

AIR QUALITY ASSESSMENT

**Spring Valley Housing
San Diego County Record ID: PDS2019-TM-5636
& PDS2021-AD-21-011**

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Air Quality Assessment

for the

Spring Valley Residential Project Spring Valley, California PDS2019-TM-5636 & PDS2021-AD-21-011

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Glossary of Terms and Acronyms

APCD	Air Pollution Control District
AQIA	Air Quality Impact Assessment
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
BACM	Best Available Control Measure
BACT	Best Available Control Technology
BMPs	Best Management Practices
CAA	Clean Air Act (Federal)
CAAQS	California Ambient Air Quality Standard
CALINE4	California Line Source Dispersion Model (Version 4)
Caltrans	California Department of Transportation
CCAA	California Clean Air Act
CO	Carbon Monoxide
H ₂ S	Hydrogen Sulfide
HARP	HotSpots Analysis and Reporting Program
HI	Hazard Index
ISCST	Industrial Source Complex Short Term Model
mg/m ³	Milligrams per Cubic Meter
µg/m ³	Micrograms per Cubic Meter
NAAQS	National Ambient Air Quality Standard
NO _x	Oxides of Nitrogen
NO ₂	Nitrogen Dioxide
O ₃	Ozone
PM _{2.5}	Fine Particulate Matter (particulate matter with an aerodynamic diameter of 2.5 microns or less)
PM ₁₀	Respirable Particulate Matter (particulate matter with an aerodynamic diameter of 10 microns or less)
ppm	Parts per million
PSD	Prevention of Significant Deterioration
RAQS	San Diego County Regional Air Quality Strategy
ROCs	Reactive Organic Compounds
ROG	Reactive Organic Gases
SANDAG	San Diego Association of Governments
SCAQMD	South Coast Air Quality Management District
SCAB	South Coast Air Basin
SDAB	San Diego Air Basin
SDAPCD	San Diego County Air Pollution Control District
SIP	State Implementation Plan
SO _x	Oxides of Sulfur
SO ₂	Sulfur Dioxide
TACs	Toxic Air Contaminants
T-BACT	Toxics Best Available Control Technology

USEPA United States Environmental Protection Agency
VOCs Volatile Organic Compounds

Executive Summary

This report presents an assessment of potential air quality impacts associated with the proposed Spring Valley Residential Project in Spring Valley, California. The project is within the jurisdiction of the Department of Planning and Development Services in the County of San Diego. The evaluation addresses the potential for air emissions during construction and after full buildout of the project, including an assessment of the potential for carbon monoxide (CO) “hot spots” to form due to traffic associated with the proposed project.

The proposed project would subdivide 9.91 acres located at Grand Avenue and Eucalyptus Street into seven single-family residential lots and one biological open space lot. Access would be provided by private driveways on to Grand Avenue. The project would involve minor site grading and utilities installation (approximately 2 months). Residential dwellings would be built out individually. It is anticipated that the project would be built out by 2024.

To reduce the emissions to the extent feasible, fugitive dust control measures will be implemented during construction. Measures that are incorporated into the project description to reduce emissions associated with construction include the following:

- Application of water three times daily during grading on active grading sites
- Application of water three times daily to unpaved roads
- Reduce speeds to 15 mph on unpaved roads
- Use architectural coatings that are consistent with SDAPCD Rule 67.0.1, with a VOC content of 100 g/l or less for non-flat coatings and 50 g/l or less for flat coatings

These measures constitute best management practices for dust control, architectural coatings, diesel particulate, and construction equipment emissions.

The proposed project would result in emissions of air pollutants for both the construction phase and operational phase of the project. Construction emissions would include emissions associated with fugitive dust, heavy construction equipment and construction workers commuting to and from

the site. Emissions of criteria pollutants during construction would be below the County's recommended screening-level thresholds.

The main operational impacts associated with the Project would include impacts associated with traffic; with additional impacts associated with area sources such as energy use and landscaping. Emissions of all pollutants would be below the County's recommended screening-level thresholds.

A screening health risk analysis was conducted to evaluate the potential for project construction or operations to result in a significant impact to nearby sensitive receptors. The risk assessment focused on diesel particulate matter, which is the main toxic air contaminant (TAC) emitted from vehicles. The risk assessment concluded that risks were less than significant.

An evaluation of odors indicated that odor impacts would be less than significant.

1.0 INTRODUCTION

1.1 Purpose of the Report

This report presents an assessment of potential air quality impacts associated with the proposed Spring Valley Residential Project in Spring Valley, California. The project is within the jurisdiction of the Department of Planning and Development Services in the County of San Diego. The evaluation addresses the potential for air emissions during construction and after full buildout of the project, including an assessment of the potential for CO “hot spots” to form due to traffic associated with the proposed project.

1.2 Project Location and Description

The proposed project would subdivide 9.91 acres located at Grand Avenue and Eucalyptus Street into seven single-family residential lots. Access would be provided by private driveways on to Grand Avenue. The project would involve minor site grading and utilities installation (approximately 2 months). Residential dwellings would be built out individually. It is anticipated that the project would be built out by 2024. Figure 1 presents a project map showing the location of the project. **Figure 2 provides a project site plan.**

This Air Quality Technical Report includes an evaluation of existing conditions in the project vicinity, an assessment of potential impacts associated with project construction, and an evaluation of project operational impacts.

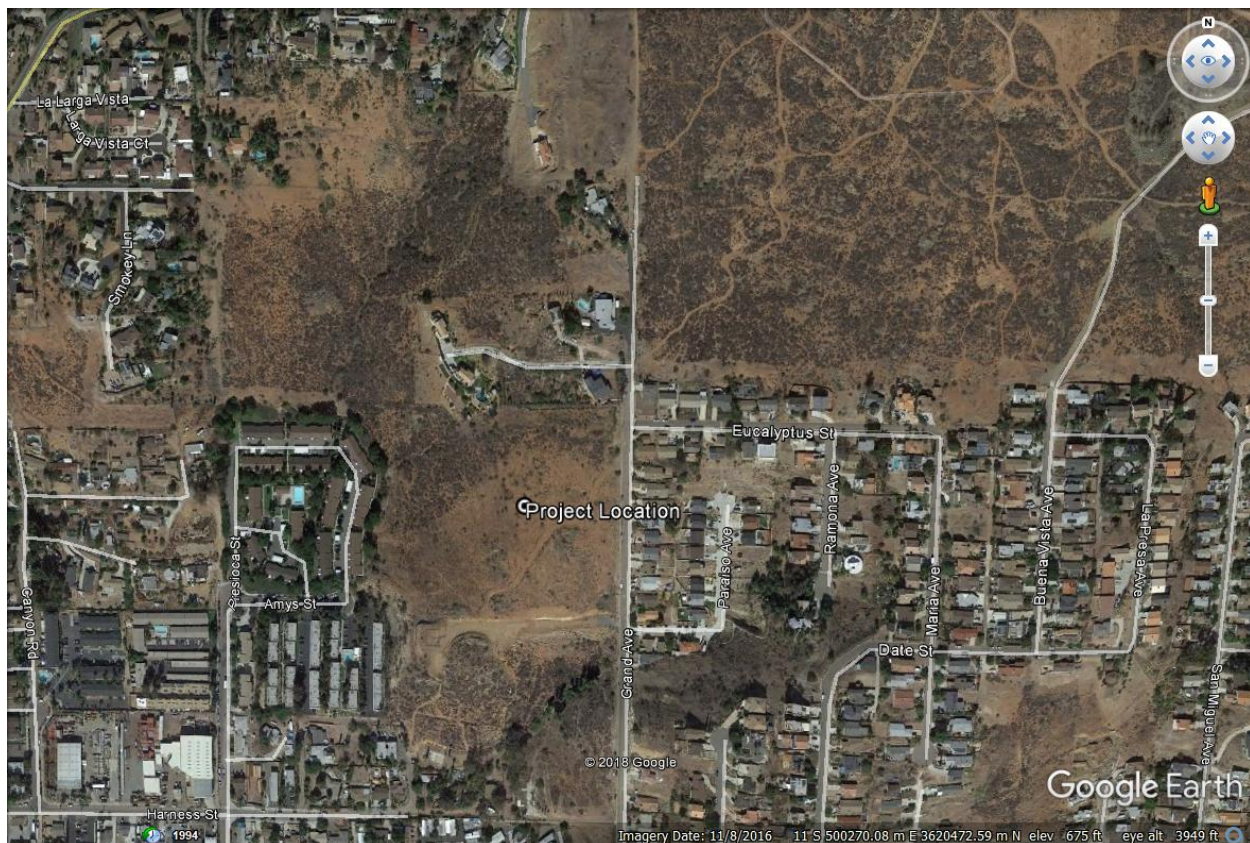


Figure 1. Project Location and Vicinity



2.0 EXISTING CONDITIONS

2.1 Existing Setting

The project site is located in Spring Valley within unincorporated San Diego County. The site is in a **disturbed state** with no current development. The site is relatively flat. Sensitive receptors in the vicinity of the site include individual **single-family residences** surrounding the site.

2.2 Climate and Meteorology

The project area, like the rest of San Diego County's inland valley areas, has a Mediterranean climate characterized by warm, dry summers and mild, wet winters. The average annual temperature in the La Mesa area (the nearest climatic monitoring station where temperature data are measured) is 63.6 °F, with an average maximum temperature of 75.0 °F and an average minimum temperature of 52.3 °F. The highest temperatures occur in August, when the average maximum temperatures are 84.5 °F. The lowest temperatures occur in January, when the average minimum temperature is 43/7 °F. (WRCC 2021). The average annual precipitation is 12.93 inches. Most precipitation occur from November through April. (WRCC 2021).

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 transport pollutants from the coastal areas toward the inland areas. Data collected by the SDAPCD indicate that pollutant levels are often lower at the coast and higher inland as pollutants become trapped by the local mountains. Pollutants may be trapped by periodic temperature inversions. A temperature inversion is a thin layer of the atmosphere where the decrease in temperature with elevation is less than normal. The inversion does not allow pollutants to be transported, but traps pollutants resulting in increased concentrations. Generally, the morning inversion layer is lower than the afternoon inversion layer; therefore, pollutant concentrations tend to be higher in the afternoon.

The SDAPCD measures meteorological data in locations where it operates a monitoring station. There is no monitoring station that measures micro-scale meteorology in the Spring Valley area. The nearest meteorological monitoring station to the site is the El Cajon monitoring station.

The project site is located in the San Diego Air Basin (SDAB). The climate of the SDAB is dominated by a semi-permanent high pressure cell located over the Pacific Ocean. This cell influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year. Figure 3 provides a graphic representation of the prevailing winds in the project vicinity, as measured at the San Diego Air Pollution Control District's (APCD's) El Cajon Monitoring Station (the closest meteorological monitoring station to the site). The high pressure cell also creates two types of temperature inversions that may act to degrade local air quality.

Subsidence inversions occur during the warmer months as descending air associated with the Pacific high pressure cell comes into contact with cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. The shallow inversion layer formed between these two air masses also can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce ozone, commonly known as smog.

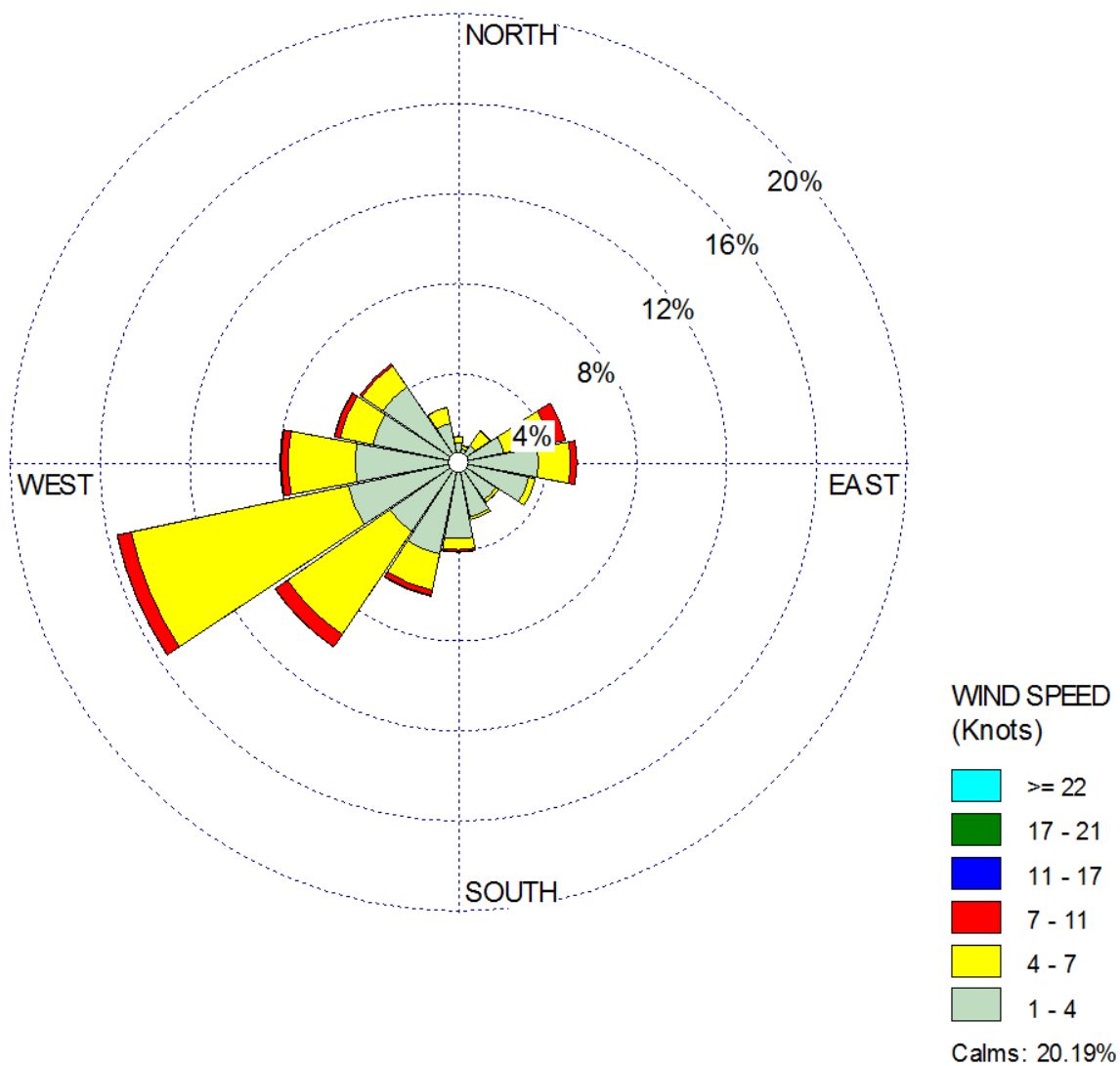


Figure 3. Wind Rose – El Cajon Monitoring Station

2.3 Regulatory Setting

Air quality is defined by ambient air concentrations of specific pollutants identified by the United States Environmental Protection Agency (USEPA) to be of concern with respect to health and welfare of the general public. The USEPA is responsible for enforcing the Federal Clean Air Act

(CAA) of 1970 and its 1977 and 1990 Amendments. The CAA required the USEPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the USEPA established both primary and secondary standards for several pollutants (called “criteria” pollutants). Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere.

