	—	0.07123	—	2,059.36	2,059.36	0.29305	0.02655	—	2,074.60
Water	—	—	—	—	—	—	—	—	—	—	—	41.0486	78.0074	119.056	4.22424	0.10185	—	255.012
Waste	—	—	—	—	—	—	—	—	—	—	—	213.339	0.00000	213.339	21.3225	0.00000	—	746.402
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.35810	3.35810
Total	42.5534	40.5025	16.9373	194.332	0.52381	0.29957	58.4571	58.7567	0.28303	14.8172	15.1002	254.388	49,929.4	50,183.8	27.6741	2.09438	5.74367	51,505.5

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	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	—	—	—	—	—	—	—	—	—	—	—	—	3,624.63	3,624.63	0.70512	0.08547	—	3,667.73
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	2,686.79	2,686.79	0.52267	0.06335	—	2,718.74
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	6,311.42	6,311.42	1.22779	0.14882	—	6,386.46
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	3,624.63	3,624.63	0.70512	0.08547	—	3,667.73
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	2,686.79	2,686.79	0.52267	0.06335	—	2,718.74
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	6,311.42	6,311.42	1.22779	0.14882	—	6,386.46
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	600.099	600.099	0.11674	0.01415	—	607.234
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	444.829	444.829	0.08653	0.01049	—	450.118

City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,044.93	1,044.93	0.20327	0.02464	—	1,057.35

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	0.48102	0.24051	4.11055	1.74917	0.02624	0.33234	—	0.33234	0.33234	—	0.33234	—	5,217.63	5,217.63	0.46176	0.00982	—	5,232.10
Strip Mall	0.08386	0.04193	0.76233	0.64036	0.00457	0.05794	—	0.05794	0.05794	—	0.05794	—	909.589	909.589	0.08050	0.00171	—	912.112
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.56488	0.28244	4.87288	2.38953	0.03081	0.39028	—	0.39028	0.39028	—	0.39028	—	6,127.22	6,127.22	0.54226	0.01154	—	6,144.21
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.48102	0.24051	4.11055	1.74917	0.02624	0.33234	—	0.33234	0.33234	—	0.33234	—	5,217.63	5,217.63	0.46176	0.00982	—	5,232.10
Strip Mall	0.08386	0.04193	0.76233	0.64036	0.00457	0.05794	—	0.05794	0.05794	—	0.05794	—	909.589	909.589	0.08050	0.00171	—	912.112
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.56488	0.28244	4.87288	2.38953	0.03081	0.39028	—	0.39028	0.39028	—	0.39028	—	6,127.22	6,127.22	0.54226	0.01154	—	6,144.21
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.08779	0.04389	0.75018	0.31922	0.00479	0.06065	—	0.06065	0.06065	—	0.06065	—	863.838	863.838	0.07645	0.00163	—	866.234
Strip Mall	0.01530	0.00765	0.13913	0.11687	0.00083	0.01057	—	0.01057	0.01057	—	0.01057	—	150.593	150.593	0.01333	0.00028	—	151.011
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.10309	0.05155	0.88930	0.43609	0.00562	0.07123	—	0.07123	0.07123	—	0.07123	—	1,014.43	1,014.43	0.08978	0.00191	—	1,017.24

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	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Consumer Products	62.7667	62.7667	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	4.81757	4.81757	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landsca Equipment	17.0488	16.0226	1.44463	159.671	0.00736	0.10899	—	0.10899	0.08247	—	0.08247	—	466.178	466.178	0.01950	0.00390	—	467.829
Total	84.6331	83.6069	1.44463	159.671	0.00736	0.10899	—	0.10899	0.08247	—	0.08247	0.00000	466.178	466.178	0.01950	0.00390	—	467.829
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Consumer Products	62.7667	62.7667	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	4.81757	4.81757	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	67.5842	67.5842	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Consumer Products	11.4549	11.4549	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.87921	0.87921	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.53439	1.44204	0.13002	14.3704	0.00066	0.00981	—	0.00981	0.00742	—	0.00742	—	38.0619	38.0619	0.00159	0.00032	—	38.1967
Total	13.8685	13.7762	0.13002	14.3704	0.00066	0.00981	—	0.00981	0.00742	—	0.00742	0.00000	38.0619	38.0619	0.00159	0.00032	—	38.1967

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	—	—	—	—	—	—	—	—	—	—	—	154.843	277.127	431.970	15.9313	0.38378	—	944.619
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	93.0925	162.128	255.221	9.57711	0.23062	—	563.374
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	31.9141	31.9141	0.00621	0.00075	—	32.2935
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	247.936	471.169	719.105	25.5147	0.61515	—	1,540.29
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	154.843	277.127	431.970	15.9313	0.38378	—	944.619
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	93.0925	162.128	255.221	9.57711	0.23062	—	563.374
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	31.9141	31.9141	0.00621	0.00075	—	32.2935
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	247.936	471.169	719.105	25.5147	0.61515	—	1,540.29
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	25.6361	45.8815	71.5176	2.63761	0.06354	—	156.393

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	15.4125	26.8422	42.2547	1.58560	0.03818	—	93.2729
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	5.28374	5.28374	0.00103	0.00012	—	5.34656
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	41.0486	78.0074	119.056	4.22424	0.10185	—	255.012

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	—	—	—	—	—	—	—	—	—	—	—	916.613	0.00000	916.613	91.6122	0.00000	—	3,206.92
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	371.140	0.00000	371.140	37.0941	0.00000	—	1,298.49
City Park	—	—	—	—	—	—	—	—	—	—	—	0.82918	0.00000	0.82918	0.08287	0.00000	—	2.90102
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	1,288.58	0.00000	1,288.58	128.789	0.00000	—	4,508.31
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	916.613	0.00000	916.613	91.6122	0.00000	—	3,206.92

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	371.140	0.00000	371.140	37.0941	0.00000	—	1,298.49
City Park	—	—	—	—	—	—	—	—	—	—	—	0.82918	0.00000	0.82918	0.08287	0.00000	—	2.90102
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	1,288.58	0.00000	1,288.58	128.789	0.00000	—	4,508.31
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	151.756	0.00000	151.756	15.1674	0.00000	—	530.942
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	61.4464	0.00000	61.4464	6.14135	0.00000	—	214.980
City Park	—	—	—	—	—	—	—	—	—	—	—	0.13728	0.00000	0.13728	0.01372	0.00000	—	0.48030
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	213.339	0.00000	213.339	21.3225	0.00000	—	746.402

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.1983	16.1983

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.08482	4.08482
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.2831	20.2831
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.1983	16.1983
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.08482	4.08482
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.2831	20.2831
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.68182	2.68182
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.67629	0.67629
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.35810	3.35810

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

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	77,368.0	77,368.0	77,368.0	28,239,320	457,136	457,136	457,136	166,854,640

