APPENDIX D1

Air Quality Technical Report

~~DRAFT~~

Air Quality Analysis Technical Report for the North River Farms Project Oceanside, California

Prepared for:

Integral Communities
2235 Encinitas Boulevard, Suite 216
Encinitas, California 92024
Contact: Ninia Hammond

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024
Contact: Ian McIntire

JANUARY 2019

Printed on 30% post-consumer recycled material.

TABLE OF CONTENTS

Section **Page No.**

TABLE OF CONTENTS (CONTINUED)

Section **Page No.**

APPENDICES

FIGURES

TABLES

TABLE OF CONTENTS (CONTINUED)

Page No.

INTENTIONALLY LEFT BLANK

ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
AB	Assembly Bill
amsl	above mean sea level
AQIA	Air Quality Impact Assessment
ATCM	Airborne Toxic Control Measure
BACT	Best Available Control Technology
CAA	federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CO	carbon monoxide
County	County of San Diego
DOE	Department of Energy
DPM	diesel particulate matter
EMFAC	Mobile Source Emissions Inventory model
EPA	U.S. Environmental Protection Agency
GVWR	gross vehicle weight rating
HAP	hazardous air pollutant
LOS	level of service
MTS	San Diego Metropolitan Transit System
NAAQS	National Ambient Air Quality Standards
NO_x/NO_2	oxides of nitrogen /nitrogen dioxide
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to 10 microns
ppb	parts per billion
ppm	parts per million
RAQS	San Diego County's Regional Air Quality Strategy
REL	reference exposure level
RTIP	Regional Transportation Improvement Program
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison

Acronym/Abbreviation	Definition
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDG&E	San Diego Gas & Electric
SF	square feet
SIP	State Implementation Plan
SO_x/SO_2	sulfur oxides/sulfur dioxide
TAC	toxic air contaminant
T-BACT	Toxics–Best Available Control Technology
VMT	vehicle miles traveled
VOC	volatile organic compound
WRCC	Western Regional Climate Center

EXECUTIVE SUMMARY

The purpose of this technical report is to assess the potential air quality impacts associated with implementation of the proposed North River Farms Project (Proposed Project). This assessment utilizes the significance thresholds in Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.).

Project Overview

The Proposed Project consists of developing an agriculture-based community, which consists of an approximately 176.6-acre site with 559 single-family residential dwelling units and 130 multi-family residential dwelling units. Of the 176.6-acre site, approximately 31.6 acres would be dedicated for community agriculture, 24.9 acres dedicated to the commercial Village Core, which includes development of a restaurant, boutique hotel, a variety of space dedicated for specialty shops, agriculture, and park areas. The remainder of the project site, approximately 16 acres, would be dedicated for parks and open space.

Impact Analysis Summary

The air quality impact analysis evaluated the potential for adverse impacts to air quality due to construction and operational emissions resulting from the Project. Impacts were evaluated for their significance based on the San Diego Air Pollution Control District (SDAPCD) mass daily criteria air pollutant thresholds of significance (SDAPCD 2016). Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$), and lead. Pollutants evaluated include volatile organic compounds (VOCs) (also referred to as reactive organic gases), oxides of nitrogen (NO_x), CO, sulfur oxides (SO_x), PM_{10}, and $PM_{2.5}$. VOCs and NO_x are important because they are precursors to O_3. Proposed Project construction and operational emissions, were calculated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 (CAPCOA 2017).[1]

[1] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform to calculate construction and operational emissions from land use development projects.

Air Quality Plan Consistency

If a project proposes development that is greater than that anticipated in the local plan and San Diego Association of Government's (SANDAG's) growth projections, the project might be in conflict with the state implementation plan (SIP) and Regional Air Quality Strategy (RAQS) and may contribute to a potentially significant cumulative impact on air quality. The Proposed Project was deemed to be consistent with 2016 RAQS, which is the current air quality plan, because SANDAG's most recent forecasts anticipates growth for the project area of 9,322 new residents over a period of 8-years (2012 to 2020). The addition of 689 residential units resulting in approximately 1,971 new residents to Subregional Area 42 as a result of the Proposed Project would be accommodated in the population forecast used to prepare the 2016 RAQS.