The CAA allows states to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards. The California Air Resources Board (ARB) has established the generally more stringent California Ambient Air Quality Standards (CAAQS) for the six criteria pollutants through the California Clean Air Act of 1988, and also has established CAAQS for additional pollutants, including sulfates, hydrogen sulfide, vinyl chloride and visibility-reducing particles. Areas that do not meet the NAAQS or the CAAQS for a particular pollutant are considered to be “nonattainment areas” for that pollutant. The SDAB is currently designated as a marginal nonattainment area for the 8-hour NAAQS for ozone (O₃). The SDAB is in attainment for the NAAQS for all other criteria pollutants. The SDAB is currently classified as a nonattainment area under the CAAQS for O₃, particulate matter with an aerodynamic diameter less than 2.5 microns (PM_{2.5}), and particulate matter with an aerodynamic diameter less than 10 microns (PM₁₀).

The following specific descriptions of health effects for each of the criteria air pollutants associated with project construction and operations are based on USEPA (2007) and ARB (2001).

Ozone. O₃ is considered a photochemical oxidant, which is a chemical that is formed when volatile organic compounds (VOCs) and oxides of nitrogen (NO_x), both by-products of combustion, react in the presence of ultraviolet light. O₃ is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to O₃.

Carbon Monoxide. CO is a product of combustion, and the main source of CO in the SDAB is from motor vehicle exhaust. CO is an odorless, colorless gas. CO affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body's organs and tissues. CO can cause health effects to those with cardiovascular disease, and can also affect mental alertness and vision.

Nitrogen Dioxide. Nitrogen dioxide (NO₂) is also a by-product of fuel combustion, and is formed both directly as a product of combustion and in the atmosphere through the reaction of nitrogen oxide (NO) with oxygen. NO₂ is a respiratory irritant and may affect those with existing respiratory illness, including asthma. NO₂ can also increase the risk of respiratory illness.

Respirable Particulate Matter and Fine Particulate Matter. Respirable particulate matter, or PM₁₀, refers to particulate matter with an aerodynamic diameter of 10 microns or less. Fine particulate matter, or PM_{2.5}, refers to particulate matter with an aerodynamic diameter of 2.5 microns or less. Particulate matter in this size range has been determined to have the potential to lodge in the lungs and contribute to respiratory problems. PM₁₀ and PM_{2.5} arise from a variety of sources, including road dust, diesel exhaust, combustion, tire and brake wear, construction operations and windblown dust. PM₁₀ and PM_{2.5} can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases such as asthma and chronic bronchitis. PM_{2.5} is considered to have the potential to lodge deeper in the lungs.

Sulfur dioxide. Sulfur dioxide (SO₂) is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil, and by other industrial processes. Generally, the highest concentrations of SO₂ are found near large industrial sources. SO₂ is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to SO₂ can cause respiratory illness and aggravate existing cardiovascular disease.

Lead. Lead (Pb) in the atmosphere occurs as particulate matter. Pb has historically been emitted from vehicles combusting leaded gasoline, as well as from industrial sources. With the phase-out of leaded gasoline, large manufacturing facilities are the sources of the largest amounts of lead

emissions. Pb has the potential to cause gastrointestinal, central nervous system, kidney and blood diseases upon prolonged exposure. Pb is also classified as a probable human carcinogen.

Sulfates. Sulfates are the fully oxidized ionic form of sulfur. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO₂ during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO₂ to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features. The ARB's sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and due to the fact that they are usually acidic, can harm ecosystems and damage materials and property.

Hydrogen Sulfide. Hydrogen sulfide (H₂S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation. Breathing H₂S at levels above the standard would result in exposure to a very disagreeable odor. In 1984, a ARB committee concluded that the ambient standard for H₂S is adequate to protect public health and to significantly reduce odor annoyance.

Vinyl Chloride. Vinyl chloride, a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants and hazardous waste sites, due to microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air causes central nervous system effects, such as dizziness, drowsiness and headaches. Long-term exposure to vinyl chloride through inhalation and oral exposure causes liver damage. Cancer is a major concern from exposure to vinyl chloride via inhalation. Vinyl chloride exposure has been shown to increase the risk of angiosarcoma, a rare form of liver cancer, in humans.

The ARB is the state regulatory agency with authority to enforce regulations to both achieve and maintain the NAAQS and CAAQS. The ARB is responsible for the development, adoption, and enforcement of the state's motor vehicle emissions program, as well as the adoption of the CAAQS. The ARB also reviews operations and programs of the local air districts, and requires each air district with jurisdiction over a nonattainment area to develop its own strategy for achieving the NAAQS and CAAQS. The local air district has the primary responsibility for the development and implementation of rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, development of air quality management plans, and adoption and enforcement of air pollution regulations. The San Diego APCD is the local agency responsible for the administration and enforcement of air quality regulations for San Diego County.

The APCD and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The San Diego County Regional Air Quality Strategy (RAQS) was initially adopted in 1991, and is updated on a triennial basis. The RAQS was updated in 1995, 1998, 2001, 2004, 2009, and most recently in 2016. The RAQS outlines APCD's plans and control measures designed to attain the state air quality standards for O₃. The APCD has also developed the air basin's input to the SIP, which is required under the Federal Clean Air Act for areas that are out of attainment of air quality standards. The SIP includes the APCD's plans and control measures for attaining the O₃ NAAQS. The SIP is also updated on a triennial basis. The latest SIP update was submitted by the ARB to the USEPA in 2007, and was approved in 2012. The latest revisions to the SIP were submitted in 2011. The APCD has developed its *2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County* (APCD 2020), which provides plans for attaining and maintaining the 8-hour NAAQS for ozone.

The RAQS relies on information from ARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. The ARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities

and by the County as part of the development of the jurisdiction's General Plan. As such, projects that propose development that is consistent with the growth anticipated by the general plans would be consistent with the RAQS. In the event that a project would propose development which is less dense than anticipated within the general plan, the project would likewise be consistent with the RAQS. If a project proposes development that is greater than that anticipated in the general plan and SANDAG's growth projections, the project might be in conflict with the RAQS and SIP, and might have a potentially significant impact on air quality.

The SIP relies on the same information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin. The SIP also includes rules and regulations that have been adopted by the APCD to control emissions from stationary sources. These SIP-approved rules may be used as a guideline to determine whether a project's emissions would have the potential to conflict with the SIP and thereby hinder attainment of the NAAQS for O₃.

On April 30, 2020, the National Highway Transportation Safety Administration (NHTSA) and the USEPA published the Safer Affordable Fuel-Efficient (SAFE) Vehicle Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (USEPA 2020). The SAFE Rule revised the Corporate Average Fuel Economy (CAFE) standards and set vehicle model year standards beyond 2025 at 2025 levels. Both the SAFE Rule and CAFE standards set forth vehicle fuel efficiency requirements and greenhouse gas emission standards. The SAFE Rule adopted less stringent fuel efficiency standards than previously adopted.

It should be noted that despite the federal regulatory agencies' relaxation of vehicle standards, the state of California is proceeding with additional measures to reduce greenhouse gas emissions from vehicles, such as the State's achievement of increased penetration of zero emission vehicles under Executive Order N-79-20 and the ARB draft update to its Mobile Source Strategy (regulatory compliance measure). While the Executive Order is mainly directed at reductions in greenhouse gases, the order and the Mobile Source Strategy will also result in substantial reductions in criteria pollutant emissions through the replacement of petroleum-fueled vehicles with zero emission vehicles. Due to the competing emission rates from the mentioned legislation,

no off-model adjustments were made outside of CalEEMod default assumptions. The SAFE Rule adjustment factors were not included in the CalEEMod analysis.

Table 1 presents a summary of the ambient air quality standards adopted by the federal and California Clean Air Acts.

Table 1
Ambient Air Quality Standards

POLLUTANT	AVE. TIME	CALIFORNIA STANDARDS		NATIONAL STANDARDS		
		Concentration	Measurement Method	Primary	Secondary	Measurement Method
Ozone (O ₃)	1 hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	--	--	Ethylene Chemiluminescence
	8 hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³)	
Carbon Monoxide (CO)	8 hours	9.0 ppm (10 mg/m ³)	Non-Dispersive Infrared Spectroscopy (NDIR)	9 ppm (10 mg/m ³)	None	Non-Dispersive Infrared Spectroscopy (NDIR)
	1 hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)		
Nitrogen Dioxide (NO ₂)	Annual Average	0.030 ppm (56 µg/m ³)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m ³)	0.053 ppm (100 µg/m ³)	Gas Phase Chemiluminescence
	1 hour	0.18 ppm (338 µg/m ³)		0.100 ppm (188 µg/m ³)	--	
Sulfur Dioxide (SO ₂)	24 hours	0.04 ppm (105 µg/m ³)	Ultraviolet Fluorescence	--	--	Pararosaniline
	3 hours	--		--	0.5 ppm (1300 µg/m ³)	
	1 hour	0.25 ppm (655 µg/m ³)		0.075 ppm (196 µg/m ³)	--	
	Annual Arithmetic Mean	--		0.030 ppm for certain areas	--	
Respirable Particulate Matter (PM ₁₀)	24 hours	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	150 µg/m ³	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		--	--	
Fine Particulate Matter (PM _{2.5})	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12 µg/m ³	15 µg/m ³	Inertial Separation and Gravimetric Analysis
	24 hours	--		35 µg/m ³	35 µg/m ³	
Sulfates	24 hours	25 µg/m ³	Ion Chromatography	--	--	--
Lead (Pb)	30-day Average	1.5 µg/m ³	Atomic Absorption	--	--	Atomic Absorption
	Calendar Quarter	--		1.5 µg/m ³	1.5 µg/m ³	
	3-month Rolling Average	--		0.15 µg/m ³	0.15 µg/m ³	
Hydrogen Sulfide (H ₂ S)	1 hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence	--	--	--
Vinyl Chloride	24 hours	0.010 ppm (26 µg/m ³)	Gas Chromatography	--	--	--

ppm= parts per million

µg/m³ = micrograms per cubic meter

mg/m³= milligrams per cubic meter

Source: California Air Resources Board, www.arb.ca.gov

2.4 Background Air Quality

The APCD operates a network of ambient air monitoring stations throughout San Diego County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The nearest ambient monitoring station to the project site is the El Cajon monitoring station, which measures O₃, PM₁₀, PM_{2.5}, and NO₂. Ambient concentrations of pollutants over the last three years are presented in Table 2.

The 8-hour federal ozone standard was exceeded at the El Cajon monitoring station nine times in 2017, twice in 2018, and twice in 2019. The California 1-hour ozone standard was exceeded once in 2017. The data from the monitoring station indicates that air quality is in attainment of all other standards.

Table 2 Ambient Background Concentrations (ppm unless otherwise indicated)						
Pollutant	Averaging Time	2017	2018	2019	Most Stringent Ambient Air Quality Standard	Monitoring Station
Ozone	8 hour	0.081	0.079	0.074	0.070	El Cajon
	1 hour	0.096	0.087	0.094	0.09	El Cajon
PM ₁₀	Annual	23.0 µg/m ³	23.0 µg/m ³	20.1 µg/m ³	20 µg/m ³	El Cajon
	24 hour	49.4 µg/m ³	44.7 µg/m ³	37.4 µg/m ³	50 µg/m ³	El Cajon
PM _{2.5}	Annual	9.5 µg/m ³	9.6 µg/m ³	8.5 µg/m ³	12 µg/m ³	El Cajon
	24 hour standard 98 th percentile	19.4 µg/m ³	21.1 µg/m ³	16.0 µg/m ³	35 µg/m ³	El Cajon
NO ₂	Annual	0.010	0.008	0.008	0.030	El Cajon
	1 hour	0.045	0.045	0.039	0.100	El Cajon
CO	8 hour	1.4	1.1	1.0	20	El Cajon
	1 hour	1.5	1.5	1.3	9	El Cajon

Source: www.arb.ca.gov/aqd/aqd.htm; https://www.sdapcd.org/content/dam/sdc/apcd/monitoring/5-Year_Air_Quality.pdf
(Measurements of all pollutants at El Cajon station)

3.0 SIGNIFICANCE CRITERIA AND ANALYSIS METHODOLOGIES

The County of San Diego (County of San Diego 2007) has approved guidelines for determining significance based on Appendix G.III of the State CEQA Guidelines. Since the County's Guidelines were published, the state has updated Appendix G.III to the State CEQA Guidelines. Section 4.0 of the County of *Guidelines for Determining Significance and Report Format and Content Requirements – Air Quality* (County of San Diego 2007) provides guidance (as updated within the State CEQA Guidelines) that a project would have a significant environmental impact if:

1. The project will conflict with or obstruct the implementation of the San Diego Regional Air Quality Strategy (RAQS) and/or applicable portions of the State Implementation Plan (SIP).
2. The project would result in emissions that would violate any air quality standard or result in a cumulatively considerable net increase in an existing or projected air quality violation.
 - a. The project will result in emissions that exceed 250 pounds per day of NO_x, or 75 pounds per day of VOCs.
 - b. The project will result in emissions of carbon monoxide that when totaled with the ambient concentrations will exceed a 1-hour concentration of 20 parts per million (ppm) or an 8-hour average of 9 ppm.
 - c. The project will result in emissions of PM_{2.5} that will exceed 55 pounds per day.
 - d. The project will result in emissions of PM₁₀ that exceed 100 pounds per day and increase the ambient PM₁₀ concentration by 5 micrograms per cubic meter (5.0 µg/m³) or greater at the maximum exposed individual.
3. The project will expose sensitive receptors to substantial pollutant concentrations.
4. The project which is not an agricultural, commercial or an industrial activity subject to SDAPCD standards, as a result of implementation, will result in substantial emissions (such as odors or nuisance dust [i.e., dust that is visible or deposits on offsite property such that it causes a nuisance]) adversely affecting a substantial number of people.

The APCD has identified trigger criteria that would require stationary sources that are under their permitting jurisdiction to demonstrate compliance with the Air Pollution Control Officer's regulations, either through a demonstration that they would not cause or contribute to a violation of an air quality standard, or to adopt additional emission standards. The APCD's trigger criteria, as established in APCD Rules 20.1 et seq., are not thresholds under CEQA. The County of San Diego adopted these trigger criteria for air quality emissions (Rules 20.1 et seq.) as screening-level thresholds (SLTs) for land development projects to identify potential impacts under CEQA. As stated above, projects that propose development that is consistent with the growth anticipated by the general plans and SANDAG's growth forecasts would be consistent with the RAQS and SIP. Also, projects that are consistent with the SIP rules (i.e., the federally-approved rules and regulations adopted by the APCD) are consistent with the SIP. Thus projects would be required to conform with measures adopted in the RAQS (including use of low-VOC architectural coatings, use of low-NO_x water heaters, and compliance with rules and regulations governing stationary sources) and would also be required to comply with all applicable rules and regulations adopted by the APCD.

To determine whether a project would (a) result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation; or (b) result in a cumulatively considerable net increase of PM₁₀ or exceed quantitative thresholds for O₃ precursors, oxides of nitrogen (NO_x) and volatile organic compounds (VOCs), project emissions may be evaluated based on the quantitative emission thresholds established by the San Diego APCD. As part of its air quality permitting process, the APCD has established thresholds in Rule 20.2 for the preparation of Air Quality Impact Assessments (AQIA). The County of San Diego has also adopted the SCAQMD's screening threshold of 55 pounds per day or 10 tons per year as a significance threshold for PM_{2.5}.

For CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that a project's total emissions would not result in a significant impact to air quality. The screening thresholds are included in the table below.