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Apartments Mid Rise	Wood Fireplaces	0	0
Apartments Mid Rise	Gas Fireplaces	0	0
Apartments Mid Rise	Propane Fireplaces	0	0
Apartments Mid Rise	Electric Fireplaces	0	0
Apartments Mid Rise	No Fireplaces	2,285	2,285
Apartments Mid Rise	Conventional Wood Stoves	0	0
Apartments Mid Rise	Catalytic Wood Stoves	0	0
Apartments Mid Rise	Non-Catalytic Wood Stoves	0	0
Apartments Mid Rise	Pellet Wood Stoves	0	0
Strip Mall	Wood Fireplaces	0	0
Strip Mall	Gas Fireplaces	0	0
Strip Mall	Propane Fireplaces	0	0
Strip Mall	Electric Fireplaces	0	0
Strip Mall	No Fireplaces	0	0
Strip Mall	Conventional Wood Stoves	0	0
Strip Mall	Catalytic Wood Stoves	0	0
Strip Mall	Non-Catalytic Wood Stoves	0	0
Strip Mall	Pellet Wood Stoves	0	0
City Park	Wood Fireplaces	0	0
City Park	Gas Fireplaces	0	0
City Park	Propane Fireplaces	0	0
City Park	Electric Fireplaces	0	0
City Park	No Fireplaces	0	0
City Park	Conventional Wood Stoves	0	0

City Park	Catalytic Wood Stoves	0	0
City Park	Non-Catalytic Wood Stoves	0	0
City Park	Pellet Wood Stoves	0	0
Other Asphalt Surfaces	Wood Fireplaces	0	0
Other Asphalt Surfaces	Gas Fireplaces	0	0
Other Asphalt Surfaces	Propane Fireplaces	0	0
Other Asphalt Surfaces	Electric Fireplaces	0	0
Other Asphalt Surfaces	No Fireplaces	0	0
Other Asphalt Surfaces	Conventional Wood Stoves	0	0
Other Asphalt Surfaces	Catalytic Wood Stoves	0	0
Other Asphalt Surfaces	Non-Catalytic Wood Stoves	0	0
Other Asphalt Surfaces	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
4,579,945	1,526,648	983,784	327,928	83,530.7

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	180.000

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	7,799,001	169.636	0.0330	0.0040	16,280,404
Strip Mall	5,781,081	169.636	0.0330	0.0040	2,838,162
City Park	0.00000	169.636	0.0330	0.0040	0.00000
Other Asphalt Surfaces	0.00000	169.636	0.0330	0.0040	0.00000

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	80,806,073	8,708,137
Strip Mall	48,580,908	3,418,223
City Park	0.00000	12,939,786
Other Asphalt Surfaces	0.00000	0.00000

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	1,700.77	0.00000
Strip Mall	688.649	0.00000
City Park	1.53854	0.00000
Other Asphalt Surfaces	0.00000	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

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

Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.03750	1.000000	0.00000	1.000000
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922.00	0.00040	7.50000	7.50000	20.0000
City Park	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.03750	1.000000	0.00000	1.000000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. 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	14.7400	annual days of extreme heat
Extreme Precipitation	5.15000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	10.4800	annual hectares burned

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

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

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

6.3. Adjusted Climate Risk Scores

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	42.5638
AQ-PM	28.1394
AQ-DPM	76.8015
Drinking Water	24.1539
Lead Risk Housing	39.5337
Pesticides	35.7241
Toxic Releases	27.8445
Traffic	61.5375
Effect Indicators	—
CleanUp Sites	78.6114
Groundwater	67.4747
Haz Waste Facilities/Generators	82.7399
Impaired Water Bodies	43.7841
Solid Waste	96.6323
Sensitive Population	—
Asthma	3.21535

Cardio-vascular	14.0952
Low Birth Weights	40.4670
Socioeconomic Factor Indicators	—
Education	78.3346
Housing	82.7883
Linguistic	77.8590
Poverty	78.2035
Unemployment	36.4394

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	14.57718465
Employed	17.95200821
Median HI	15.05196972
Education	—
Bachelor's or higher	34.96727833
High school enrollment	100
Preschool enrollment	1.873476197
Transportation	—
Auto Access	7.878865649
Active commuting	68.52303349
Social	—
2-parent households	81.04709355
Voting	41.66559733
Neighborhood	—
Alcohol availability	17.16925446

Park access	56.96137559
Retail density	84.51174131
Supermarket access	77.74926216
Tree canopy	38.40626203
Housing	—
Homeownership	8.623123316
Housing habitability	19.36353137
Low-inc homeowner severe housing cost burden	79.81521879
Low-inc renter severe housing cost burden	64.18580778
Uncrowded housing	31.19466188
Health Outcomes	—
Insured adults	5.902733222
Arthritis	9.2
Asthma ER Admissions	99.1
High Blood Pressure	21.8
Cancer (excluding skin)	21.2
Asthma	30.0
Coronary Heart Disease	3.1
Chronic Obstructive Pulmonary Disease	5.5
Diagnosed Diabetes	18.3
Life Expectancy at Birth	13.9
Cognitively Disabled	11.9
Physically Disabled	7.5
Heart Attack ER Admissions	99.6
Mental Health Not Good	25.4
Chronic Kidney Disease	2.7
Obesity	34.9
Pedestrian Injuries	81.7

Physical Health Not Good	17.6
Stroke	5.6
Health Risk Behaviors	—
Binge Drinking	68.3
Current Smoker	35.6
No Leisure Time for Physical Activity	16.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	16.3
Elderly	23.2
English Speaking	15.1
Foreign-born	80.3
Outdoor Workers	11.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	47.4
Traffic Density	77.2
Traffic Access	23.0
Other Indices	—
Hardship	72.9
Other Decision Support	—
2016 Voting	49.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	59.0000
Healthy Places Index Score for Project Location (b)	15.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No

Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Residential - 2,300 du, 2,261,701 sf Commercial - 655,856 sf Total commercial + residential acreage = 80.98 Landscaping modeled as 20% acreage Park - 17.89 acres, 50% modeled as landscaping ROW - 31.96 acres
Operations: Hearths	No fireplaces or wood stoves

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	60.5263	54.7300
Building Area	sq. ft	2,208,000	2,261,701
Landscape Area	sq. ft	—	476,764
Lot Area	acre	15.0564	26.2500

Landscape Area	sq. ft	—	228,733

8.5. Operations

8.5.2. Area Sources

8.5.2.1. Hearths

Land Use	Model Parameter	Units	Default Value	New Value
Apartments Mid Rise	Wood Fireplaces	—	805	0
Apartments Mid Rise	Gas Fireplaces	—	1,265	0
Apartments Mid Rise	No Fireplaces	—	230	2,285
Apartments Mid Rise	Hours/Day	—	3	0
Apartments Mid Rise	Days/Year	—	82	0
Apartments Mid Rise	Wood Mass	lb/year	3,078	0
Apartments Mid Rise	Catalytic Wood Stoves	—	115	0
Apartments Mid Rise	Non-Catalytic Wood Stoves	—	115	0
Apartments Mid Rise	Days/Year	—	82	0
Apartments Mid Rise	Wood Mass	lb/year	3,019	0