Construction Criteria Air Pollutant Emissions

Construction of the Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). The Project's construction emissions were estimated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2. Maximum daily construction emissions of VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ would not exceed the SDAPCD's significance thresholds. Therefore, the Proposed Project would have a less than significant impact during construction.

Operational Criteria Air Pollutant Emissions

The Proposed Project would generate criteria pollutant emissions during operation from area, energy, and mobile sources. The emissions were estimated using the CalEEMod and compared to the SDAPCD's significance thresholds for operation. The Proposed Project did not exceed the mass emissions significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ during operation. Therefore, the Proposed Project would have a less than significant impact.

Exposure of Sensitive Receptors

Construction and operational activities would not generate emissions in excess of the SDAPCD mass daily thresholds; therefore, construction and operational impacts during construction of the Proposed Project would be less than significant. In addition, diesel equipment would also be subject to the California Air Resources Board (CARB) Airborne Toxic Control Measures (ATCMs) for in-use off-road diesel fleets, which would minimize diesel particulate matter emissions. The health risk assessment for construction showed cancer and non-cancer risks below levels of significance with mitigation. The Proposed Project does not include stationary sources

that would emit air pollutants or toxic air contaminant (TAC) emissions during operation and would not require extensive use of off-road equipment and diesel vehicles. The Proposed Project would not expose sensitive receptors to Valley fever and would comply with SDAPCD Rule 55 to help reduce impacts during grading/earthmoving activities. The Proposed Project would not require the use of synthetic chemicals such as fertilizer, pesticides, or herbicides because agricultural operations would grow crops organically. The Proposed Project would not negatively affect the level of service of intersections on the Proposed Project site and would not significantly contribute to a CO hotspot. As such, potential Project-generated impacts associated with CO hotspots would be less than significant.

Odors

Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and from excavated sediment. These odors would disperse rapidly from the project site and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be less than significant. The Proposed Project would have odors from off-road equipment and due to agricultural operations. Because the Proposed Project would include compost operations, sensitive receptors could be exposed to objectionable odors. Mitigation Measure MM-AQ-1 was included in order to reduce orders. Therefore, odor impacts during operation would be less than significant with implementation of MM-AQ-1.

Cumulative Impacts

The nonattainment status of regional pollutants is a result of past and present development, and the SDAPCD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality. As discussed above, the Proposed Project would not exceed the SDAPCD's mass daily significance thresholds during construction or operation; therefore, the Proposed Project would have a less than significant cumulative impact.

INTENTIONALLY LEFT BLANK

1 INTRODUCTION

1.1 Report Purpose and Scope

The purpose of this report is to evaluate the potential air quality impacts associated with construction and operation of the proposed North River Farms Project (Proposed Project) located in the City Oceanside (City), California, within the County of San Diego (County). Potential air quality impacts are evaluated for their significance based on the criteria provided in the City's Initial Study Checklist (City of Oceanside 2011).

This introductory section provides a description of the Proposed Project. Section 2, Existing Conditions, presents the relevant existing setting in the context of air quality, climate and meteorology in addition to presenting the federal, state, and local regulatory background associated with the Proposed Project. Section 3, Significance Criteria and Analysis Methodologies, outlines the thresholds of significance applied in the analysis and methodology and assumptions used in the construction and operational emissions analysis. Section 4, Project Impact Analysis, evaluates the Proposed Project's potential to result in a significance air quality impact per the thresholds identified in Section 3. Section 5, References, includes a list of the references cited, and Section 6, List of Preparers, includes a list of those who prepared this technical report.