Table 3
Screening-Level Thresholds for Air Quality Impact Analysis

Pollutant	Total Emissions		
Construction Emissions			
	Lb. per Day		
Respirable Particulate Matter (PM ₁₀)	100		
Fine Particulate Matter (PM _{2.5})	55		
Oxides of Nitrogen (NO _x)	250		
Oxides of Sulfur (SO _x)	250		
Carbon Monoxide (CO)	550		
Volatile Organic Compounds (VOCs)	75		
Operational Emissions			
	Lb. Per Hour	Lb. per Day	Tons per Year
Respirable Particulate Matter (PM ₁₀)	---	100	15
Fine Particulate Matter (PM _{2.5})	---	55	10
Oxides of Nitrogen (NO _x)	25	250	40
Oxides of Sulfur (SO _x)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6
Volatile Organic Compounds (VOC)	---	75	13.7
Toxic Air Contaminant Emissions			
Excess Cancer Risk	1 in 1 million without Toxics Best Available Control Technology (T-BACT) 10 in 1 million with T-BACT		
Non-Cancer Hazard	1.0		

In the event that emissions exceed these screening-level thresholds, modeling would be required to demonstrate that the project's total air quality impacts result in ground-level concentrations that are below the State and Federal Ambient Air Quality Standards, including appropriate background levels. Modeling would therefore demonstrate that the project would not cause or contribute to a violation of an ambient air quality standard that is set forth to protect human health. Projects that comply with the State and Federal Ambient Air Quality Standards therefore would not have an adverse impact on human health. Based on these air quality standards, regional and local impact determinations under CEQA would also reduce potential human health impacts because they do not exceed the health-based standards. For nonattainment pollutants (ozone, with ozone precursors NO_x and VOCs, PM_{2.5} and PM₁₀), if emissions exceed the thresholds shown in Table 3, the project could have the potential to result in a cumulatively considerable net increase in these pollutants and thus could have a significant impact on the ambient air quality.

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the state and federal government as toxic air contaminants (TACs) or Hazardous Air Pollutants (HAPs). In San Diego County, the Planning and Development Services Department identifies an excess cancer risk level of 1 in 1 million or less for projects that do not implement Toxics Best Available Control Technology (T-BACT), and an excess cancer risk level of 10 in 1 million or less for projects that do implement T-BACT. The significance threshold for non-cancer health effects is a health hazard index of one or less. These significance thresholds are consistent with the San Diego Air Pollution Control District's Rule 1210 requirements for stationary sources. If a project has the potential to result in emissions of any TAC or HAP which result in a cancer risk of greater than 1 in 1 million without T-BACT, 10 in 1 million with T-BACT, or health hazard index of one or more, the project would be deemed to have a potentially significant impact.

With regard to evaluating whether a project would have a significant impact on sensitive receptors, air quality regulators typically define sensitive receptors as residences, schools (Preschool-12th Grade), hospitals, resident care facilities, or day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. Any project which has the potential to directly impact a sensitive receptor located within 1 mile and results in a health risk greater than the risk significance thresholds discussed above would be deemed to have a potentially significant impact. One mile was chosen as a conservative means of evaluating significance for the following reasons. As discussed in the SCAQMD's CEQA Air Quality Handbook (SCAQMD 1999), if there is an industrial source within a quarter mile of a sensitive receptor, planners should review the potential for toxic impacts. Additionally, the ARB's *Air Quality and Land Use Handbook* (ARB 2005) recommended that land use agencies avoid siting new sensitive land uses within 300 feet of large gas stations (i.e., with a throughput of 3.6 million gallons or greater). This recommendation was based on the ARB's evaluation of potential impact distances. Because pollutants disperse downwind and thus become less concentrated, impacts are highest near the pollution source and lower downwind. Beyond a radius of one mile from the site, pollutant concentrations and impacts are dispersed in the atmosphere. Therefore, use of a one mile radius is conservative.

APCD Rule 51 (Public Nuisance) prohibits emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health or safety of any person. A project that proposes a use which would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of offsite receptors. It should also be noted that all projects would be subject to Rule 51 throughout project operations, and would be required to comply with APCD regulations should nuisance issues occur.

The impacts associated with construction and operation of the project were evaluated for significance based on these significance criteria. Emissions associated with construction and operation of the project were evaluated with the CalEEMod Model, Version 2016.3.2.

4.0 PROJECT IMPACT ANALYSIS

The proposed Spring Valley Project includes both construction and operational impacts. Construction impacts include emissions associated with the construction of the project. Operational impacts include emissions associated with the project, including traffic, at full buildout.

4.1 Conformance to the Regional Air Quality Strategy

4.1.1 Guidelines for the Determination of Significance

The project will result in a significant impact to air quality if:

The project will conflict with or obstruct the implementation of the San Diego Regional Air Quality Strategy (RAQS) and/or applicable portions of the State Implementation Plan (SIP).

The RAQS outlines APCD's plans and control measures designed to attain the State air quality standards for ozone. In addition, the APCD relies on the SIP, which includes the APCD's plans and control measures for attaining the ozone NAAQS. These plans accommodate emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the USEPA and the ARB, and the emissions and reduction strategies related to mobile sources are considered in the RAQS and SIP.

The RAQS relies on information from ARB and SANDAG, including projected growth in the County, mobile, area and all other source emissions in order to project future emissions and determine from that the strategies necessary for the reduction of stationary source emissions through regulatory controls. The ARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County. As such, projects that propose development that is consistent with the growth anticipated by the general plans would be consistent with the RAQS. In the event that a project would propose development which is less dense than anticipated within the general plan, the

project would likewise be consistent with the RAQS. If a project proposes development that is greater than that anticipated in the County of San Diego General Plan and SANDAG's growth projections, the project would be in conflict with the RAQS and SIP, and might have a potentially significant impact on air quality. This situation would warrant further analysis to determine if the proposed project and the surrounding projects exceed the growth projections used in the RAQS for the specific subregional area.

4.1.2 Significance of Impacts Prior to Mitigation

As discussed in Section 1.0, the proposed project would subdivide a 9.91-acre site for construction of 8 single-family dwelling units at Grand Avenue and Eucalyptus Street in Spring Valley. The site is currently zoned for rural residential use with a density of 1 dwelling unit per acre. The General Plan designation is Semi-Rural Residential. While the project requires a General Plan Amendment because the General Plan calculates development density based on slope on the site, the total number of units is consistent with the density of 1 dwelling unit per acre (8 units on 9.91 acres). The remainder of the site is designated for open space, which is consistent with the General Plan Policy LU-5.3, which ensures the preservation of existing open space.

From an air quality standpoint, because the number of dwelling units for the entire site is within the number that would be allowed for the site (a total of 9 consider 1 dwelling unit per acre), the number of units does not exceed the number assumed within the General Plan land use designation. The project is therefore consistent with the assumptions within the General Plan for number of dwelling units.

As part of its attainment planning process, the San Diego Air Pollution Control District proposes and adopts Rules and Regulations to control air pollutants to demonstrate further progress toward attainment as part of the RAQS and SIP. The Project also will comply with any applicable rules and regulations that have been adopted as part of the RAQS and SIP by the San Diego Air Pollution Control District.

4.1.3 Design Considerations and Mitigation Measures

Based on the General Plan, the project would be consistent with the allowable number of dwelling units for the site within the County's Plan. The project is therefore consistent with the RAQS and SIP.

4.1.4 Conclusions

Because the Project is consistent with the number of units allowed at the site, the project is consistent with the RAQS and SIP.

4.2 Conformance to Federal and State Ambient Air Quality Standards

The project will result in a significant impact to air quality if:

- a. The project would result in emissions that would violate any air quality standard or result in a cumulatively considerable net increase in an existing or projected air quality violation.
- b. The project will result in emissions that exceed 250 pounds per day of NO_x, or 75 pounds per day of VOCs.
- c. The project will result in emissions of carbon monoxide that when totaled with the ambient concentrations will exceed a 1-hour concentration of 20 parts per million (ppm) or an 8-hour average of 9 ppm.
- d. The project will result in emissions of PM_{2.5} that will exceed 55 pounds per day.
- e. The project will result in emissions of PM₁₀ that exceed 100 pounds per day and increase the ambient PM₁₀ concentration by 5 micrograms per cubic meter (5.0 µg/m³) or greater at the maximum exposed individual.

A project would result in a cumulatively significant impact if the project results in a significant contribution to the cumulative increase in pollutants for which the SDAB is listed as nonattainment

for the CAAQS and NAAQS. As discussed in Section 2.0, the SDAB is considered a nonattainment area for the NAAQS for ozone and the CAAQS for ozone, PM₁₀, and PM_{2.5}.

4.2.1 Construction Impacts

4.2.1.1 Guidelines for the Determination of Significance

Based on the County of San Diego Guidelines (County of San Diego 2007), construction impacts would be potentially significant if they exceed the quantitative screening-level thresholds for attainment pollutants (NO₂, SO₂, and CO), and would result in a significant impact if they exceed the screening-level thresholds for nonattainment pollutants (ozone precursors and particulate matter).

Cumulatively considerable net increases during the construction phase would typically happen if two or more projects near each other are simultaneously constructing projects. A project that has a significant direct impact on air quality with regard to emissions of PM₁₀, PM_{2.5}, NO_x, or VOCs during construction would also have a significant cumulatively considerably net increase. In the event direct impacts from a proposed project are less than significant, a project may still have a cumulatively considerable impact on air quality if the emissions of concern from the proposed project, in combination with the emissions of concern from other proposed projects or reasonably foreseeable future projects within a proximity relevant to the pollutants of concern, are in excess of the guidelines identified in Section 3.0.

4.2.1.2 Significance of Impacts Prior to Mitigation

Emissions associated with project construction were estimated using the CalEEMod Model, Version 2016.3.2 (CAPCOA 2016). As discussed in Section 2.3, no adjustments were made within CalEEMod to account for adoption of the SAFE Rule. The construction scenario was based on information provided by the applicant. Based on information provided by the applicant and the site grading plan, there would not be a need for any of the following construction activities:

- Rock Crushing
- Concrete Batch Plant
- On-Site Haul Roads
- Blasting

Because these activities would not be required to construct the project, they are not considered further in this analysis of construction emissions, nor are they considered in the health risk analysis conducted for construction.

The construction schedule is based on the development schedule provided by the applicant, which assumes approximately 2 months for grading activities. For conservative purposes, it was assumed that all residential dwellings would be constructed in one phase; in reality, the units would be constructed separately.

Construction was assumed to commence in April 2023 and was assumed to be complete in 2024. Table 4 presents a summary of the construction phases assumed for the project.

Table 4 Construction Schedule and Phasing Spring Valley Residential Project				
Phase	Phase Name	Phase Type	Start Date	End Date
1	Grading/Utilities	Grading	04/01/2023	05/31/2023
2	Building Construction	Building Construction	06/01/2023	11/30/2023
3	Paving	Paving	06/01/2023	07/31/2023
4	Architectural Coating	Architectural Coating	10/01/2023	11/30/2023

CalEEMod relies on the total area of the site and estimates site disturbance based on the maximum acres that can be graded given the construction equipment input in an 8-hour day. The project would be subject to the requirements of SDAPCD Rule 50, Visible Emissions, which states that a person shall not 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 which is darker in shade than that designated as Number 1 on the Ringelmann Chart; Rule 51, Nuisance, which states that a person shall not discharge from any source

whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property; and Rule 55.0, Fugitive Dust Control, which restricts the discharge of visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60 minute period, and requires construction activities to control track-out.

To account for standard dust control measures within the CalEEMod Model, it was assumed that watering three times day would reduce particulate matter emissions by 61%. It was also assumed that the project would use architectural coatings that are compliant with SDAPCD Rule 67.0.1, which limits VOC content to 100 g/l for non-flat coatings and 50 g/l for flat coatings. This rule was taken into account in the CalEEMod Model.

Table 5 provides a summary of the emission estimates for construction of the project. Refer to Attachment A for detailed CalEEMod Model outputs.

Table 5
Maximum Daily Estimated Construction Emissions
Spring Valley Residential Project

Emission Source	VOCs	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
lbs/day						
<i>Grading/Utilities</i>						
Fugitive Dust	-	-	-	-	2.44	1.30
Off Road Diesel	1.71	17.94	14.75	0.03	0.77	0.71
Hauling Trips	0.002	0.06	0.02	0.0003	0.006	0.002
Worker Trips	0.05	0.03	0.32	0.001	0.12	0.03
TOTAL	1.76	18.03	15.09	0.03	3.34	2.04
Screening-Level Thresholds	75	250	550	250	100	55
Above Screening-Level Thresholds?	No	No	No	No	No	No
<i>Building Construction</i>						
Off Road Diesel	1.57	14.38	16.24	0.03	0.70	0.66
Vendor Trips	0.002	0.08	0.02	0.0003	0.007	0.002
Worker Trips	0.01	0.006	0.063	0.002	0.028	0.007
TOTAL	1.58	14.47	16.32	0.03	0.74	0.67
Screening-Level Thresholds	75	250	550	250	100	55
Above Screening-Level Thresholds?	No	No	No	No	No	No
<i>Paving</i>						
Off Road Diesel	1.03	10.19	14.58	0.02	0.51	0.47
Worker Trips	0.05	0.03	0.32	0.001	0.12	0.03
TOTAL	1.08	10.22	14.90	0.02	0.63	0.50
Screening-Level Thresholds	75	250	550	250	100	55
Above Screening-Level Thresholds?	No	No	No	No	No	No
<i>Architectural Coatings</i>						
Architectural Coatings Emissions	2.24	-	-	-	-	-
Off Road Diesel	0.19	1.30	1.81	0.003	0.07	0.07
Worker Trips	0.004	0.002	0.02	0.00007	0.008	0.002
TOTAL	2.43	1.30	1.83	0.00	0.08	0.07
Screening-Level Thresholds	75	250	550	250	100	55
Above Screening-Level Thresholds?	No	No	No	No	No	No
Maximum Simultaneous Emissions¹	4.02	24.69	31.24	0.05	3.35	2.05
Screening-Level Thresholds	75	250	550	250	100	55
Above Screening-Level Thresholds?	No	No	No	No	No	No

¹Maximum emissions occur during simultaneous site preparation and mass grading, except for VOCs, which occurs during simultaneous building construction, and architectural coatings application.

As shown in Table 4, maximum simultaneous emissions are below the screening-level thresholds for all criteria pollutants.

The emissions budget for 2023 in the SIP, as reported on the ARB's website, includes the following emissions for construction for the SDAB:

- Off-Road Equipment: 9.81 tons/day VOC, 10.82 tons/day NO_x
- Construction Fugitive Dust: 40.03 tons/day PM₁₀, 4.00 tons/day PM_{2.5}

As shown in Table 5, maximum daily emissions from the project during construction are 4.02 lbs/day or 0.00201 tons/day of VOCs, 24.69 lbs/day or 0.01248 tons/day of NO_x, 3.35 lbs/day or 0.001675 tons/day of PM₁₀, and 2.05 lbs/day or 0.001025 tons/day of PM_{2.5}. Emissions of nonattainment pollutants would be a small proportion of the emissions budget for the SDAB. These emissions budgets are based on projecting compliance with ambient air quality strategies associated with identified future development in the County's General Plan.