ATTACHMENT 3

CalEEMod Output – Operational Emissions – Adopted Specific Plan

Adopted San Marcos Creek Specific Plan Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Adopted San Marcos Creek Specific Plan
Operational Year	2050
Lead Agency	City of San Marcos
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.20000
Precipitation (days)	9.80000
Location	33.134156038444246, -117.18492354341717
County	San Diego
City	San Marcos
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6271
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.44

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	2,300.00	Dwelling Unit	54.9400	2,760,000	478,648	—	6,417.00	—
Strip Mall	1,265.00	1000sqft	26.3600	1,265,000	229,637	—	—	—

City Park	20.6000	Acre	20.6000	0.00000	448,668	448,668	—	—
Other Asphalt Surfaces	38.5000	Acre	38.5000	0.00000	0.00000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.3. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	348.096	331.448	124.054	1,683.94	4.25616	2.31390	459.668	461.982	2.16486	116.503	118.667	1,967.81	445,324	447,291	215.385	17.4013	75.2317	457,937
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	326.293	310.922	134.673	1,421.98	4.05526	2.15911	459.668	461.828	2.04802	116.503	118.551	1,967.81	425,335	427,302	216.328	18.3972	28.8799	438,222
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	333.556	317.529	132.733	1,511.95	4.08852	2.23533	456.770	459.005	2.10554	115.778	117.884	1,967.81	428,535	430,503	216.067	18.1879	48.1932	441,373
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	60.8740	57.9491	24.2238	275.930	0.74616	0.40795	83.3605	83.7684	0.38426	21.1295	21.5137	325.794	70,948.9	71,274.7	35.7723	3.01121	7.97893	73,074.3
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	250.000	250.000	550.000	250.000	—	—	100.0000	—	—	67.0000	—	—	—	—	—	—	—
Unmit.	—	Yes	No	Yes	No	—	—	Yes	—	—	Yes	—	—	—	—	—	—	—

Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	250.000	250.000	550.000	250.000	—	—	100.0000	—	—	67.0000	—	—	—	—	—	—	—
Unmit.	—	Yes	No	Yes	No	—	—	Yes	—	—	Yes	—	—	—	—	—	—	—

2.4. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	232.697	217.759	116.805	1,494.79	4.21216	1.71376	459.668	461.382	1.60273	116.503	118.105	—	428,351	428,351	15.3682	16.3464	47.5859	433,654
Area	114.757	113.367	1.66756	186.164	0.00894	0.15605	—	0.15605	0.11804	—	0.11804	0.00000	575.122	575.122	0.02407	0.00484	—	577.165
Energy	0.64276	0.32138	5.58092	2.98428	0.03506	0.44409	—	0.44409	0.44409	—	0.44409	—	15,778.9	15,778.9	2.33026	0.22079	—	15,902.9
Water	—	—	—	—	—	—	—	—	—	—	—	334.398	618.872	953.271	34.4091	0.82928	—	2,060.62
Waste	—	—	—	—	—	—	—	—	—	—	—	1,633.41	0.00000	1,633.41	163.254	0.00000	—	5,714.76
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.6458	27.6458
Total	348.096	331.448	124.054	1,683.94	4.25616	2.31390	459.668	461.982	2.16486	116.503	118.667	1,967.81	445,324	447,291	215.385	17.4013	75.2317	457,937
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	232.660	217.612	129.092	1,418.99	4.02020	1.71502	459.668	461.383	1.60393	116.503	118.107	—	408,937	408,937	16.3351	17.3472	1.23404	414,516
Area	92.9894	92.9894	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Energy	0.64276	0.32138	5.58092	2.98428	0.03506	0.44409	—	0.44409	0.44409	—	0.44409	—	15,778.9	15,778.9	2.33026	0.22079	—	15,902.9
Water	—	—	—	—	—	—	—	—	—	—	—	334.398	618.872	953.271	34.4091	0.82928	—	2,060.62
Waste	—	—	—	—	—	—	—	—	—	—	—	1,633.41	0.00000	1,633.41	163.254	0.00000	—	5,714.76
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.6458	27.6458
Total	326.293	310.922	134.673	1,421.98	4.05526	2.15911	459.668	461.828	2.04802	116.503	118.551	1,967.81	425,335	427,302	216.328	18.3972	28.8799	438,222

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	229.189	214.169	126.330	1,417.16	4.04906	1.71429	456.770	458.484	1.60323	115.778	117.381	—	411,854	411,854	16.0616	17.1354	20.5473	417,382
Area	103.724	103.039	0.82236	91.8070	0.00441	0.07696	—	0.07696	0.05821	—	0.05821	0.00000	283.622	283.622	0.01187	0.00238	—	284.629
Energy	0.64276	0.32138	5.58092	2.98428	0.03506	0.44409	—	0.44409	0.44409	—	0.44409	—	15,778.9	15,778.9	2.33026	0.22079	—	15,902.9
Water	—	—	—	—	—	—	—	—	—	—	—	334.398	618.872	953.271	34.4091	0.82928	—	2,060.62
Waste	—	—	—	—	—	—	—	—	—	—	—	1,633.41	0.00000	1,633.41	163.254	0.00000	—	5,714.76
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.6458	27.6458
Total	333.556	317.529	132.733	1,511.95	4.08852	2.23533	456.770	459.005	2.10554	115.778	117.884	1,967.81	428,535	430,503	216.067	18.1879	48.1932	441,373
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	41.8271	39.0859	23.0552	258.631	0.73895	0.31286	83.3605	83.6734	0.29259	21.1295	21.4221	—	68,187.1	68,187.1	2.65917	2.83696	3.40185	69,102.4
Area	18.9296	18.8045	0.15008	16.7548	0.00080	0.01404	—	0.01404	0.01062	—	0.01062	0.00000	46.9568	46.9568	0.00197	0.00039	—	47.1236
Energy	0.11730	0.05865	1.01852	0.54463	0.00640	0.08105	—	0.08105	0.08105	—	0.08105	—	2,612.37	2,612.37	0.38580	0.03655	—	2,632.91
Water	—	—	—	—	—	—	—	—	—	—	—	55.3634	102.461	157.825	5.69682	0.13730	—	341.160
Waste	—	—	—	—	—	—	—	—	—	—	—	270.430	0.00000	270.430	27.0285	0.00000	—	946.144
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.57708	4.57708
Total	60.8740	57.9491	24.2238	275.930	0.74616	0.40795	83.3605	83.7684	0.38426	21.1295	21.5137	325.794	70,948.9	71,274.7	35.7723	3.01121	7.97893	73,074.3