1.2 Regional and Local Setting

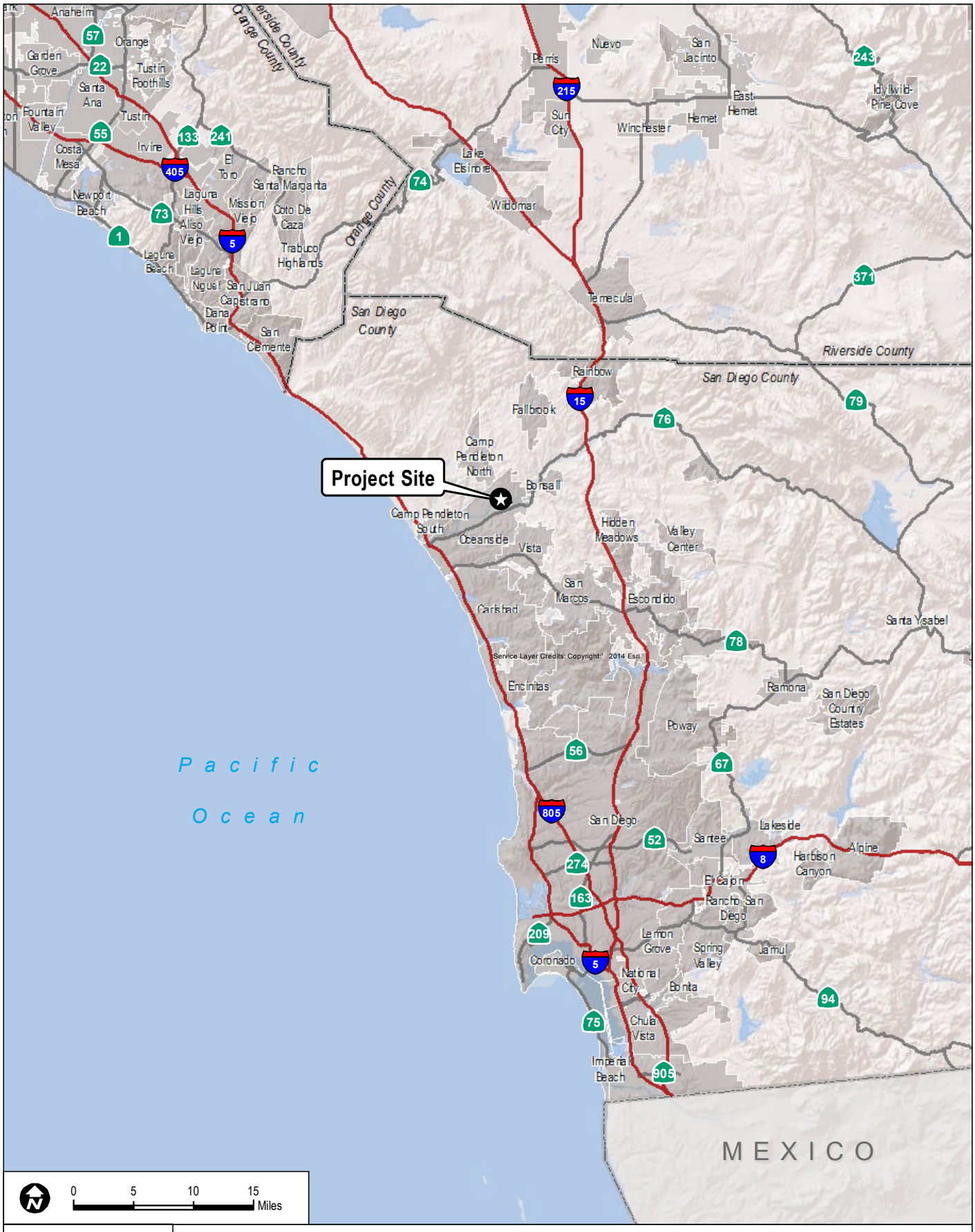
The Proposed Project site is located in the City of Oceanside, along North River Road and is situated directly north of State Route 76 (SR-76). The Proposed Project site consists of approximately 176.6 acres. Figures 1 and 2, Regional Map and Vicinity Map, show the Proposed Project location within the County of San Diego and the City. Regionally, the City is situated within the northeastern portion of San Diego County, about 46 miles north of Downtown San Diego via Interstate 5 (I-5). The project site is generally bisected into northern and southern sections by the existing North River Road alignment. The northern portion of the project site is bordered on the east by Wilshire Road. The Proposed Project is approximately 7.7 miles to the east of I-5, and about 0.32 mile north of SR-76. The Proposed Project is adjacent to the San Luis Rey River.