To evaluate the potential for cumulative impacts from grading at the project site, the following equation was used (Desert Research Institute 1996), which is utilized in the SCAQMD's Localized Significance Threshold Methodology (SCAQMD 2003) to evaluate localized PM₁₀ impacts:

$$C_x = 0.9403 C_0 e^{-0.0462X}$$

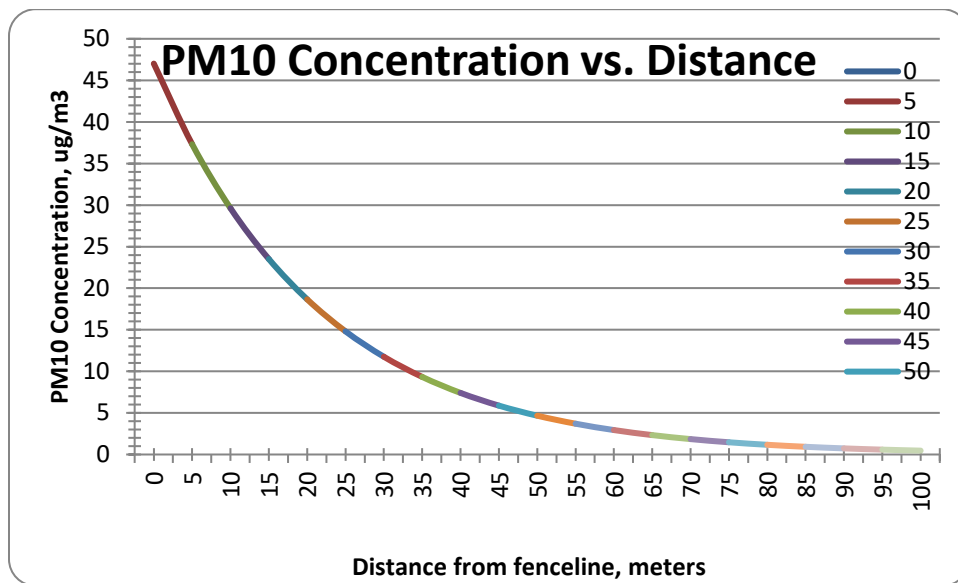
Where C_x = predicted PM₁₀ concentration at X meters from the fenceline;

C_0 = PM₁₀ concentration at the fenceline;

e = natural logarithm; and

X = distance in meters from the fenceline.

Conservatively assuming C_0 equals the 24-hour ambient air quality standard of 50 µg/m³, fugitive PM₁₀ concentrations would decrease with distance from the fenceline. As shown in the chart below, by 100 meters (approximately 330 feet) from the project boundary, the concentration of PM₁₀ would decrease by 99 percent.



Source: SCAQMD 2003

Due to the small size of the project and the fact that the immediate vicinity is developed, the project's PM₁₀ emissions from construction would not result in a cumulatively substantial impact.

Because impacts would be limited to localized areas and emissions are below the significance thresholds, impacts would be less than cumulatively considerable.

4.2.1.3 Design Considerations

Project construction would employ dust control measures to reduce impacts as feasible. Dust control measures would include watering the site at least three times daily during active grading and reducing speeds on unpaved surfaces to 15 mph. The project must also comply with APCD Rule 55.0, which requires control of fugitive dust emissions such that they do not extend off site. In addition, the project would utilize low-VOC coatings in accordance with APCD Rule 67.0.1 requirements. The project would reduce emissions to the extent feasible. Emissions would therefore be less than significant.

4.2.1.4 Conclusions

Project criteria pollutants emissions during construction would be less than significant as they would be below the County's SLTs.. Supportive of the NAAQS and CAAQS, the County's SLTs are scientifically substantiated, numerical mass emissions levels of criteria air pollutants considered to be protective of human health. A project with emissions rates below these thresholds is considered to have a less than significant impact on regional and local air quality and would have a low potential for resulting in impacts to human health due to the nexus between SLTs, ambient air quality standards, and public health.

4.2.2 Operational Impacts

4.2.2.1 Guidelines for the Determination of Significance

Based on the County of San Diego Guidelines (County of San Diego 2007), operational impacts would be potentially significant if they exceed the quantitative screening-level thresholds for attainment pollutants (NO₂, SO₂, and CO), and would result in a significant impact if they exceed the screening-level thresholds for nonattainment pollutants (ozone precursors and particulate matter).

As discussed above, based on the County of San Diego guidelines (County of San Diego 2007), a project would result in a cumulatively significant impact if the project results in a significant contribution to the cumulative increase in NO_x, VOCs, PM₁₀, and PM_{2.5}. In accordance with the guidelines, a project that does not conform to the RAQS and/or has a significant direct impact on air quality with regard to operational emissions of nonattainment pollutants would also have a cumulatively considerable net increase. Also, projects that cause road intersections to operate at or below a LOS E and create a CO "hot spot" create a cumulatively considerable net increase of CO.

4.2.2.2 Significance of Impacts Prior to Mitigation

The main operational impacts associated with the Project would include impacts associated with traffic; additional emissions would be associated with area sources such as energy use and landscaping. Project operational emissions were estimated using the CalEEMod Model, Version 2016.3.2, assuming an operational year of 2024; emissions were based on SANDAG recommendations of 10 trips per single-family dwelling unit (SANDAG 2002). Emissions were calculated for both summer and winter conditions, as well as for annual operations. The results of the emission calculations, in lbs/day and tons/year, are summarized in Table 6 for buildout conditions, along with emissions associated with area sources and a comparison with the County of San Diego significance criteria. The CalEEMod outputs are presented in Appendix A.

Table 6						
Total Operational Emissions						
	VOCs	NO_x	CO	SO_x	PM₁₀	PM_{2.5}
Summer, lbs/day						
Area Sources	0.33	0.12	0.63	0.0008	0.01	0.01
Energy Use	0.005	0.04	0.02	0.0003	0.003	0.003
Vehicular Emissions	0.10	0.38	1.21	0.005	0.43	0.12
TOTAL	0.43	0.54	1.85	0.006	0.44	0.13
Screening-Level Thresholds	75	250	550	250	100	55
Above Screening-Level Thresholds?	No	No	No	No	No	No
Winter, lbs/day						
Area Sources	0.33	0.12	0.63	0.0008	0.01	0.01
Energy Use	0.005	0.04	0.02	0.0003	0.003	0.003
Vehicular Emissions	0.10	0.39	1.18	0.004	0.43	0.12
TOTAL	0.43	0.55	1.82	0.005	0.44	0.13
Screening-Level Thresholds	75	250	550	250	100	55
Above Screening-Level Thresholds?	No	No	No	No	No	No
Tons/year						
Area Sources	0.06	0.002	0.05	0.00001	0.0004	0.0004
Energy Use	0.0009	0.008	0.003	0.00005	0.0006	0.0006
Vehicular Emissions	0.02	0.07	0.21	0.0008	0.08	0.02
TOTAL	0.08	0.08	0.26	0.0009	0.08	0.02
Screening-Level Thresholds	13.7	40	100	40	15	10
Above Screening-Level Thresholds?	No	No	No	No	No	No

Emissions associated with the project are below the County's screening-level thresholds for all pollutants. Because vehicular emissions decrease over time with phase-out of older vehicles and implementation of increasingly stringent emission controls, future emissions would decrease. No adjustment was made to account for the SAFE Rule. However, the adjustment factors for the SAFE rule for EMFAC2014 are less than 1% (from 1.0003 to 1.0066) and would not substantially affect the results of the analysis (ARB 2019). The CalEEMod outputs are presented in Appendix A.

Projects involving traffic impacts may result in the formation of locally high concentrations of CO, known as CO "hot spots." Given the small number of trips and size of the project, the project would not substantially affect traffic in the area, and would therefore not result in a CO "hot spot" due to its trip generation.

Emissions of nonattainment pollutants PM₁₀, PM_{2.5}, NO_x, or VOCs would be below the screening-level thresholds for project operations. The project would therefore not result in a cumulatively considerable net increase in nonattainment pollutants. The project would not result in a CO "hot spot." The project is consistent with the General Plan. The project would therefore not have a cumulatively significant impact.

4.2.2.3 Design Considerations

No additional measures would be required to reduce impacts to less than significant.

4.2.2.4 Conclusions

Emissions of all criteria pollutants would be less than the SLTs for project operations and would therefore not result in a significant impact to the ambient air quality. Supportive of the NAAQS and CAAQS, the County's SLTs are scientifically substantiated, numerical mass emissions levels of criteria air pollutants considered to be protective of human health. A project with emissions rates below these thresholds is considered to have a less than significant impact on regional and

local air quality and would have a low potential for resulting in impacts to human health due to the nexus between SLTs, ambient air quality standards, and public health.

4.3 Impacts to Sensitive Receptors

4.3.1 Guidelines for the Determination of Significance

The project will result in a significant impact to air quality if:

The project will expose sensitive receptors to substantial pollutant concentrations.

Air quality regulators typically define “sensitive receptors” as schools, hospitals, resident care facilities, day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. However, for the purpose of CEQA analysis, the County of San Diego definition of “sensitive receptors” includes residences (County of San Diego 2007). The two primary emissions of concern for impacts to sensitive receptors are CO and diesel particulate matter. As discussed in Section 4.2.3.2, operational impacts would not result in CO “hot spots”. This analysis therefore focuses on diesel particulate matter.

4.3.2 Significance of Impacts Prior to Mitigation

The project would result in emissions of diesel particulate matter during construction activities. Truck traffic associated with project operations would be minor and would not affect nearby sensitive receptors. To evaluate whether project construction could pose a significant impact to nearby sensitive receptors, an evaluation of diesel exhaust particulate matter was conducted. Diesel exhaust particulate matter is known to the state of California as carcinogenic compounds. The risks associated with exposure to substances with carcinogenic effects are typically evaluated based on a lifetime of chronic exposure, which is defined in the California Office of Environmental Health Hazard Assessment (OEHHA) guidelines, *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2003) as 24 hours per day, 7 days

per week, 365 days per year, for 70 years. Diesel exhaust particulate matter would be emitted during construction due to the operation of heavy equipment at the site. Because diesel exhaust particulate matter is considered to be carcinogenic, long-term exposure to diesel exhaust emissions have the potential to result in adverse health impacts.

To assess whether there is a potential for a significant impact associated with exposure to diesel exhaust particulate matter, a health risk evaluation was conducted on the particulate emissions. The amount of diesel particulate varies with the project schedule and construction phasing. The on-site construction heavy equipment diesel particulate emissions calculated by the CalEEMod Model total 0.07506 tons during the duration of the construction phase of the project as shown below:

Grading	0.0167 tons
Building Construction	0.0458 tons
Paving	0.011 tons
Architectural Coatings Application	0.00156 tons
TOTAL	0.07506 tons

The construction heavy equipment sources were represented as a series of elevated volume sources with dimensions of 25 meters X 25 meters, placed at the site, as recommended in the SCAQMD's *Final Localized Significance Threshold Methodology* (SCAQMD 2003). The sources are modeled as an elevated volume source to account for buoyancy resulting from the heat of the exhaust. Emissions were allocated to this source based on the estimated emission rates for diesel particulate during construction.

The nearest existing receptors were located based on the site map and aerial photographs for the project area. The source and receptor configuration is shown in Figure 6. The risk evaluation was conducted to assess the potential for an unacceptable risk at these existing receptors due to exposure to diesel particulate emissions from heavy construction equipment during construction. The residential receptors identified are the closest residences. No other sensitive receptors are located in the project vicinity.

The U.S. EPA's approved air dispersion model, AERMOD (U.S. EPA 2009), was used to estimate the downwind impacts at the closest receptors to the construction site. The model was run using preprocessed meteorological data from the Escondido surface meteorological monitoring station provided by the San Diego Air Pollution Control District. Risks were estimated using the Office of Environmental Health Hazard Assessment (OEHHA)'s March 2015 *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*.

OEHHA recommends exposure assumptions to calculate potential health risks, including adjustments to account for childhood exposure, to calculate excess cancer risks. The guidance recommends a 30-year exposure period for use as the basis for estimating cancer risk at residential receptors. Risks are calculated on the basis of the 30-year exposure period, accounting for childhood sensitivity, using the OEHHA-recommended age sensitivity factors (ASFs) to take into account the increased sensitivity to carcinogens during early-in-life exposure. In addition, high-end breathing rates recommended by OEHHA were used to provide a conservative estimate of risk. The residential exposure scenario assumes that an individual is present at the same location 24 hours per day, 350 days per year, for a 30-year period that includes childhood. Table 7 presents the exposure factors used in this analysis to evaluate potential risks from the construction of the project.

Table 7 Risk Assessment Exposure Factors					
Risk Calculation Parameters	Breathing Rate/Body Weight, L/kg-day	Age Sensitivity Factor	Exposure Duration, years	Averaging Time, years	Fraction of Time at Home
Time Period of Exposure, years	High End BR/BW	ASF	ED	AT	FAH
3rd Trimester	361	10	0.25	70	0.85
0<2	1090	10	2	70	0.85
2<16	745	3	14	70	0.72
16<30	335	1	14	70	0.73
Cancer Potency Factors					
Diesel Particulate	1.10E+00(mg/kg-day) ⁻¹				

Source: OEHHA 2015

Risks are calculated on the basis of a 30-year exposure scenario as recommended by OEHHA. Because the risk calculation is based on 30 years (10950 days) of exposure for 24 hours per day, 350 days per year, the results of the analysis were scaled to account for exposure for the duration of construction, as shown in the example calculation below.

$$\text{Risk} = \text{Excess cancer risk for 30 years} \times (176 \text{ days of construction} / 10950 \text{ days}).$$

The days of construction were estimated at 176 days, based on approximately 8 months of construction, assuming 22 days per month of construction activity. The maximum concentration at an offsite receptor is $0.20675 \mu\text{g}/\text{m}^3$. The maximum concentration was used to calculate risk based on on-site diesel particulate emissions. The risk predicted using this equation is then compared to a risk level of 10 in 1 million, which is the County's significance threshold with implementation of Toxics-Best Available Control Technology (T-BACT). If the risk predicted using this equation is above 10 in 1 million, the risk would be above the County of San Diego's significance threshold. Based on the above equation, the maximum excess cancer risk predicted at the nearest residential receptor would be 2.26 in a million. This value is below the County of San Diego's significance threshold of 10 in 1 million with implementation of T-BACT.

In addition, the chronic hazard was calculated based on the potential for adverse non-cancer health effects associated with exposure to diesel particulate matter. It should be noted that cancer risks generally drive the potential risk assessment for diesel particulate matter. The reference exposure level (REL) for diesel particulate matter is $5 \mu\text{g}/\text{m}^3$. The hazard quotient is calculated by dividing the downwind concentration of diesel particulate matter by the REL. The chronic hazard quotient for construction of the Spring Valley Residential Project would therefore be 0.04135, which is below the County's significance hazard threshold of 1.0.

T-BACT will include the following measure:

In accordance with County of San Diego Planning and Development Services requirements, the project will request the construction contractor to provide a construction fleet that uses any

combination of diesel catalytic converters, diesel oxidation catalysts, diesel particulate filters and/or ARB certified Tier III or IV equipment. It should be noted that even with the assumption that the construction fleet is represented by the average fleet for the year 2023 when the project is being constructed, the impact would not exceed the County's threshold of 10 in a million. The average fleet does include equipment that is rated to Tier III and Tier IV; and as time progresses, more of the construction equipment in the fleet will meet more stringent standards.

The risk associated with exposure to diesel particulate from construction of the project is therefore not significant. Results of the risk evaluation and risk calculations are included in Appendix B.