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	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	—	—	—	—	—	—	—	—	—	—	—	—	3,624.63	3,624.63	0.70512	0.08547	—	3,667.73
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	5,182.22	5,182.22	1.00812	0.12220	—	5,243.84
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	8,806.85	8,806.85	1.71324	0.20766	—	8,911.56
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	3,624.63	3,624.63	0.70512	0.08547	—	3,667.73
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	5,182.22	5,182.22	1.00812	0.12220	—	5,243.84
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	8,806.85	8,806.85	1.71324	0.20766	—	8,911.56
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	600.099	600.099	0.11674	0.01415	—	607.234
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	857.976	857.976	0.16691	0.02023	—	868.177

City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,458.07	1,458.07	0.28365	0.03438	—	1,475.41

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	0.48102	0.24051	4.11055	1.74917	0.02624	0.33234	—	0.33234	0.33234	—	0.33234	—	5,217.63	5,217.63	0.46176	0.00982	—	5,232.10
Strip Mall	0.16174	0.08087	1.47037	1.23511	0.00882	0.11175	—	0.11175	0.11175	—	0.11175	—	1,754.39	1,754.39	0.15526	0.00330	—	1,759.26
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.64276	0.32138	5.58092	2.98428	0.03506	0.44409	—	0.44409	0.44409	—	0.44409	—	6,972.02	6,972.02	0.61702	0.01313	—	6,991.36
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.48102	0.24051	4.11055	1.74917	0.02624	0.33234	—	0.33234	0.33234	—	0.33234	—	5,217.63	5,217.63	0.46176	0.00982	—	5,232.10
Strip Mall	0.16174	0.08087	1.47037	1.23511	0.00882	0.11175	—	0.11175	0.11175	—	0.11175	—	1,754.39	1,754.39	0.15526	0.00330	—	1,759.26
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.64276	0.32138	5.58092	2.98428	0.03506	0.44409	—	0.44409	0.44409	—	0.44409	—	6,972.02	6,972.02	0.61702	0.01313	—	6,991.36
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.08779	0.04389	0.75018	0.31922	0.00479	0.06065	—	0.06065	0.06065	—	0.06065	—	863.838	863.838	0.07645	0.00163	—	866.234
Strip Mall	0.02952	0.01476	0.26834	0.22541	0.00161	0.02039	—	0.02039	0.02039	—	0.02039	—	290.460	290.460	0.02571	0.00055	—	291.266
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.11730	0.05865	1.01852	0.54463	0.00640	0.08105	—	0.08105	0.08105	—	0.08105	—	1,154.30	1,154.30	0.10215	0.00217	—	1,157.50

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	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Consumer Products	86.5219	86.5219	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	6.46752	6.46752	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landsca Equipment	21.7672	20.3774	1.66756	186.164	0.00894	0.15605	—	0.15605	0.11804	—	0.11804	—	575.122	575.122	0.02407	0.00484	—	577.165
Total	114.757	113.367	1.66756	186.164	0.00894	0.15605	—	0.15605	0.11804	—	0.11804	0.00000	575.122	575.122	0.02407	0.00484	—	577.165
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Consumer Products	86.5219	86.5219	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	6.46752	6.46752	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	92.9894	92.9894	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Consumer Products	15.7902	15.7902	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.18032	1.18032	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.95905	1.83396	0.15008	16.7548	0.00080	0.01404	—	0.01404	0.01062	—	0.01062	—	46.9568	46.9568	0.00197	0.00039	—	47.1236
Total	18.9296	18.8045	0.15008	16.7548	0.00080	0.01404	—	0.01404	0.01062	—	0.01062	0.00000	46.9568	46.9568	0.00197	0.00039	—	47.1236

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	—	—	—	—	—	—	—	—	—	—	—	154.843	277.212	432.055	15.9314	0.38378	—	944.705
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	179.555	304.912	484.467	18.4706	0.44464	—	1,078.73
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	36.7485	36.7485	0.00715	0.00087	—	37.1854
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	334.398	618.872	953.271	34.4091	0.82928	—	2,060.62
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	154.843	277.212	432.055	15.9314	0.38378	—	944.705
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	179.555	304.912	484.467	18.4706	0.44464	—	1,078.73
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	36.7485	36.7485	0.00715	0.00087	—	37.1854
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	334.398	618.872	953.271	34.4091	0.82928	—	2,060.62
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	25.6361	45.8956	71.5317	2.63762	0.06354	—	156.407

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	29.7273	50.4817	80.2090	3.05802	0.07361	—	178.597
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	6.08413	6.08413	0.00118	0.00014	—	6.15647
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	55.3634	102.461	157.825	5.69682	0.13730	—	341.160

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	—	—	—	—	—	—	—	—	—	—	—	916.613	0.00000	916.613	91.6122	0.00000	—	3,206.92
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	715.845	0.00000	715.845	71.5462	0.00000	—	2,504.50
City Park	—	—	—	—	—	—	—	—	—	—	—	0.95478	0.00000	0.95478	0.09543	0.00000	—	3.34046
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	1,633.41	0.00000	1,633.41	163.254	0.00000	—	5,714.76
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	916.613	0.00000	916.613	91.6122	0.00000	—	3,206.92

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	715.845	0.00000	715.845	71.5462	0.00000	—	2,504.50
City Park	—	—	—	—	—	—	—	—	—	—	—	0.95478	0.00000	0.95478	0.09543	0.00000	—	3.34046
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	1,633.41	0.00000	1,633.41	163.254	0.00000	—	5,714.76
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	151.756	0.00000	151.756	15.1674	0.00000	—	530.942
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	118.516	0.00000	118.516	11.8453	0.00000	—	414.649
City Park	—	—	—	—	—	—	—	—	—	—	—	0.15808	0.00000	0.15808	0.01580	0.00000	—	0.55305
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	270.430	0.00000	270.430	27.0285	0.00000	—	946.144

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.7671	19.7671

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.87871	7.87871
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.6458	27.6458
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.7671	19.7671
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.87871	7.87871
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.6458	27.6458
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.27267	3.27267
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.30441	1.30441
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.57708	4.57708

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

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	114,102	114,102	114,102	41,647,230	651,881	651,881	651,881	237,936,565

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Apartments Mid Rise	Wood Fireplaces	0	0
Apartments Mid Rise	Gas Fireplaces	0	0
Apartments Mid Rise	Propane Fireplaces	0	0
Apartments Mid Rise	Electric Fireplaces	0	0
Apartments Mid Rise	No Fireplaces	2,300	2,300
Apartments Mid Rise	Conventional Wood Stoves	0	0
Apartments Mid Rise	Catalytic Wood Stoves	0	0
Apartments Mid Rise	Non-Catalytic Wood Stoves	0	0
Apartments Mid Rise	Pellet Wood Stoves	0	0
Strip Mall	Wood Fireplaces	0	0
Strip Mall	Gas Fireplaces	0	0
Strip Mall	Propane Fireplaces	0	0
Strip Mall	Electric Fireplaces	0	0
Strip Mall	No Fireplaces	0	0
Strip Mall	Conventional Wood Stoves	0	0
Strip Mall	Catalytic Wood Stoves	0	0
Strip Mall	Non-Catalytic Wood Stoves	0	0
Strip Mall	Pellet Wood Stoves	0	0
City Park	Wood Fireplaces	0	0
City Park	Gas Fireplaces	0	0
City Park	Propane Fireplaces	0	0
City Park	Electric Fireplaces	0	0
City Park	No Fireplaces	0	0
City Park	Conventional Wood Stoves	0	0