The Proposed Project is located within the San Diego Air Basin (SDAB) and is within the jurisdictional boundaries of the San Diego Air Pollution Control District (SDAPCD). The SDAB and the SDAPCD are discussed further in Chapter 2, Environmental Setting, and Chapter 3, Regulatory Setting, respectively.

1.3 Proposed Project Description

The Proposed Project is located within the northeastern portion of the City of Oceanside, California (Figures 1 and 2) and is situated directly north of SR-76 and is bisected by North River Road. Existing land uses surrounding and within the project area includes agriculture, institutional (church and school), and residential uses. Integral Communities is proposing to develop an agriculture-based community, which consists of an approximately 176.6-acre site with 559 single-family residential dwelling units and 130 multi-family residential dwelling units. Of the 176.6-acre site, approximately 31.6 acres would be dedicated for community agriculture, 24.9 acres dedicated to the commercial Village Core, which includes development of a restaurant, boutique hotel, a variety of space dedicated for specialty shops, agriculture, and park areas. The remainder of the project site, approximately 16 acres, would be dedicated for parks and open space. (see Figure 3).

Construction of the Proposed Project is expected to commence mid-2019 occurring over a 5-year period with buildout at the end of 2024. Demolition of existing on-site structures would last for 1-month. Site preparation would occur thereafter and would require approximately 1-month. Grading of approximately 155 acres of the project site would be completed over a 7-month period from the end of 2019 through the beginning of 2020. Site paving would occur over a 6-month period following grading, which would include the paving of roadways and other asphalt surfaces. The development of site infrastructure and building construction including single-family and medium density residential uses, the Village Core, and agriculture facilities, would occur over 4 years beginning in late 2020. For purposes of modeling, it was assumed that architectural coatings would be applied halfway through the building construction phase, late 2022 and would last approximately 2 years.