Vehicular traffic may result in emissions of toxic air contaminants (TACs). Minor amounts of TACs are found in light-duty vehicle exhaust; however, the main source of on-road TACs is from diesel-powered heavy-duty trucks. Because the project is a residential development, the amount of truck traffic will be minimal, and no risks to surrounding sensitive receptors would be anticipated from project operations.

4.3.3 Mitigation Measures and Design Considerations

The project will require the construction fleet to use Tier III and Tier IV equipment as per the construction equipment fleet currently in use in the region. Because impacts to sensitive receptors from diesel particulate emissions would be less than significant, no additional mitigation measures are required.

4.4.4 Conclusions

Impacts to sensitive receptors would be less than significant.

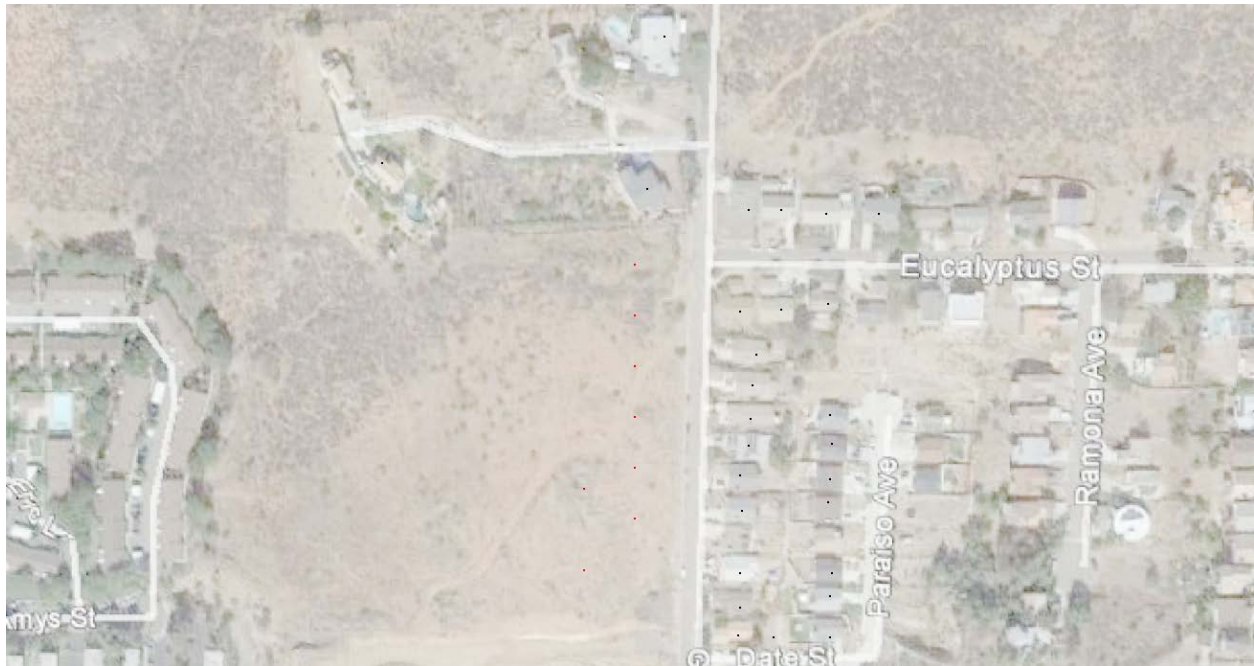


Figure 5. Risk Assessment Sources and Receptors

4.4 Odor Impacts

4.4.1 Guidelines for the Determination of Significance

The project will result in a significant impact to air quality if:

The project which is not an agricultural, commercial or an industrial activity subject to SDAPCD standards, as a result of implementation, will either generate objectionable odors or place sensitive receptors next to existing objectionable odors, which will affect a considerable number of persons or the public.

4.4.2 Significance of Impacts Prior to Mitigation

Project construction could result in minor amounts of odor compounds associated with diesel heavy equipment exhaust. Because the construction equipment would be operating at various

locations throughout the construction site, and because any operation that would occur in the vicinity of existing receptors would be temporary, impacts associated with odors during construction are therefore not considered significant.

During construction, diesel equipment operating at the site may generate some nuisance odors; however, due to the distance of sensitive receptors to the project site and the temporary nature of construction, odors associated with project construction would not be significant.

In their CEQA Air Quality Handbook (SCAQMD 1999), the South Coast Air Quality Management District identified the following as sources of objectionable odors: agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, fiberglass molding operations. Residential dwellings are not identified as sources of objectionable odor.

4.4.3 Design Considerations

Because the project would not generate objectionable odors or place sensitive receptors near existing odor sources that would affect a considerable number of persons or the public, no additional design considerations are required.

4.4.4 Conclusions

Due to the nature of the project as a residential development, the project is not identified as a specific source of nuisance odors. Odor impacts are therefore less than significant.

5.0 SUMMARY OF RECOMMENDED DESIGN FEATURES, IMPACTS, AND MITIGATION

In summary, the proposed project would result in emissions of air pollutants for both the construction phase and operational phase of the project. The air quality impact analysis evaluated the following air quality issues, and made the following conclusions:

The project will conflict with or obstruct the implementation of the San Diego Regional Air Quality Strategy (RAQS) and/or applicable portions of the State Implementation Plan (SIP).

Because the Project is consistent with the allowable land use at the site, the project is consistent with the RAQS and SIP. Because the Project is consistent with the RAQS and SIP, it would be in compliance with the applicable rules and regulations designed to avoid adverse impacts to human health. The project therefore has a low potential to impact human health.

The project would result in emissions that would violate any air quality standard or result in a cumulatively considerable net increase in an existing or projected air quality violation.

The project will result in emissions that exceed 250 pounds per day of NO_x, or 75 pounds per day of VOCs.

The project will result in emissions of carbon monoxide that when totaled with the ambient concentrations will exceed a 1-hour concentration of 20 parts per million (ppm) or an 8-hour average of 9 ppm.

The project will result in emissions of PM_{2.5} that will exceed 55 pounds per day.

The project will result in emissions of PM₁₀ that exceed 100 pounds per day and increase the ambient PM₁₀ concentration by 5 micrograms per cubic meter (5.0 µg/m³) or greater at the maximum exposed individual.

Both construction and operational emissions were evaluated to address these impacts. During both construction and operations, the project would result in emissions that are less than the screening-level thresholds for all criteria pollutants. To reduce the emissions to the extent feasible, fugitive

dust control measures will be implemented during construction. Measures that are incorporated into the project description to reduce emissions associated with construction include the following:

- Application of water three times daily during grading on active grading sites
- Application of water three times daily to unpaved roads
- Reduce speeds to 15 mph on unpaved roads
- Use architectural coatings with a VOC content of 100 g/l or less
- Require the use of Tier 3 construction equipment.

These measures constitute best management practices for dust control, architectural coatings, diesel particulate, and construction equipment emissions.

Project criteria pollutants emissions during construction would be less than significant as they would be below the County's SLTs.. Supportive of the NAAQS and CAAQS, the County's SLTs are scientifically substantiated, numerical mass emissions levels of criteria air pollutants considered to be protective of human health. A project with emissions rates below these thresholds is considered to have a less than significant impact on regional and local air quality and would have a low potential for resulting in impacts to human health due to the nexus between SLTs, ambient air quality standards, and public health.

Operational emissions would be associated with traffic accessing the project, and with area sources such as energy use and landscaping. Emissions of all criteria pollutants would be less than the SLTs for project operations and would therefore not result in a significant impact to the ambient air quality. Supportive of the NAAQS and CAAQS, the County's SLTs are scientifically substantiated, numerical mass emissions levels of criteria air pollutants considered to be protective of human health. A project with emissions rates below these thresholds is considered to have a less than significant impact on regional and local air quality and would have a low potential for resulting in impacts to human health due to the nexus between SLTs, ambient air quality standards, and public health.

The project will expose sensitive receptors to substantial pollutant concentrations.

As discussed in Section 4.3, the project would not expose sensitive receptors to substantial pollutant concentrations.

The project which is not an agricultural, commercial or an industrial activity subject to SDAPCD standards, as a result of implementation, will result in substantial emissions (such as odors or dust) adversely affecting a substantial number of people.

Residential dwellings are not an odor generating source. As discussed in Section 2, the project would be subject to the requirements of APCD Rule 51. Nuisance/odor impacts are therefore less than significant.

6.0 REFERENCES

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7.0 LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

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Appendix A

Emission Calculations

Spring Valley Residential Project - San Diego Air Basin, Summer

Spring Valley Residential Project

San Diego Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	7.00	Dwelling Unit	9.91	12,600.00	20

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2024
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	556.22	CH4 Intensity (lb/MW hr)	0.022	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 33% RPS

Land Use - Project description

Construction Phase - Assumed construction schedule

Grading - Site grading

Trips and VMT - Haul trips

Architectural Coating - Rule 67.0.1 coatings

Vehicle Trips - Traffic analysis

Woodstoves - Natural gas fireplaces

Area Coating - Rule 67.0.1 coatings

Energy Use -

Land Use Change -

Sequestration -

Construction Off-road Equipment Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Residential_Exterior	250	100
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	230.00	131.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	PhaseEndDate	6/21/2024	11/30/2023
tblConstructionPhase	PhaseEndDate	4/26/2024	11/30/2023
tblConstructionPhase	PhaseEndDate	6/9/2023	5/31/2023
tblConstructionPhase	PhaseEndDate	5/24/2024	7/31/2023
tblConstructionPhase	PhaseStartDate	5/25/2024	10/1/2023
tblConstructionPhase	PhaseStartDate	6/10/2023	6/1/2023
tblConstructionPhase	PhaseStartDate	5/13/2023	4/1/2023
tblConstructionPhase	PhaseStartDate	4/27/2024	6/1/2023
tblFireplaces	FireplaceDayYear	82.00	30.00
tblFireplaces	NumberGas	3.85	7.00
tblFireplaces	NumberWood	2.45	0.00
tblGrading	AcresOfGrading	21.50	9.91
tblLandUse	LotAcreage	2.27	9.91
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	556.22

tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblSequestration	NumberOfNewTrees	0.00	14.00
tblTripsAndVMT	HaulingTripNumber	0.00	15.00
tblVehicleTrips	ST_TR	9.91	10.00
tblVehicleTrips	SU_TR	8.62	10.00
tblVehicleTrips	WD_TR	9.52	10.00
tblWoodstoves	NumberCatalytic	0.35	0.00
tblWoodstoves	NumberNoncatalytic	0.35	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.0188	24.6860	31.2631	0.0514	6.3958	1.2110	7.1717	3.3710	1.1288	4.0848	0.0000	4,926.7478	4,926.7478	1.3272	0.0000	4,959.9274
Maximum	4.0188	24.6860	31.2631	0.0514	6.3958	1.2110	7.1717	3.3710	1.1288	4.0848	0.0000	4,926.7478	4,926.7478	1.3272	0.0000	4,959.9274

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					

2023	4.0188	24.6860	31.2631	0.0514	2.5733	1.2110	3.3491	1.3356	1.1288	2.0494	0.0000	4,926.7478	4,926.7478	1.3272	0.0000	4,959.9274
Maximum	4.0188	24.6860	31.2631	0.0514	2.5733	1.2110	3.3491	1.3356	1.1288	2.0494	0.0000	4,926.7478	4,926.7478	1.3272	0.0000	4,959.9274

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	59.77	0.00	53.30	60.38	0.00	49.83	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3276	0.1228	0.6267	7.7000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	149.2752	149.2752	3.8400e-003	2.7200e-003	150.1810
Energy	4.8400e-003	0.0413	0.0176	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003		52.7666	52.7666	1.0100e-003	9.7000e-004	53.0802
Mobile	0.1014	0.3791	1.2061	4.5400e-003	0.4237	3.3800e-003	0.4271	0.1132	3.1400e-003	0.1164		462.6006	462.6006	0.0221		463.1527
Total	0.4338	0.5432	1.8504	5.5700e-003	0.4237	0.0193	0.4430	0.1132	0.0191	0.1323	0.0000	664.6424	664.6424	0.0269	3.6900e-003	666.4138

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3276	0.1228	0.6267	7.7000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	149.2752	149.2752	3.8400e-003	2.7200e-003	150.1810

Energy	4.8400e-003	0.0413	0.0176	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003		52.7666	52.7666	1.0100e-003	9.7000e-004	53.0802
Mobile	0.1014	0.3791	1.2061	4.5400e-003	0.4237	3.3800e-003	0.4271	0.1132	3.1400e-003	0.1164		462.6006	462.6006	0.0221		463.1527
Total	0.4338	0.5432	1.8504	5.5700e-003	0.4237	0.0193	0.4430	0.1132	0.0191	0.1323	0.0000	664.6424	664.6424	0.0269	3.6900e-003	666.4138

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	4/1/2023	5/31/2023	5	43	
2	Building Construction	Building Construction	6/1/2023	11/30/2023	5	131	
3	Paving	Paving	6/1/2023	7/31/2023	5	43	
4	Architectural Coating	Architectural Coating	10/1/2023	11/30/2023	5	44	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 9.91

Acres of Paving: 0

Residential Indoor: 25,515; Residential Outdoor: 8,505; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42

Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	6	15.00	0.00	15.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	3.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2665	0.0000	6.2665	3.3366	0.0000	3.3366			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182

Total	1.7109	17.9359	14.7507	0.0297	6.2665	0.7749	7.0414	3.3366	0.7129	4.0496		2,872.6910	2,872.6910	0.9291		2,895.9182
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Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7400e-003	0.0564	0.0205	2.5000e-004	6.1000e-003	1.0000e-004	6.2000e-003	1.6700e-003	1.0000e-004	1.7700e-003		28.1280	28.1280	2.4700e-003		28.1897
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0464	0.0281	0.3437	1.1400e-003	0.1232	8.2000e-004	0.1240	0.0327	7.5000e-004	0.0334		113.1851	113.1851	2.9300e-003		113.2582
Total	0.0482	0.0845	0.3641	1.3900e-003	0.1293	9.2000e-004	0.1302	0.0344	8.5000e-004	0.0352		141.3131	141.3131	5.4000e-003		141.4480

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4439	0.0000	2.4439	1.3013	0.0000	1.3013			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	1.7109	17.9359	14.7507	0.0297	2.4439	0.7749	3.2189	1.3013	0.7129	2.0142	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7400e-003	0.0564	0.0205	2.5000e-004	6.1000e-003	1.0000e-004	6.2000e-003	1.6700e-003	1.0000e-004	1.7700e-003		28.1280	28.1280	2.4700e-003		28.1897
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0464	0.0281	0.3437	1.1400e-003	0.1232	8.2000e-004	0.1240	0.0327	7.5000e-004	0.0334		113.1851	113.1851	2.9300e-003		113.2582
Total	0.0482	0.0845	0.3641	1.3900e-003	0.1293	9.2000e-004	0.1302	0.0344	8.5000e-004	0.0352		141.3131	141.3131	5.4000e-003		141.4480

3.3 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.1700e-003	0.0758	0.0225	2.6000e-004	6.7700e-003	9.0000e-005	6.8600e-003	1.9500e-003	9.0000e-005	2.0300e-003		28.1317	28.1317	1.8500e-003		28.1779
Worker	9.2900e-003	5.6100e-003	0.0687	2.3000e-004	0.0246	1.6000e-004	0.0248	6.5400e-003	1.5000e-004	6.6900e-003		22.6370	22.6370	5.9000e-004		22.6516
Total	0.0115	0.0814	0.0912	4.9000e-004	0.0314	2.5000e-004	0.0317	8.4900e-003	2.4000e-004	8.7200e-003		50.7687	50.7687	2.4400e-003		50.8295