City Park	Catalytic Wood Stoves	0	0
City Park	Non-Catalytic Wood Stoves	0	0
City Park	Pellet Wood Stoves	0	0
Other Asphalt Surfaces	Wood Fireplaces	0	0
Other Asphalt Surfaces	Gas Fireplaces	0	0
Other Asphalt Surfaces	Propane Fireplaces	0	0
Other Asphalt Surfaces	Electric Fireplaces	0	0
Other Asphalt Surfaces	No Fireplaces	0	0
Other Asphalt Surfaces	Conventional Wood Stoves	0	0
Other Asphalt Surfaces	Catalytic Wood Stoves	0	0
Other Asphalt Surfaces	Non-Catalytic Wood Stoves	0	0
Other Asphalt Surfaces	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
5,589,000	1,863,000	1,897,500	632,500	100,624

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	180.000

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	7,799,001	169.636	0.0330	0.0040	16,280,404
Strip Mall	11,150,417	169.636	0.0330	0.0040	5,474,182
City Park	0.00000	169.636	0.0330	0.0040	0.00000
Other Asphalt Surfaces	0.00000	169.636	0.0330	0.0040	0.00000

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	80,806,073	8,742,548
Strip Mall	93,701,740	3,431,733
City Park	0.00000	14,899,929
Other Asphalt Surfaces	0.00000	0.00000

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	1,700.77	0.00000
Strip Mall	1,328.25	0.00000
City Park	1.77160	0.00000
Other Asphalt Surfaces	0.00000	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

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

Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.03750	1.000000	0.00000	1.000000
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922.00	0.00040	7.50000	7.50000	20.0000
City Park	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.03750	1.000000	0.00000	1.000000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. 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	14.7400	annual days of extreme heat
Extreme Precipitation	5.15000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	10.4800	annual hectares burned

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

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

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

6.3. Adjusted Climate Risk Scores

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	42.5638
AQ-PM	28.1394
AQ-DPM	76.8015
Drinking Water	24.1539
Lead Risk Housing	39.5337
Pesticides	35.7241
Toxic Releases	27.8445
Traffic	61.5375
Effect Indicators	—
CleanUp Sites	78.6114
Groundwater	67.4747
Haz Waste Facilities/Generators	82.7399
Impaired Water Bodies	43.7841
Solid Waste	96.6323
Sensitive Population	—
Asthma	3.21535

Cardio-vascular	14.0952
Low Birth Weights	40.4670
Socioeconomic Factor Indicators	—
Education	78.3346
Housing	82.7883
Linguistic	77.8590
Poverty	78.2035
Unemployment	36.4394

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	14.57718465
Employed	17.95200821
Median HI	15.05196972
Education	—
Bachelor's or higher	34.96727833
High school enrollment	100
Preschool enrollment	1.873476197
Transportation	—
Auto Access	7.878865649
Active commuting	68.52303349
Social	—
2-parent households	81.04709355
Voting	41.66559733
Neighborhood	—
Alcohol availability	17.16925446

Park access	56.96137559
Retail density	84.51174131
Supermarket access	77.74926216
Tree canopy	38.40626203
Housing	—
Homeownership	8.623123316
Housing habitability	19.36353137
Low-inc homeowner severe housing cost burden	79.81521879
Low-inc renter severe housing cost burden	64.18580778
Uncrowded housing	31.19466188
Health Outcomes	—
Insured adults	5.902733222
Arthritis	9.2
Asthma ER Admissions	99.1
High Blood Pressure	21.8
Cancer (excluding skin)	21.2
Asthma	30.0
Coronary Heart Disease	3.1
Chronic Obstructive Pulmonary Disease	5.5
Diagnosed Diabetes	18.3
Life Expectancy at Birth	13.9
Cognitively Disabled	11.9
Physically Disabled	7.5
Heart Attack ER Admissions	99.6
Mental Health Not Good	25.4
Chronic Kidney Disease	2.7
Obesity	34.9
Pedestrian Injuries	81.7

Physical Health Not Good	17.6
Stroke	5.6
Health Risk Behaviors	—
Binge Drinking	68.3
Current Smoker	35.6
No Leisure Time for Physical Activity	16.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	16.3
Elderly	23.2
English Speaking	15.1
Foreign-born	80.3
Outdoor Workers	11.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	47.4
Traffic Density	77.2
Traffic Access	23.0
Other Indices	—
Hardship	72.9
Other Decision Support	—
2016 Voting	49.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	59.0000
Healthy Places Index Score for Project Location (b)	15.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No

Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Residential - 2,300 du, 2,760,000 sf Commercial - 1,265,000 sf Total commercial + residential acreage = 81.3 Landscaping modeled as 20% acreage Park - 20.6 acres, 50% modeled as landscaping ROW - 38.5 acres
Operations: Hearths	No fireplaces or wood stoves

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	60.5263	54.9400
Building Area	sq. ft	2,208,000	2,760,000
Landscape Area	sq. ft	—	478,648
Lot Area	acre	29.0404	26.3600