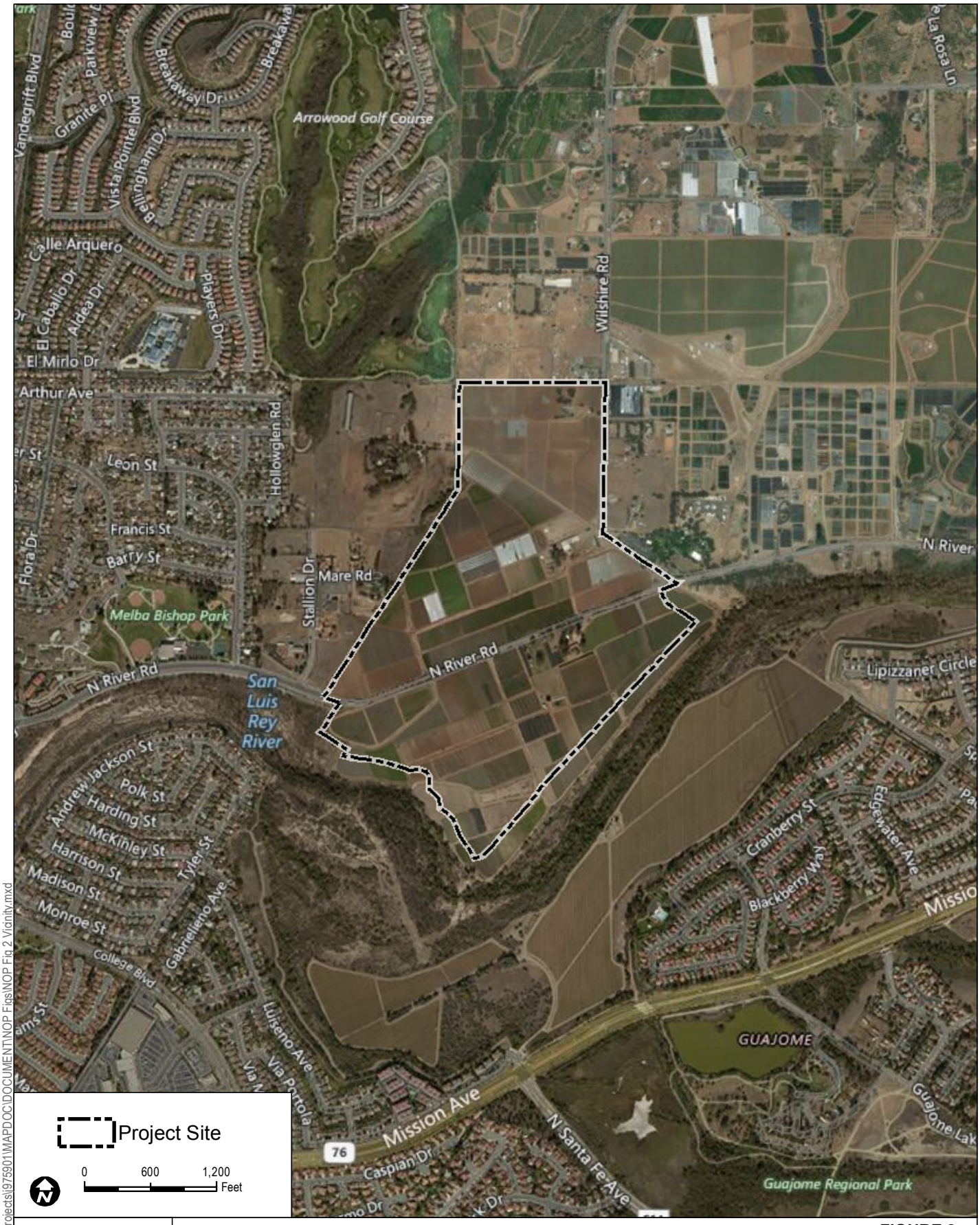
Document Path: Z:\Projects\j975901\MAPDOC\DOCUMENT\NOP Figs\NOP Fig 1 Regional.mxd

DUDEK

FIGURE 1
Regional Map

North River Farms Project Air Quality Analysis Technical Report

INTENTIONALLY LEFT BLANK



Document Path: Z:\Projects\975901\MAPDOC\DOCUMENT\NOP Figs\NOP Fig 2 Vicinity.mxd