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.1700e-003	0.0758	0.0225	2.6000e-004	6.7700e-003	9.0000e-005	6.8600e-003	1.9500e-003	9.0000e-005	2.0300e-003		28.1317	28.1317	1.8500e-003		28.1779
Worker	9.2900e-003	5.6100e-003	0.0687	2.3000e-004	0.0246	1.6000e-004	0.0248	6.5400e-003	1.5000e-004	6.6900e-003		22.6370	22.6370	5.9000e-004		22.6516
Total	0.0115	0.0814	0.0912	4.9000e-004	0.0314	2.5000e-004	0.0317	8.4900e-003	2.4000e-004	8.7200e-003		50.7687	50.7687	2.4400e-003		50.8295

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0464	0.0281	0.3437	1.1400e-003	0.1232	8.2000e-004	0.1240	0.0327	7.5000e-004	0.0334		113.1851	113.1851	2.9300e-003		113.2582
Total	0.0464	0.0281	0.3437	1.1400e-003	0.1232	8.2000e-004	0.1240	0.0327	7.5000e-004	0.0334		113.1851	113.1851	2.9300e-003		113.2582

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0464	0.0281	0.3437	1.1400e-003	0.1232	8.2000e-004	0.1240	0.0327	7.5000e-004	0.0334		113.1851	113.1851	2.9300e-003		113.2582
Total	0.0464	0.0281	0.3437	1.1400e-003	0.1232	8.2000e-004	0.1240	0.0327	7.5000e-004	0.0334		113.1851	113.1851	2.9300e-003		113.2582

3.5 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.2398					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	2.4315	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	3.1000e-003	1.8700e-003	0.0229	8.0000e-005	8.2100e-003	5.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		7.5457	7.5457	2.0000e-004		7.5506
Total	3.1000e-003	1.8700e-003	0.0229	8.0000e-005	8.2100e-003	5.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		7.5457	7.5457	2.0000e-004		7.5506

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.2398					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	2.4315	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	3.1000e-003	1.8700e-003	0.0229	8.0000e-005	8.2100e-003	5.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		7.5457	7.5457	2.0000e-004		7.5506
Total	3.1000e-003	1.8700e-003	0.0229	8.0000e-005	8.2100e-003	5.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		7.5457	7.5457	2.0000e-004		7.5506

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1014	0.3791	1.2061	4.5400e-003	0.4237	3.3800e-003	0.4271	0.1132	3.1400e-003	0.1164		462.6006	462.6006	0.0221		463.1527
Unmitigated	0.1014	0.3791	1.2061	4.5400e-003	0.4237	3.3800e-003	0.4271	0.1132	3.1400e-003	0.1164		462.6006	462.6006	0.0221		463.1527

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT

Single Family Housing	70.00	70.00	70.00	199,871	199,871
Total	70.00	70.00	70.00	199,871	199,871

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	4.8400e-003	0.0413	0.0176	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003		52.7666	52.7666	1.0100e-003	9.7000e-004	53.0802
NaturalGas Unmitigated	4.8400e-003	0.0413	0.0176	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003		52.7666	52.7666	1.0100e-003	9.7000e-004	53.0802

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	448.516	4.8400e-003	0.0413	0.0176	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003		52.7666	52.7666	1.0100e-003	9.7000e-004	53.0802
Total		4.8400e-003	0.0413	0.0176	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003		52.7666	52.7666	1.0100e-003	9.7000e-004	53.0802

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	0.448516	4.8400e-003	0.0413	0.0176	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003		52.7666	52.7666	1.0100e-003	9.7000e-004	53.0802
Total		4.8400e-003	0.0413	0.0176	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003		52.7666	52.7666	1.0100e-003	9.7000e-004	53.0802

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3276	0.1228	0.6267	7.7000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	149.2752	149.2752	3.8400e-003	2.7200e-003	150.1810
Unmitigated	0.3276	0.1228	0.6267	7.7000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	149.2752	149.2752	3.8400e-003	2.7200e-003	150.1810

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0270					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2696					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0136	0.1161	0.0494	7.4000e-004		9.3900e-003	9.3900e-003		9.3900e-003	9.3900e-003	0.0000	148.2353	148.2353	2.8400e-003	2.7200e-003	149.1162
Landscaping	0.0174	6.6500e-003	0.5773	3.0000e-005		3.2000e-003	3.2000e-003		3.2000e-003	3.2000e-003		1.0399	1.0399	1.0000e-003		1.0648
Total	0.3276	0.1228	0.6267	7.7000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	149.2752	149.2752	3.8400e-003	2.7200e-003	150.1810

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0270					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Consumer Products	0.2696					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0136	0.1161	0.0494	7.4000e-004		9.3900e-003	9.3900e-003		9.3900e-003	9.3900e-003	0.0000	148.2353	148.2353	2.8400e-003	2.7200e-003	149.1162
Landscaping	0.0174	6.6500e-003	0.5773	3.0000e-005		3.2000e-003	3.2000e-003		3.2000e-003	3.2000e-003		1.0399	1.0399	1.0000e-003		1.0648
Total	0.3276	0.1228	0.6267	7.7000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	149.2752	149.2752	3.8400e-003	2.7200e-003	150.1810

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Kitchen Faucet

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Spring Valley Residential Project - San Diego Air Basin, Winter

Spring Valley Residential Project

San Diego Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	7.00	Dwelling Unit	9.91	12,600.00	20

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2024
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	556.22	CH4 Intensity (lb/MW hr)	0.022	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 33% RPS

Land Use - Project description

Construction Phase - Assumed construction schedule

Grading - Site grading

Trips and VMT - Haul trips

Architectural Coating - Rule 67.0.1 coatings

Vehicle Trips - Traffic analysis

Woodstoves - Natural gas fireplaces

Area Coating - Rule 67.0.1 coatings

Energy Use -

Land Use Change -

Sequestration -

Construction Off-road Equipment Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Residential_Exterior	250	100
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	230.00	131.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	PhaseEndDate	6/21/2024	11/30/2023
tblConstructionPhase	PhaseEndDate	4/26/2024	11/30/2023
tblConstructionPhase	PhaseEndDate	6/9/2023	5/31/2023
tblConstructionPhase	PhaseEndDate	5/24/2024	7/31/2023
tblConstructionPhase	PhaseStartDate	5/25/2024	10/1/2023
tblConstructionPhase	PhaseStartDate	6/10/2023	6/1/2023
tblConstructionPhase	PhaseStartDate	5/13/2023	4/1/2023
tblConstructionPhase	PhaseStartDate	4/27/2024	6/1/2023
tblFireplaces	FireplaceDayYear	82.00	30.00
tblFireplaces	NumberGas	3.85	7.00
tblFireplaces	NumberWood	2.45	0.00
tblGrading	AcresOfGrading	21.50	9.91
tblLandUse	LotAcreage	2.27	9.91
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	556.22

tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblSequestration	NumberOfNewTrees	0.00	14.00
tblTripsAndVMT	HaulingTripNumber	0.00	15.00
tblVehicleTrips	ST_TR	9.91	10.00
tblVehicleTrips	SU_TR	8.62	10.00
tblVehicleTrips	WD_TR	9.52	10.00
tblWoodstoves	NumberCatalytic	0.35	0.00
tblWoodstoves	NumberNoncatalytic	0.35	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.0206	24.6898	31.2389	0.0513	6.3958	1.2110	7.1717	3.3710	1.1288	4.0848	0.0000	4,917.7123	4,917.7123	1.3271	0.0000	4,950.8893
Maximum	4.0206	24.6898	31.2389	0.0513	6.3958	1.2110	7.1717	3.3710	1.1288	4.0848	0.0000	4,917.7123	4,917.7123	1.3271	0.0000	4,950.8893

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					

2023	4.0206	24.6898	31.2389	0.0513	2.5733	1.2110	3.3491	1.3356	1.1288	2.0494	0.0000	4,917.7123	4,917.7123	1.3271	0.0000	4,950.8893
Maximum	4.0206	24.6898	31.2389	0.0513	2.5733	1.2110	3.3491	1.3356	1.1288	2.0494	0.0000	4,917.7123	4,917.7123	1.3271	0.0000	4,950.8893

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	59.77	0.00	53.30	60.38	0.00	49.83	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational
Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3276	0.1228	0.6267	7.7000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	149.2752	149.2752	3.8400e-003	2.7200e-003	150.1810
Energy	4.8400e-003	0.0413	0.0176	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003		52.7666	52.7666	1.0100e-003	9.7000e-004	53.0802
Mobile	0.0981	0.3897	1.1779	4.3100e-003	0.4237	3.3900e-003	0.4271	0.1132	3.1600e-003	0.1164		439.1085	439.1085	0.0221		439.6618
Total	0.4305	0.5538	1.8222	5.3400e-003	0.4237	0.0193	0.4431	0.1132	0.0191	0.1323	0.0000	641.1503	641.1503	0.0270	3.6900e-003	642.9230

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3276	0.1228	0.6267	7.7000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	149.2752	149.2752	3.8400e-003	2.7200e-003	150.1810

Energy	4.8400e-003	0.0413	0.0176	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003		52.7666	52.7666	1.0100e-003	9.7000e-004	53.0802
Mobile	0.0981	0.3897	1.1779	4.3100e-003	0.4237	3.3900e-003	0.4271	0.1132	3.1600e-003	0.1164		439.1085	439.1085	0.0221		439.6618
Total	0.4305	0.5538	1.8222	5.3400e-003	0.4237	0.0193	0.4431	0.1132	0.0191	0.1323	0.0000	641.1503	641.1503	0.0270	3.6900e-003	642.9230

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	4/1/2023	5/31/2023	5	43	
2	Building Construction	Building Construction	6/1/2023	11/30/2023	5	131	
3	Paving	Paving	6/1/2023	7/31/2023	5	43	
4	Architectural Coating	Architectural Coating	10/1/2023	11/30/2023	5	44	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 9.91

Acres of Paving: 0

Residential Indoor: 25,515; Residential Outdoor: 8,505; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42

Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	6	15.00	0.00	15.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	3.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2665	0.0000	6.2665	3.3366	0.0000	3.3366			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182

Total	1.7109	17.9359	14.7507	0.0297	6.2665	0.7749	7.0414	3.3366	0.7129	4.0496		2,872.6910	2,872.6910	0.9291		2,895.9182
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Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7900e-003	0.0566	0.0214	2.5000e-004	6.1000e-003	1.1000e-004	6.2000e-003	1.6700e-003	1.0000e-004	1.7700e-003		27.6380	27.6380	2.5400e-003		27.7013
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0529	0.0315	0.3217	1.0700e-003	0.1232	8.2000e-004	0.1240	0.0327	7.5000e-004	0.0334		106.2594	106.2594	2.7600e-003		106.3284
Total	0.0547	0.0881	0.3431	1.3200e-003	0.1293	9.3000e-004	0.1302	0.0344	8.5000e-004	0.0352		133.8974	133.8974	5.3000e-003		134.0297

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4439	0.0000	2.4439	1.3013	0.0000	1.3013			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	1.7109	17.9359	14.7507	0.0297	2.4439	0.7749	3.2189	1.3013	0.7129	2.0142	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7900e-003	0.0566	0.0214	2.5000e-004	6.1000e-003	1.1000e-004	6.2000e-003	1.6700e-003	1.0000e-004	1.7700e-003		27.6380	27.6380	2.5400e-003		27.7013
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0529	0.0315	0.3217	1.0700e-003	0.1232	8.2000e-004	0.1240	0.0327	7.5000e-004	0.0334		106.2594	106.2594	2.7600e-003		106.3284
Total	0.0547	0.0881	0.3431	1.3200e-003	0.1293	9.3000e-004	0.1302	0.0344	8.5000e-004	0.0352		133.8974	133.8974	5.3000e-003		134.0297

3.3 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2900e-003	0.0754	0.0247	2.5000e-004	6.7700e-003	9.0000e-005	6.8600e-003	1.9500e-003	9.0000e-005	2.0400e-003		27.4069	27.4069	1.9500e-003		27.4556
Worker	0.0106	6.3000e-003	0.0643	2.1000e-004	0.0246	1.6000e-004	0.0248	6.5400e-003	1.5000e-004	6.6900e-003		21.2519	21.2519	5.5000e-004		21.2657
Total	0.0129	0.0817	0.0890	4.6000e-004	0.0314	2.5000e-004	0.0317	8.4900e-003	2.4000e-004	8.7300e-003		48.6588	48.6588	2.5000e-003		48.7213

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2900e-003	0.0754	0.0247	2.5000e-004	6.7700e-003	9.0000e-005	6.8600e-003	1.9500e-003	9.0000e-005	2.0400e-003		27.4069	27.4069	1.9500e-003		27.4556
Worker	0.0106	6.3000e-003	0.0643	2.1000e-004	0.0246	1.6000e-004	0.0248	6.5400e-003	1.5000e-004	6.6900e-003		21.2519	21.2519	5.5000e-004		21.2657
Total	0.0129	0.0817	0.0890	4.6000e-004	0.0314	2.5000e-004	0.0317	8.4900e-003	2.4000e-004	8.7300e-003		48.6588	48.6588	2.5000e-003		48.7213

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0529	0.0315	0.3217	1.0700e-003	0.1232	8.2000e-004	0.1240	0.0327	7.5000e-004	0.0334		106.2594	106.2594	2.7600e-003		106.3284
Total	0.0529	0.0315	0.3217	1.0700e-003	0.1232	8.2000e-004	0.1240	0.0327	7.5000e-004	0.0334		106.2594	106.2594	2.7600e-003		106.3284

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0529	0.0315	0.3217	1.0700e-003	0.1232	8.2000e-004	0.1240	0.0327	7.5000e-004	0.0334		106.2594	106.2594	2.7600e-003		106.3284
Total	0.0529	0.0315	0.3217	1.0700e-003	0.1232	8.2000e-004	0.1240	0.0327	7.5000e-004	0.0334		106.2594	106.2594	2.7600e-003		106.3284

3.5 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.2398					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	2.4315	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	3.5300e-003	2.1000e-003	0.0214	7.0000e-005	8.2100e-003	5.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		7.0840	7.0840	1.8000e-004		7.0886
Total	3.5300e-003	2.1000e-003	0.0214	7.0000e-005	8.2100e-003	5.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		7.0840	7.0840	1.8000e-004		7.0886

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.2398					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	2.4315	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	3.5300e-003	2.1000e-003	0.0214	7.0000e-005	8.2100e-003	5.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		7.0840	7.0840	1.8000e-004		7.0886
Total	3.5300e-003	2.1000e-003	0.0214	7.0000e-005	8.2100e-003	5.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		7.0840	7.0840	1.8000e-004		7.0886

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0981	0.3897	1.1779	4.3100e-003	0.4237	3.3900e-003	0.4271	0.1132	3.1600e-003	0.1164		439.1085	439.1085	0.0221		439.6618
Unmitigated	0.0981	0.3897	1.1779	4.3100e-003	0.4237	3.3900e-003	0.4271	0.1132	3.1600e-003	0.1164		439.1085	439.1085	0.0221		439.6618