Landscape Area	sq. ft	—	229,637

8.5. Operations

8.5.2. Area Sources

8.5.2.1. Hearths

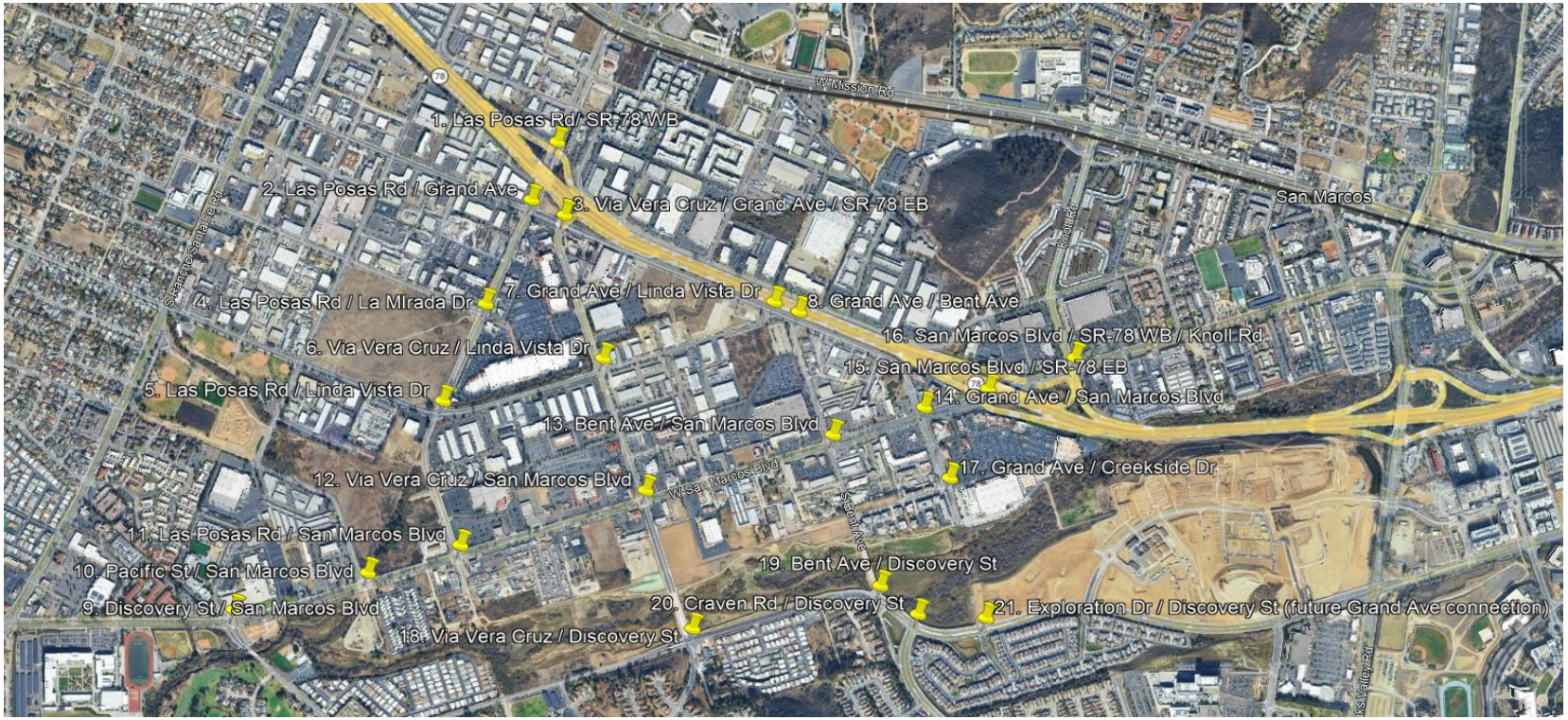
Land Use	Model Parameter	Units	Default Value	New Value
Apartments Mid Rise	Wood Fireplaces	—	805	0
Apartments Mid Rise	Gas Fireplaces	—	1,265	0
Apartments Mid Rise	No Fireplaces	—	230	2,300
Apartments Mid Rise	Hours/Day	—	3	0
Apartments Mid Rise	Days/Year	—	82	0
Apartments Mid Rise	Wood Mass	lb/year	3,078	0
Apartments Mid Rise	Catalytic Wood Stoves	—	115	0
Apartments Mid Rise	Non-Catalytic Wood Stoves	—	115	0
Apartments Mid Rise	Days/Year	—	82	0
Apartments Mid Rise	Wood Mass	lb/year	3,019	0

ATTACHMENT 4

Intersection Turning Volumes

San Marcos Creek Specific Plan
Intersection LOS Summary

		Existing				Horizon Year				Horizon Year with Project			
		AM		PM		AM		PM		AM		PM	
Intersection	Control	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1: Las Posas Rd & SR-78 WB Ramps	Signal	40.6	D	22.5	C	62.9	E	64.9	E	53.0	D	36.5	D
2: Las Posas Rd & Grand Ave	Signal	19.7	B	41.7	D	42.1	D	65.1	E	41.1	D	54.1	D
3: Via Vera Cruz/SR-78 EB Ramps & Grand Ave	Signal	59.1	E	101.5	F	108.7	F	194.7	F	109.2	F	150.7	F
4: Las Posas Rd & La Mirada Dr	Signal	48.5	D	33.8	C	63.5	E	39.7	D	51.0	D	38.9	D
5: Las Posas Rd & Linda Vista Dr	Signal	25.3	C	26.9	C	29.4	C	41.5	D	32.0	C	41.1	D
6: Via Vera Cruz & Linda Vista Dr	Signal	17.5	B	22.4	C	24.0	C	46.3	D	23.3	C	43.0	D
7: Linda Vista Dr & Grand Ave	SSSC	10.5	B	31.2	D	48.3	E	301.7	F	35.3	E	222.1	F
8: Bent Ave & Grand Ave	Signal	8.9	A	16.1	B	11.5	B	35.0	C	12.7	B	39.8	D
9: Discovery St & San Marcos Blvd	Signal	44.1	D	22.9	C	51.2	D	54.0	D	47.8	D	47.4	D
10: San Marcos Blvd & Pacific St	Signal	19.9	B	12.8	B	43.6	D	112.0	F	24.3	C	47.6	D
11: Las Posas Rd & San Marcos Blvd	Signal	20.1	C	42.0	D	33.4	C	103.8	F	28.6	C	53.9	D
12: Via Vera Cruz & San Marcos Blvd	Signal	51.0	D	55.1	E	64.3	E	145.4	F	49.3	D	93.6	F
13: Bent Ave & San Marcos Blvd	Signal	84.7	F	29.5	C	88.5	F	129.4	F	36.5	D	85.6	F
14: Grand Ave & San Marcos Blvd	Signal	17.0	B	36.3	D	29.3	C	76.1	E	24.9	C	46.0	D
15: SR-78 EB Ramps & San Marcos Blvd	Signal	9.7	A	10.6	B	12.1	B	16.5	B	12.3	B	13.9	B
16: SR-78 WB Ramps/Knoll Rd & San Marcos Blvd	Signal	24.4	C	25.5	C	31.7	C	33.7	C	29.6	C	33.1	C
17: Grand Ave & Creekside Dr/Creekside Pl	Signal	10.0	A	12.0	B	30.9	C	194.5	F	16.0	B	51.2	D
18: Via Vera Cruz & Discovery St	Signal	21.0	C	30.7	C	51.2	D	56.2	E	26.1	C	53.0	D
19: Bent Ave & Discovery St	Signal	12.5	B	25.1	C	15.6	B	59.4	E	14.6	B	51.3	D
20: Craven Rd & Discovery St	Signal	19.2	B	22.8	C	20.5	C	25.8	C	20.5	C	41.5	D
21: Exploration Dr & Discovery St (future Grand Ave connection)	Signal	10.0	B	10.3	B	39.9	D	27.9	C	25.6	C	31.6	C