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT

Single Family Housing	70.00	70.00	70.00	199,871	199,871
Total	70.00	70.00	70.00	199,871	199,871

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	4.8400e-003	0.0413	0.0176	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003		52.7666	52.7666	1.0100e-003	9.7000e-004	53.0802
NaturalGas Unmitigated	4.8400e-003	0.0413	0.0176	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003		52.7666	52.7666	1.0100e-003	9.7000e-004	53.0802

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	448.516	4.8400e-003	0.0413	0.0176	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003		52.7666	52.7666	1.0100e-003	9.7000e-004	53.0802
Total		4.8400e-003	0.0413	0.0176	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003		52.7666	52.7666	1.0100e-003	9.7000e-004	53.0802

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	0.448516	4.8400e-003	0.0413	0.0176	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003		52.7666	52.7666	1.0100e-003	9.7000e-004	53.0802
Total		4.8400e-003	0.0413	0.0176	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003		52.7666	52.7666	1.0100e-003	9.7000e-004	53.0802

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3276	0.1228	0.6267	7.7000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	149.2752	149.2752	3.8400e-003	2.7200e-003	150.1810
Unmitigated	0.3276	0.1228	0.6267	7.7000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	149.2752	149.2752	3.8400e-003	2.7200e-003	150.1810

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0270					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2696					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0136	0.1161	0.0494	7.4000e-004		9.3900e-003	9.3900e-003		9.3900e-003	9.3900e-003	0.0000	148.2353	148.2353	2.8400e-003	2.7200e-003	149.1162
Landscaping	0.0174	6.6500e-003	0.5773	3.0000e-005		3.2000e-003	3.2000e-003		3.2000e-003	3.2000e-003		1.0399	1.0399	1.0000e-003		1.0648
Total	0.3276	0.1228	0.6267	7.7000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	149.2752	149.2752	3.8400e-003	2.7200e-003	150.1810

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0270					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Consumer Products	0.2696					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0136	0.1161	0.0494	7.4000e-004		9.3900e-003	9.3900e-003		9.3900e-003	9.3900e-003	0.0000	148.2353	148.2353	2.8400e-003	2.7200e-003	149.1162
Landscaping	0.0174	6.6500e-003	0.5773	3.0000e-005		3.2000e-003	3.2000e-003		3.2000e-003	3.2000e-003		1.0399	1.0399	1.0000e-003		1.0648
Total	0.3276	0.1228	0.6267	7.7000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	149.2752	149.2752	3.8400e-003	2.7200e-003	150.1810

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Kitchen Faucet

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Spring Valley Residential Project - San Diego Air Basin, Annual

Spring Valley Residential Project
San Diego Air Basin, Annual**1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	7.00	Dwelling Unit	9.91	12,600.00	20

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2024
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	556.22	CH4 Intensity (lb/MW hr)	0.022	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 33% RPS

Land Use - Project description

Construction Phase - Assumed construction schedule

Grading - Site grading

Trips and VMT - Haul trips

Architectural Coating - Rule 67.0.1 coatings

Vehicle Trips - Traffic analysis

Woodstoves - Natural gas fireplaces

Area Coating - Rule 67.0.1 coatings

Energy Use -

Land Use Change -

Sequestration -

Construction Off-road Equipment Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Residential_Exterior	250	100
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	230.00	131.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	PhaseEndDate	6/21/2024	11/30/2023
tblConstructionPhase	PhaseEndDate	4/26/2024	11/30/2023
tblConstructionPhase	PhaseEndDate	6/9/2023	5/31/2023
tblConstructionPhase	PhaseEndDate	5/24/2024	7/31/2023
tblConstructionPhase	PhaseStartDate	5/25/2024	10/1/2023
tblConstructionPhase	PhaseStartDate	6/10/2023	6/1/2023
tblConstructionPhase	PhaseStartDate	5/13/2023	4/1/2023
tblConstructionPhase	PhaseStartDate	4/27/2024	6/1/2023
tblFireplaces	FireplaceDayYear	82.00	30.00
tblFireplaces	NumberGas	3.85	7.00
tblFireplaces	NumberWood	2.45	0.00
tblGrading	AcresOfGrading	21.50	9.91
tblLandUse	LotAcreage	2.27	9.91
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	556.22

tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblSequestration	NumberOfNewTrees	0.00	14.00
tblTripsAndVMT	HaulingTripNumber	0.00	15.00
tblVehicleTrips	ST_TR	9.91	10.00
tblVehicleTrips	SU_TR	8.62	10.00
tblVehicleTrips	WD_TR	9.52	10.00
tblWoodstoves	NumberCatalytic	0.35	0.00
tblWoodstoves	NumberNoncatalytic	0.35	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.2184	1.5836	1.7551	3.0400e-003	0.1422	0.0751	0.2173	0.0737	0.0702	0.1439	0.0000	264.3402	264.3402	0.0688	0.0000	266.0604
Maximum	0.2184	1.5836	1.7551	3.0400e-003	0.1422	0.0751	0.2173	0.0737	0.0702	0.1439	0.0000	264.3402	264.3402	0.0688	0.0000	266.0604

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					

2023	0.2184	1.5836	1.7551	3.0400e-003	0.0600	0.0751	0.1351	0.0300	0.0702	0.1001	0.0000	264.3399	264.3399	0.0688	0.0000	266.0601
Maximum	0.2184	1.5836	1.7551	3.0400e-003	0.0600	0.0751	0.1351	0.0300	0.0702	0.1001	0.0000	264.3399	264.3399	0.0688	0.0000	266.0601

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	57.79	0.00	37.82	59.34	0.00	30.41	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-1-2023	6-30-2023	0.7239	0.7239
2	7-1-2023	9-30-2023	0.6525	0.6525
		Highest	0.7239	0.7239

2.2 Overall Operational
Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0559	2.3400e-003	0.0527	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	2.1021	2.1021	1.2000e-004	4.0000e-005	2.1161
Energy	8.8000e-004	7.5400e-003	3.2100e-003	5.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	23.0341	23.0341	7.3000e-004	2.6000e-004	23.1308
Mobile	0.0174	0.0711	0.2124	7.9000e-004	0.0753	6.2000e-004	0.0759	0.0202	5.7000e-004	0.0207	0.0000	73.1800	73.1800	3.6200e-003	0.0000	73.2705
Waste						0.0000	0.0000		0.0000	0.0000	1.6645	0.0000	1.6645	0.0984	0.0000	4.1238
Water						0.0000	0.0000		0.0000	0.0000	0.1447	2.3042	2.4489	0.0150	3.7000e-004	2.9323
Total	0.0742	0.0810	0.2684	8.5000e-004	0.0753	1.6600e-003	0.0770	0.0202	1.6100e-003	0.0218	1.8092	100.6204	102.4296	0.1178	6.7000e-004	105.5734

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0559	2.3400e-003	0.0527	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	2.1021	2.1021	1.2000e-004	4.0000e-005	2.1161
Energy	8.8000e-004	7.5400e-003	3.2100e-003	5.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	23.0341	23.0341	7.3000e-004	2.6000e-004	23.1308
Mobile	0.0174	0.0711	0.2124	7.9000e-004	0.0753	6.2000e-004	0.0759	0.0202	5.7000e-004	0.0207	0.0000	73.1800	73.1800	3.6200e-003	0.0000	73.2705
Waste						0.0000	0.0000		0.0000	0.0000	1.6645	0.0000	1.6645	0.0984	0.0000	4.1238
Water						0.0000	0.0000		0.0000	0.0000	0.1400	2.2557	2.3957	0.0145	3.6000e-004	2.8634
Total	0.0742	0.0810	0.2684	8.5000e-004	0.0753	1.6600e-003	0.0770	0.0202	1.6100e-003	0.0218	1.8045	100.5718	102.3763	0.1173	6.6000e-004	105.5046

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.05	0.05	0.41	1.49	0.07

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	9.9120
Vegetation Land Change	-50.6220
Total	-40.7100

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	4/1/2023	5/31/2023	5	43	
2	Building Construction	Building Construction	6/1/2023	11/30/2023	5	131	
3	Paving	Paving	6/1/2023	7/31/2023	5	43	
4	Architectural Coating	Architectural Coating	10/1/2023	11/30/2023	5	44	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 9.91****Acres of Paving: 0****Residential Indoor: 25,515; Residential Outdoor: 8,505; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	6	15.00	0.00	15.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	3.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area
Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1347	0.0000	0.1347	0.0717	0.0000	0.0717	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0368	0.3856	0.3171	6.4000e-004		0.0167	0.0167		0.0153	0.0153	0.0000	56.0303	56.0303	0.0181	0.0000	56.4834
Total	0.0368	0.3856	0.3171	6.4000e-004	0.1347	0.0167	0.1514	0.0717	0.0153	0.0871	0.0000	56.0303	56.0303	0.0181	0.0000	56.4834

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	4.0000e-005	1.2300e-003	4.5000e-004	1.0000e-005	1.3000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.5446	0.5446	5.0000e-005	0.0000	0.5458
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0100e-003	6.7000e-004	6.9400e-003	2.0000e-005	2.5900e-003	2.0000e-005	2.6000e-003	6.9000e-004	2.0000e-005	7.0000e-004	0.0000	2.0932	2.0932	5.0000e-005	0.0000	2.0946
Total	1.0500e-003	1.9000e-003	7.3900e-003	3.0000e-005	2.7200e-003	2.0000e-005	2.7300e-003	7.3000e-004	2.0000e-005	7.4000e-004	0.0000	2.6379	2.6379	1.0000e-004	0.0000	2.6404

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0525	0.0000	0.0525	0.0280	0.0000	0.0280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0368	0.3856	0.3171	6.4000e-004		0.0167	0.0167		0.0153	0.0153	0.0000	56.0303	56.0303	0.0181	0.0000	56.4833
Total	0.0368	0.3856	0.3171	6.4000e-004	0.0525	0.0167	0.0692	0.0280	0.0153	0.0433	0.0000	56.0303	56.0303	0.0181	0.0000	56.4833

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.2300e-003	4.5000e-004	1.0000e-005	1.3000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.5446	0.5446	5.0000e-005	0.0000	0.5458
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0100e-003	6.7000e-004	6.9400e-003	2.0000e-005	2.5900e-003	2.0000e-005	2.6000e-003	6.9000e-004	2.0000e-005	7.0000e-004	0.0000	2.0932	2.0932	5.0000e-005	0.0000	2.0946
Total	1.0500e-003	1.9000e-003	7.3900e-003	3.0000e-005	2.7200e-003	2.0000e-005	2.7300e-003	7.3000e-004	2.0000e-005	7.4000e-004	0.0000	2.6379	2.6379	1.0000e-004	0.0000	2.6404

3.3 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1030	0.9422	1.0640	1.7600e-003		0.0458	0.0458		0.0431	0.0431	0.0000	151.8321	151.8321	0.0361	0.0000	152.7351
Total	0.1030	0.9422	1.0640	1.7600e-003		0.0458	0.0458		0.0431	0.0431	0.0000	151.8321	151.8321	0.0361	0.0000	152.7351

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5000e-004	4.9900e-003	1.5500e-003	2.0000e-005	4.3000e-004	1.0000e-005	4.4000e-004	1.3000e-004	1.0000e-005	1.3000e-004	0.0000	1.6535	1.6535	1.1000e-004	0.0000	1.6563
Worker	6.1000e-004	4.1000e-004	4.2300e-003	1.0000e-005	1.5800e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.2754	1.2754	3.0000e-005	0.0000	1.2762
Total	7.6000e-004	5.4000e-003	5.7800e-003	3.0000e-005	2.0100e-003	2.0000e-005	2.0300e-003	5.5000e-004	2.0000e-005	5.6000e-004	0.0000	2.9289	2.9289	1.4000e-004	0.0000	2.9326

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1030	0.9422	1.0640	1.7600e-003		0.0458	0.0458		0.0431	0.0431	0.0000	151.8319	151.8319	0.0361	0.0000	152.7349
Total	0.1030	0.9422	1.0640	1.7600e-003		0.0458	0.0458		0.0431	0.0431	0.0000	151.8319	151.8319	0.0361	0.0000	152.7349

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5000e-004	4.9900e-003	1.5500e-003	2.0000e-005	4.3000e-004	1.0000e-005	4.4000e-004	1.3000e-004	1.0000e-005	1.3000e-004	0.0000	1.6535	1.6535	1.1000e-004	0.0000	1.6563
Worker	6.1000e-004	4.1000e-004	4.2300e-003	1.0000e-005	1.5800e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.2754	1.2754	3.0000e-005	0.0000	1.2762
Total	7.6000e-004	5.4000e-003	5.7800e-003	3.0000e-005	2.0100e-003	2.0000e-005	2.0300e-003	5.5000e-004	2.0000e-005	5.6000e-004	0.0000	2.9289	2.9289	1.4000e-004	0.0000	2.9326

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0222	0.2191	0.3136	4.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	43.0578	43.0578	0.0139	0.0000	43.4059

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0222	0.2191	0.3136	4.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	43.0578	43.0578	0.0139	0.0000	43.4059

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0100e-003	6.7000e-004	6.9400e-003	2.0000e-005	2.5900e-003	2.0000e-005	2.6000e-003	6.9000e-004	2.0000e-005	7.0000e-004	0.0000	2.0932	2.0932	5.0000e-005	0.0000	2.0946
Total	1.0100e-003	6.7000e-004	6.9400e-003	2.0000e-005	2.5900e-003	2.0000e-005	2.6000e-003	6.9000e-004	2.0000e-005	7.0000e-004	0.0000	2.0932	2.0932	5.0000e-005	0.0000	2.0946

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0222	0.2191	0.3136	4.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	43.0577	43.0577	0.0139	0.0000	43.4059
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0222	0.2191	0.3136	4.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	43.0577	43.0577	0.0139	0.0000	43.4059

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0100e-003	6.7000e-004	6.9400e-003	2.0000e-005	2.5900e-003	2.0000e-005	2.6000e-003	6.9000e-004	2.0000e-005	7.0000e-004	0.0000	2.0932	2.0932	5.0000e-005	0.0000	2.0946
Total	1.0100e-003	6.7000e-004	6.9400e-003	2.0000e-005	2.5900e-003	2.0000e-005	2.6000e-003	6.9000e-004	2.0000e-005	7.0000e-004	0.0000	2.0932	2.0932	5.0000e-005	0.0000	2.0946

3.5 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0493					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2200e-003	0.0287	0.0398	7.0000e-005		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	5.6172	5.6172	3.4000e-004	0.0000	5.6256
Total	0.0535	0.0287	0.0398	7.0000e-005		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	5.6172	5.6172	3.4000e-004	0.0000	5.6256

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	4.7000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1428	0.1428	0.0000	0.0000	0.1429
Total	7.0000e-005	5.0000e-005	4.7000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1428	0.1428	0.0000	0.0000	0.1429

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0493					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2200e-003	0.0287	0.0398	7.0000e-005		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	5.6172	5.6172	3.4000e-004	0.0000	5.6256
Total	0.0535	0.0287	0.0398	7.0000e-005		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	5.6172	5.6172	3.4000e-004	0.0000	5.6256

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	4.7000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1428	0.1428	0.0000	0.0000	0.1429
Total	7.0000e-005	5.0000e-005	4.7000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1428	0.1428	0.0000	0.0000	0.1429

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0174	0.0711	0.2124	7.9000e-004	0.0753	6.2000e-004	0.0759	0.0202	5.7000e-004	0.0207	0.0000	73.1800	73.1800	3.6200e-003	0.0000	73.2705
Unmitigated	0.0174	0.0711	0.2124	7.9000e-004	0.0753	6.2000e-004	0.0759	0.0202	5.7000e-004	0.0207	0.0000	73.1800	73.1800	3.6200e-003	0.0000	73.2705

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	70.00	70.00	70.00	199,871	199,871
Total	70.00	70.00	70.00	199,871	199,871

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	14.2980	14.2980	5.7000e-004	1.0000e-004	14.3428
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	14.2980	14.2980	5.7000e-004	1.0000e-004	14.3428
NaturalGas Mitigated	8.8000e-004	7.5400e-003	3.2100e-003	5.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	8.7361	8.7361	1.7000e-004	1.6000e-004	8.7880
NaturalGas Unmitigated	8.8000e-004	7.5400e-003	3.2100e-003	5.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	8.7361	8.7361	1.7000e-004	1.6000e-004	8.7880

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	163708	8.8000e-004	7.5400e-003	3.2100e-003	5.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	8.7361	8.7361	1.7000e-004	1.6000e-004	8.7880
Total		8.8000e-004	7.5400e-003	3.2100e-003	5.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	8.7361	8.7361	1.7000e-004	1.6000e-004	8.7880

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	163708	8.8000e-004	7.5400e-003	3.2100e-003	5.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	8.7361	8.7361	1.7000e-004	1.6000e-004	8.7880
Total		8.8000e-004	7.5400e-003	3.2100e-003	5.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	8.7361	8.7361	1.7000e-004	1.6000e-004	8.7880

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	56671.2	14.2980	5.7000e-004	1.0000e-004	14.3428
Total		14.2980	5.7000e-004	1.0000e-004	14.3428

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
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Land Use	kWh/yr	MT/yr			
Single Family Housing	56671.2	14.2980	5.7000e-004	1.0000e-004	14.3428
Total		14.2980	5.7000e-004	1.0000e-004	14.3428

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0559	2.3400e-003	0.0527	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	2.1021	2.1021	1.2000e-004	4.0000e-005	2.1161
Unmitigated	0.0559	2.3400e-003	0.0527	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	2.1021	2.1021	1.2000e-004	4.0000e-005	2.1161

6.2 Area by SubCategory

Unmitigated

[illegible]

Consumer Products	0.0492					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.0000e-004	1.7400e-003	7.4000e-004	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	2.0172	2.0172	4.0000e-005	4.0000e-005	2.0291
Landscaping	1.5600e-003	6.0000e-004	0.0520	0.0000		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	0.0849	0.0849	8.0000e-005	0.0000	0.0869
Total	0.0559	2.3400e-003	0.0527	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	2.1021	2.1021	1.2000e-004	4.0000e-005	2.1161

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.9300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0492					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.0000e-004	1.7400e-003	7.4000e-004	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	2.0172	2.0172	4.0000e-005	4.0000e-005	2.0291
Landscaping	1.5600e-003	6.0000e-004	0.0520	0.0000		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	0.0849	0.0849	8.0000e-005	0.0000	0.0869
Total	0.0559	2.3400e-003	0.0527	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	2.1021	2.1021	1.2000e-004	4.0000e-005	2.1161

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Kitchen Faucet

	Total CO2	CH4	N2O	CO2e
--	-----------	-----	-----	------

Category	MT/yr			
Mitigated	2.3957	0.0145	3.6000e-004	2.8634
Unmitigated	2.4489	0.0150	3.7000e-004	2.9323

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	0.456078 / 0.287528	2.4489	0.0150	3.7000e-004	2.9323
Total		2.4489	0.0150	3.7000e-004	2.9323

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	0.441301 / 0.287528	2.3957	0.0145	3.6000e-004	2.8634
Total		2.3957	0.0145	3.6000e-004	2.8634

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.6645	0.0984	0.0000	4.1238
Unmitigated	1.6645	0.0984	0.0000	4.1238

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	8.2	1.6645	0.0984	0.0000	4.1238
Total		1.6645	0.0984	0.0000	4.1238

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	8.2	1.6645	0.0984	0.0000	4.1238
Total		1.6645	0.0984	0.0000	4.1238

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
--	-----------	-----	-----	------

Category	MT			
Unmitigated	-40.7100	0.0000	0.0000	-40.7100

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Scrub	9.91 / 6.37	-50.6220	0.0000	0.0000	-50.6220
Total		-50.6220	0.0000	0.0000	-50.6220

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	14	9.9120	0.0000	0.0000	9.9120
Total		9.9120	0.0000	0.0000	9.9120

Appendix B

Health Risk Calculations

Table B-1
Calculation of Construction Health Risks
Spring Valley Residential Project

DPM Concentration ug/m3	Dose air 3rd trimester	Dose air 0-2	Dose air 2-16	Dose air 16- 30	Cancer Risk, Adjusted for duration of construction activities	Non- Cancer HI
0.20675	7.16513E-05	0.000216343	0.000147868	6.64908E-05	2.26843E-06	0.04135

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*** MODELOPTs: RegDEFAULT CONC ELEV NODRYDPLT NOWETDPLT URBAN SigA Data

*** MODEL SETUP OPTIONS SUMMARY

**Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --

**NO GAS DEPOSITION Data Provided.

**NO PARTICLE DEPOSITION Data Provided.

**Model Uses NO DRY DEPLETION. DRYDPLT = F

**Model Uses NO WET DEPLETION. WETDPLT = F

**Model Uses URBAN Dispersion Algorithm for the SBL for 8 Source(s),
for Total of 1 Urban Area(s):

Urban Population = 99478.0 ; Urban Roughness Length = 1.000 m

**Model Uses Regulatory DEFAULT Options:

1. Stack-tip Downwash.
2. Model Accounts for ELEVated Terrain Effects.
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay.
6. Urban Roughness Length of 1.0 Meter Assumed.

**Other Options Specified:

CCVR_Sub - Meteorological data includes CCVR substitutions

TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of: OTHER

**Model Calculates 1 Short Term Average(s) of: 1-HR
and Calculates PERIOD Averages

**This Run Includes: 8 Source(s); 1 Source Group(s); and 27
Receptor(s)

with: 0 POINT(s), including
0 POINTCAP(s) and 0 POINTHOR(s)
and: 8 VOLUME source(s)

and: 0 AREA type source(s)
and: 0 LINE source(s)
and: 0 RLINE/RLINEXT source(s)
and: 0 OPENPIT source(s)
and: 0 BUOYANT LINE source(s) with 0 line(s)

**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 14134

**Output Options Selected:

Model Outputs Tables of PERIOD Averages by Receptor

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)

Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)

Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing
Hours
b for Both Calm
and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 132.00 ; Decay
Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ;
Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.5 MB of RAM.

**Input Runstream File: F:\BEEST\Spring Valley\Spring
Valley_2yrs_OTHER.DTA

**Output Print File: F:\BEEST\Spring Valley\Spring
Valley_2yrs_OTHER.LST

**File for Summary of Results: F:\BEEST\Spring Valley\Spring
Valley_2yrs_OTHER.SUM

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*** MODELOPTs: RegDFault CONC ELEV NODRYDPLT NOWETDPLT URBAN SigA Data

*** METEOROLOGICAL DAYS SELECTED FOR

PROCESSING ***

(1=YES; 0=NO)

[illegible]

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED

CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23,

10.80,

```

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*** MODELOPTs:  RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  URBAN  SigA Data
```

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL

DATA ***

Surface file: F:\MetData\SANDAG\ECA 2010.SFC

Met Version: 14134

Profile file: F:\MetData\SANDAG\ECA_2010.PFL

Surface format: FREE

Profile format: FREE

Surface station no.: 93107

Upper air station no.: 3190

Name: SAN DIEGO MIRAMAR NAS, CA

Name: UNKNOWN

Year: 2010

Year: 2010

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O	LEN	Z0	BOWEN
ALBEDO	REF	WS	WD	HT	REF	TA	HT							
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	01	01	1	01	-0.6	0.029	-9.000	-9.000	-999.	12.	3.5	0.48	1.19	
1.00		0.44		289.	10.0	279.8	10.0							
10	01	01	1	02	-0.7	0.029	-9.000	-9.000	-999.	12.	3.3	0.48	1.19	
1.00		0.44		287.	10.0	279.2	10.0							
10	01	01	1	03	-0.6	0.029	-9.000	-9.000	-999.	12.	3.2	0.46	1.19	
1.00		0.44		237.	10.0	279.2	10.0							
10	01	01	1	04	-0.7	0.029	-9.000	-9.000	-999.	12.	3.3	0.48	1.19	
1.00		0.44		287.	10.0	278.6	10.0							
10	01	01	1	05	-0.7	0.029	-9.000	-9.000	-999.	12.	3.3	0.48	1.19	
1.00		0.44		279.	10.0	278.1	10.0							
10	01	01	1	06	-2.3	0.052	-9.000	-9.000	-999.	28.	5.5	0.32	1.19	
1.00		0.89		102.	10.0	277.5	10.0							
10	01	01	1	07	-0.6	0.029	-9.000	-9.000	-999.	12.	3.4	0.48	1.19	
1.00		0.44		283.	10.0	277.5	10.0							
10	01	01	1	08	-0.4	0.029	-9.000	-9.000	-999.	12.	5.0	0.46	1.19	
0.49		0.44		269.	10.0	278.1	10.0							
10	01	01	1	09	43.1	0.170	0.445	0.009	73.	168.	-10.2	0.48	1.19	
0.30		0.89		313.	10.0	281.4	10.0							
10	01	01	1	10	92.8	0.187	0.824	0.009	216.	193.	-6.3	0.48	1.19	
0.23		0.89		303.	10.0	285.4	10.0							
10	01	01	1	11	125.6	0.127	1.130	0.008	413.	109.	-1.5	0.48	1.19	
0.21		0.44		270.	10.0	288.6	10.0							
10	01	01	1	12	144.0	0.255	1.312	0.008	562.	310.	-10.4	0.48	1.19	
0.20		1.34		318.	10.0	292.5	10.0							
10	01	01	1	13	142.2	0.255	1.390	0.008	677.	309.	-10.4	0.48	1.19	
0.20		1.34		345.	10.0	293.6	10.0							
10	01	01	1	14	120.0	0.193	1.370	0.007	767.	205.	-5.4	0.48	1.19	
0.21		0.89		309.	10.0	294.8	10.0							
10	01	01	1	15	84.7	0.293	1.252	0.007	830.	381.	-26.6	0.48	1.19	
0.24		1.78		303.	10.0	295.9	10.0							
10	01	01	1	16	16.1	0.312	0.722	0.007	838.	417.	-168.4	0.48	1.19	
0.33		2.23		309.	10.0	294.2	10.0							
10	01	01	1	17	-4.3	0.088	-9.000	-9.000	-999.	140.	14.4	0.48	1.19	
0.61		1.34		320.	10.0	291.4	10.0							
10	01	01	1	18	-2.6	0.059	-9.000	-9.000	-999.	39.	6.8	0.48	1.19	
1.00		0.89		311.	10.0	290.4	10.0							
10	01	01	1	19	-3.8	0.078	-9.000	-9.000	-999.	52.	11.0	0.32	1.19	
1.00		1.34		99.	10.0	288.6	10.0							
10	01	01	1	20	-2.1	0.052	-9.000	-9.000	-999.	28.	6.0	0.32	1.19	
1.00		0.89		135.	10.0	288.1	10.0							
10	01	01	1	21	-2.7	0.060	-9.000	-9.000	-999.	35.	7.1	0.51	1.19	

1.00	0.89	79.	10.0	286.9	10.0
10 01 01	1 22	-2.2	0.052	-9.000	-9.000 -999. 28. 5.8 0.32 1.19
1.00	0.89	109.	10.0	285.9	10.0
10 01 01	1 23	-2.7	0.059	-9.000	-9.000 -999. 34. 6.7 0.48 1.19
1.00	0.89	312.	10.0	285.4	10.0
10 01 01	1 24	-2.2	0.052	-9.000	-9.000 -999. 28. 5.7 0.32 1.19
1.00	0.89	105.	10.0	283.6	10.0

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
10	01	01	01	10.0	1	289.	0.44	279.8	42.0	-99.00	0.25

F indicates top of profile (=1) or below (=0)

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*** MODELOPTs: RegDFAULT CONC ELEV NODRYDPLT NOWETDPLT URBAN SigA Data

*** THE SUMMARY OF MAXIMUM PERIOD (8784
HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3

**

GROUP ID	NETWORK	AVERAGE CONC	RECEPTOR (XR, YR,
ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID	
ALL	1ST HIGHEST VALUE IS	0.20675 AT (500252.00, 3620346.45,
175.36,	326.00, 0.00) DC		
	2ND HIGHEST VALUE IS	0.20537 AT (500255.83, 3620360.82,
179.13,	326.00, 0.00) DC		
	3RD HIGHEST VALUE IS	0.20344 AT (500256.79, 3620374.23,
182.67,	326.00, 0.00) DC		
	4TH HIGHEST VALUE IS	0.19038 AT (500257.75, 3620390.51,
186.73,	326.00, 0.00) DC		
	5TH HIGHEST VALUE IS	0.17669 AT (500252.00, 3620426.90,
192.74,	326.00, 0.00) DC		
	6TH HIGHEST VALUE IS	0.17100 AT (500259.66, 3620405.83,
189.98,	326.00, 0.00) DC		
	7TH HIGHEST VALUE IS	0.16882 AT (500252.96, 3620329.21,
171.03,	326.00, 0.00) DC		

195.16, 8TH HIGHEST VALUE IS 0.11874 AT (500272.11, 3620427.86,
 326.00, 0.00) DC
 159.72, 9TH HIGHEST VALUE IS 0.10360 AT (500252.00, 3620298.56,
 326.00, 0.00) DC
 183.60, 10TH HIGHEST VALUE IS 0.10122 AT (500296.06, 3620376.14,
 326.00, 0.00) DC

*** RECEPTOR TYPES: GC = GRIDCART
 GP = GRIDPOLR
 DC = DISCCART
 DP = DISCPOLR

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*** THE SUMMARY OF HIGHEST 1-HR
 RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3
 **

GROUP ID (XR, YR, ZELEV, ZHILL, ZFLAG)	AVERAGE CONC OF TYPE	NETWORK GRID-ID	DATE (YYMMDDHH)	RECEPTOR
ALL HIGH 1ST HIGH VALUE IS	2.45981	ON 10121617:	AT (500206.03,	
3620487.24, 191.28, 326.00, 0.00) DC				
HIGH 2ND HIGH VALUE IS	2.11727	ON 10090808:	AT (500206.03,	
3620487.24, 191.28, 326.00, 0.00) DC				

*** RECEPTOR TYPES: GC = GRIDCART
 GP = GRIDPOLR
 DC = DISCCART
 DP = DISCPOLR

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*** MODELOPTs: RegDFAULT CONC ELEV NODRYDPLT NOWETDPLT URBAN SigA Data

*** Message Summary : AERMOD Model Execution ***

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)

A Total of 1 Warning Message(s)

A Total of 327 Informational Message(s)

A Total of 8784 Hours Were Processed

A Total of 151 Calm Hours Identified

A Total of 176 Missing Hours Identified (2.00 Percent)

***** FATAL ERROR MESSAGES *****

*** NONE ***

***** WARNING MESSAGES *****

MX W403 83 PFLCNV: Turbulence data is being used w/o ADJ_U* option
SigA Data