Turning Movement Count
60 Minute Counts

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	
1	204	766			1,193	290				520		198	3,171	
2	23	327	46	402	767	603	169	194	18	96	173	503	3,321	
3	136	48	14	131	264	430	328	164	177	36	189	3	1,920	
4	27	232	100	225	440	156	43	39	24	146	60	208	1,700	
5	34	214	11	32	271	319	96	224	61	7	161	22	1,452	
6	16	81	58	10	292	34	70	164	14	12	127	13	891	
7	5		90					316	18	126	254		809	
8	126		33					202	201	21	255		838	
9	416	65	112	242	41	125	130	719	321	60	844	368	3,443	
10				34		125	80	1,093	2		1,042	22	2,398	
11	20	13	17	63	17	261	163	844	24	21	974	53	2,470	
12	41	146	48	57	149	41	21	714	133	42	900	62	2,354	
13	62	75	222	75	87	41	62	931	25	115	1,023	83	2,801	
14	22	34	49	140	60	22	28	984	74	172	1,180	211	2,976	
15				164		69		591	758	214	1,582		3,378	
16	709	263	23	75		452	193	444	126		848	94	3,227	
17	4	7	1	98	8	51	20	40	2		31	25	287	
18	21	88	89	93	49	132	65	475	6	28	620	126	1,792	
19				162		62	145	481			659	271	1,780	
20	397		3					327	347	2	514		1,590	
21	32		60				10	312	8	20	474		916	
													3,443	MAX

Turning Movement Count
60 Minute Counts

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	
1	398	1,465			873	368				232		140	3,476	
2	59	749	138	286	434	296	276	436	100	38	154	866	3,832	
3	273	98	57	398	255	365	299	367	178	57	374	9	2,730	
4	20	472	76	159	343	48	120	60	26	92	32	159	1,607	
5	25	399	8	31	280	136	190	324	26	7	120	57	1,603	
6	63	342	62	34	428	18	51	252	135	10	93	27	1,515	
7	10		342					843	18	105	462		1,780	
8	235		42					843	335	39	332		1,826	
9	303	17	72	108	16	64	41	1,314	646	94	938	78	3,691	
10				37		31	28	1,491			1,121	24	2,732	
11	13	20	13	66	18	262	308	1,209	25	25	849	69	2,877	
12	71	193	32	152	342	51	71	1,122	94	52	927	98	3,205	
13	71	143	185	119	247	44	38	1,213	26	104	987	67	3,244	
14	93	115	181	696	193	16	31	1,424	136	366	1,016	173	4,440	
15				124		54		1,308	1,204	175	1,567		4,432	
16	687	302	62	123		397	328	1,047	151		816	95	4,008	
17	7	18	3	252	8	88	51	135	6	1	129	170	868	
18	7	99	54	291	107	81	66	661	6	73	406	155	2,006	
19				412		84	144	931			546	425	2,542	
20	442		8					825	602	18	481		2,376	
21	13		21					820	13	33	486		1,386	
													4,440	MAX

Turning Movement Count
60 Minute Counts

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	
1	430	830			1,270	350				620	10	280	3,790	
2	70	370	150	440	820	630	180	200	60	200	290	710	4,120	
3	200	240	20	380	580	520	370	210	210	80	480	70	3,360	
4	120	380	190	240	620	180	70	50	90	180	70	230	2,420	
5	60	390	20	70	490	370	110	290	110	80	250	150	2,390	
6	80	330	100	50	470	210	150	200	80	40	200	30	1,940	
7	60		110					540	120	160	690		1,680	
8	390		50					270	380	50	460		1,600	
9	490	80	170	260	60	150	150	1,190	430	100	1,080	390	4,550	
10	80	10	100	70	10	160	130	1,330	160	170	1,430	60	3,710	
11	140	90	150	210	110	360	290	950	260	290	1,160	120	4,130	
12	250	270	290	220	250	160	170	830	280	250	1,070	160	4,200	
13	280	240	520	110	190	90	80	910	330	370	1,180	120	4,420	
14	210	160	230	160	90	40	100	1,090	270	380	1,510	300	4,540	
15				210		230		780	800	370	1,960		4,350	
16	890	310	180	110		490	210	510	270		1,270	130	4,370	
17	140	290	140	220	220	300	210	60	190	130	80	100	2,080	
18	30	100	100	210	70	200	300	580	30	50	720	350	2,740	
19				240		180	230	710			830	620	2,810	
20	440		50					520	430	130	1,010		2,580	
21	40	10	70	220	20	300	140	410	20	30	800	420	2,480	
													4,550	MAX

Turning Movement Count
60 Minute Counts

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	
1	920	1,620			920	450				270	10	180	4,370	
2	160	1,020	460	240	630	320	280	450	130	390	270	1,240	5,590	
3	420	290	230	710	640	620	420	480	250	90	860	290	5,300	
4	70	1,140	140	240	760	120	130	90	40	140	60	200	3,130	
5	100	1,060	40	160	530	210	210	360	70	150	160	130	3,180	
6	140	780	70	80	700	160	80	290	200	40	130	50	2,720	
7	10		370					1,320	70	140	1,110		3,020	
8	680		80					1,020	670	60	570		3,080	
9	350	40	110	120	30	80	60	1,830	710	220	1,240	110	4,900	
10	160	20	280	60	30	50	50	1,830	180	260	1,360	60	4,340	
11	230	510	270	200	250	330	460	1,420	290	350	1,120	230	5,660	
12	310	470	300	270	560	130	220	1,280	470	340	1,180	250	5,780	
13	490	660	490	150	500	130	60	1,350	410	340	1,120	80	5,780	
14	360	290	300	740	300	60	120	1,590	250	570	1,170	220	5,970	
15				180		200		1,540	1,300	320	1,760		5,300	
16	760	390	190	160		430	370	1,130	220		1,110	150	4,910	
17	150	300	100	340	220	560	460	260	150	100	300	190	3,130	
18	20	110	60	530	130	380	270	920	30	90	540	300	3,380	
19				510		170	330	1,230			760	600	3,600	
20	490		50					1,070	670	60	870		3,210	
21	20	10	30	230	20	220	130	960	30	50	690	410	2,800	
													5,970	MAX

Turning Movement Count
60 Minute Counts

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	
1	390	800			1,250	350				620	10	280	3,700	
2	60	340	150	420	820	630	180	180	40	200	230	670	3,920	
3	170	240	20	340	540	500	370	210	170	80	430	70	3,140	
4	70	320	190	240	600	180	70	50	90	180	70	230	2,290	
5	60	320	20	70	400	370	110	280	80	80	250	150	2,190	
6	80	290	100	50	390	210	150	200	70	40	200	30	1,810	
7	60		110					490	120	160	570		1,510	
8	330		50					260	340	50	400		1,430	
9	490	80	170	260	60	150	150	910	430	100	1,180	390	4,370	
10	50	10	70	70	10	160	180	1,090	70	60	1,460	60	3,290	
11	80	70	110	170	90	300	240	930	60	100	1,200	120	3,470	
12	180	280	230	120	230	90	120	830	240	150	1,140	160	3,770	
13	250	180	430	110	160	80	80	870	200	230	1,090	120	3,800	
14	150	120	200	160	80	40	80	1,020	230	250	1,340	300	3,970	
15				210		230		710	770	370	1,660		3,950	
16	800	310	180	110		480	200	490	230		1,070	130	4,000	
17	80	280	140	220	220	120	90	80	30	130	80	100	1,570	
18	30	100	100	200	60	190	140	540	30	50	720	280	2,440	
19				200		130	210	680			810	520	2,550	
20	430		50					460	420	130	900		2,390	
21	40	10	70	170	20	190	120	370	20	30	800	370	2,210	
													4,370	MAX

Turning Movement Count
60 Minute Counts

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	
1	660	1,440			930	450				240	10	180	3,910	
2	160	850	430	230	620	320	280	450	120	340	270	970	5,040	
3	380	230	220	680	600	580	400	450	260	90	620	290	4,800	
4	70	940	150	240	720	120	130	90	40	130	60	200	2,890	
5	70	780	30	180	520	190	210	360	60	140	140	150	2,830	
6	130	670	70	80	670	160	80	290	200	40	130	50	2,570	
7	10		370					1,270	70	140	830		2,690	
8	470		80					1,010	630	60	500		2,750	
9	350	40	110	120	30	80	60	1,740	710	220	940	110	4,510	
10	90	10	110	60	10	50	50	1,780	140	150	1,130	60	3,640	
11	100	250	120	190	200	330	410	1,360	180	160	910	220	4,430	
12	220	430	280	260	550	120	160	1,190	400	390	930	230	5,160	
13	370	400	440	140	470	130	70	1,300	330	340	1,040	80	5,110	
14	230	230	260	740	280	70	110	1,430	310	520	1,160	220	5,560	
15				180		160		1,410	1,230	320	1,740		5,040	
16	740	390	190	160		440	340	1,080	170		1,100	150	4,760	
17	80	300	100	340	460	310	230	180	110	100	300	190	2,700	
18	20	110	60	390	130	380	270	920	30	90	540	230	3,170	
19				490		110	330	1,040			750	420	3,140	
20	480		50					880	650	60	690		2,810	
21	20	10	30	430	20	220	120	780	30	50	510	340	2,560	
													5,560	MAX

ATTACHMENT 5

Construction-Related DPM AERMOD Output and Health Risk Calculations

Construction Health Risk Calculations

Annual PM Exhaust Generation

Annual Tons/Year	Pounds/year	lbs/day	lbs/hr	g/day	sec/day	g/sec
0.1711	342.1195504	9.37E-01	3.91E-02	425	86,400	4.921E-03

Max 1-hour concentration	3.276E-02	µg/m^3
Annualized average concentration (0.08)	2.621E-03	µg/m^3

Onsite Maximum Exposure	3rd Trimester	0<2	2<9	2<16	16<30	16-70
Cair	2.62E-03	2.62E-03	2.62E-03	2.62E-03	2.62E-03	2.62E-03
DBR	361	1090	861	745	335	290
A	1	1	1	1	1	1
EF	0.96	0.96	0.96	0.96	0.96	0.96
Dose-air	9.08E-07	2.74E-06	2.17E-06	1.87E-06	8.43E-07	7.30E-07
CPF	1.10	1.10	1.10	1.10	1.10	1.10
ASF	10	10	3	3	1	1
ED (years of construction - 25)	0.25	2.000	7.000	14.000	14.000	25.000
AT	70	70	70	70	70	70
FAH	0.85	0.85	0.72	0.72	0.73	0.73
Risk in 1 mill	**0.03**	**0.73**	**0.51**	**0.89**	**0.14**	**0.21**
	5.00	5.00	5.00	5.00	5.00	5.00
Chronic Exposure	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**

0-9	1.28	9.25
0-30	1.79	30.25
0-70	1.86	41.25

AERSCREEN 11126 / AERMOD 1206 02/06/26
13:41:31

TITLE: SMC

********** VOLUME PARAMETERS **********

SOURCE EMISSION RATE: 0.492E-02 g/s 0.391E-01 lb/hr
VOLUME HEIGHT: 5.00 meters 16.40 feet
INITIAL LATERAL DIMENSION: 100.00 meters 328.08 feet
INITIAL VERTICAL DIMENSION: 100.00 meters 328.08 feet
RURAL OR URBAN: URBAN
POPULATION: 20000

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

********** PROBE ANALYSIS **********
25 meter receptor spacing: 4022. meters - 5000. meters

Zo SECTOR	ROUGHNESS LENGTH	1-HR CONC (ug/m3)	DIST (m)	TEMPORAL PERIOD
1*	1.000	0.3276E-01	4021.5	WIN

* = worst case flow sector

********** 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)

METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT

YR	MO	DY	JDY	HR
10	01	06	6	12

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS
7.12	0.119	0.300	0.020	130.	95.	-20.5	1.000	1.50	0.35	0.50

```
   HT  REF TA     HT
- - - - - - - - - - -
  10.0   280.0    2.0
```

METEOROLOGY CONDITIONS USED TO PREDICT AMBIENT BOUNDARY IMPACT

```
 YR MO DY JDY HR
 -- -- -- --- --
 10 01 06   6 12

   H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
  7.12  0.119  0.300  0.020  130.   95.   -20.5 1.000   1.50   0.35    0.50

   HT  REF TA     HT
- - - - - - - - - - -
  10.0   280.0    2.0
```

********** AERSCREEN AUTOMATED DISTANCES **********
OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

MAXIMUM DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	MAXIMUM DIST (m)	MAXIMUM 1-HR CONC (ug/m3)
4021.50	0.3276E-01	4525.00	0.3004E-01
4025.00	0.3274E-01	4550.00	0.2992E-01
4050.00	0.3259E-01	4575.00	0.2979E-01
4075.00	0.3244E-01	4600.00	0.2967E-01
4100.00	0.3230E-01	4625.00	0.2956E-01
4125.00	0.3216E-01	4650.00	0.2944E-01
4150.00	0.3201E-01	4675.00	0.2932E-01
4175.00	0.3187E-01	4700.00	0.2920E-01
4200.00	0.3173E-01	4725.00	0.2909E-01
4225.00	0.3160E-01	4750.00	0.2897E-01
4250.00	0.3146E-01	4775.00	0.2886E-01
4275.00	0.3133E-01	4800.00	0.2875E-01
4300.00	0.3119E-01	4825.00	0.2864E-01
4325.00	0.3106E-01	4850.00	0.2853E-01
4350.00	0.3093E-01	4875.00	0.2842E-01
4375.00	0.3080E-01	4900.00	0.2831E-01
4400.00	0.3067E-01	4925.00	0.2820E-01
4425.00	0.3054E-01	4950.00	0.2809E-01
4450.00	0.3041E-01	4975.00	0.2799E-01
4475.00	0.3029E-01	5000.00	0.2788E-01
4500.00	0.3016E-01		

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

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	3.28E-02	3.28E-02	2.95E-02	1.97E-02	3.28E-03

DISTANCE FROM SOURCE 4021.50 meters

IMPACT AT THE
AMBIENT BOUNDARY 0.3276E-01 0.3276E-01 0.2948E-01 0.1965E-01 0.3276E-02

DISTANCE FROM SOURCE 4021.50 meters