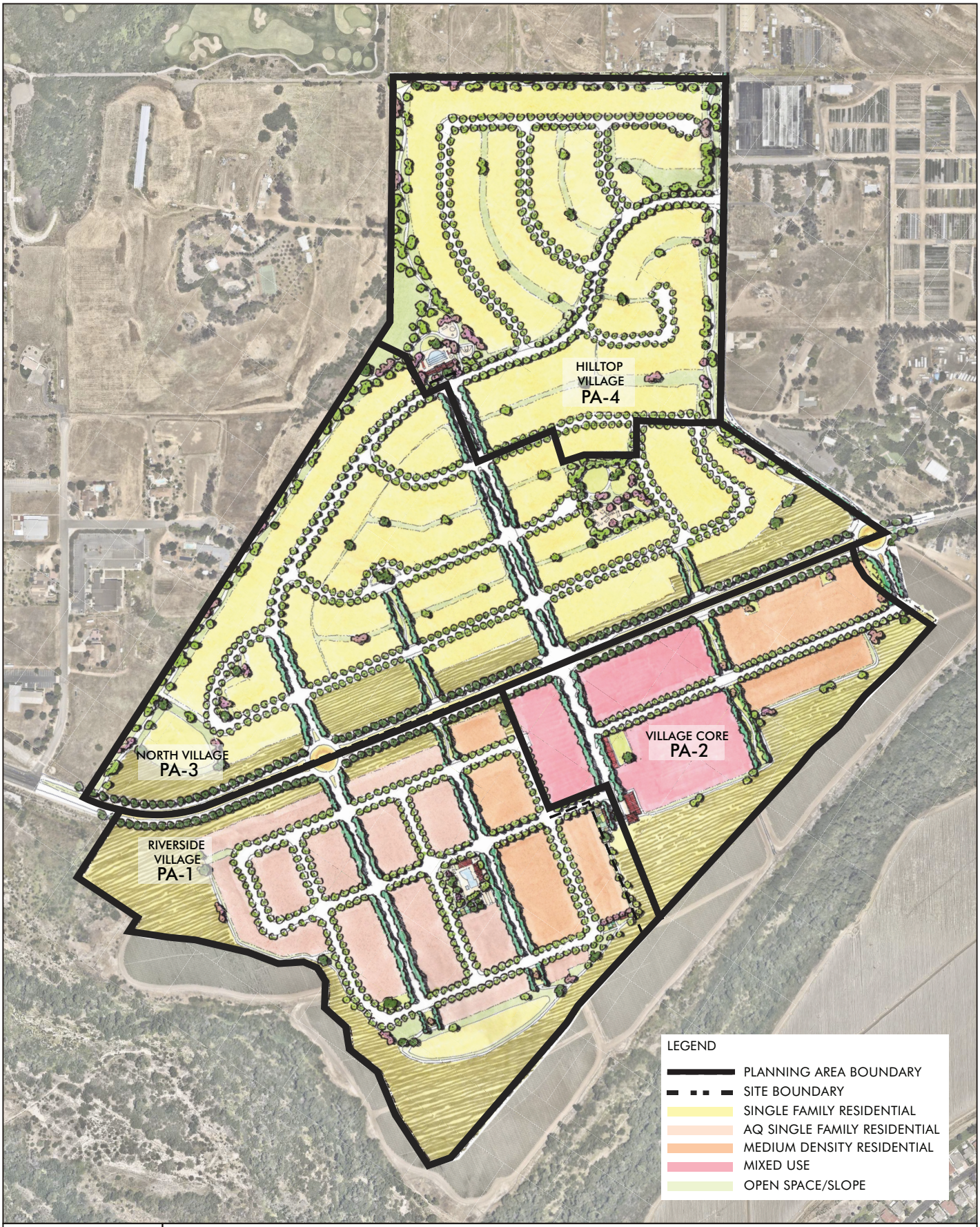
DUDEK

AERIAL SOURCE: BING MAPPING SERVICE

FIGURE 2
Vicinity Map

North River Farms Project Air Quality Analysis Technical Report

INTENTIONALLY LEFT BLANK



N

0 200 400 Feet

1 inch = 200 feet

SOURCE: SWA 2017

DUDEK

FIGURE 3

Land Use Plan

North River Farms Project Air Quality Analysis Technical Report

Z:\Projects\j975901\MAPDOC\DOCUMENT\NOP Figs

INTENTIONALLY LEFT BLANK

2 EXISTING CONDITIONS

2.1 Existing Setting

The Project Area is located within the San Diego Air Basin (SDAB) and is subject to San Diego Air Pollution Control District (SDAPCD) guidelines and regulations. The SDAB is one of 15 air basins that geographically divide California. The SDAB lies in the southwest corner of California. The SDAB comprises the entire San Diego region and covers approximately 4,260 square miles.

2.2 Climate and Meteorology

The primary factors that determine air quality are the locations of air pollutant sources and the amount of pollutants emitted. Meteorological and topographical conditions, however, are also important. Factors such as wind speed and direction, air temperature gradients and sunlight, and precipitation and humidity interact with physical landscape features to determine the movement and dispersal of air pollutants. Meteorological and topographical factors that affect air quality in the SDAB are described below.[2]

Regional Climate and Meteorological Conditions

The climate of the San Diego region, as in most of Southern California, is influenced by the strength and position of the semi-permanent high-pressure system over the Pacific Ocean, known as the Pacific High. This high-pressure ridge over the West Coast often creates a pattern of late-night and early-morning low clouds, hazy afternoon sunshine, daytime onshore breezes, and little temperature variation year-round. The SDAB is characterized as a Mediterranean climate with dry, warm summers and mild, occasionally wet winters. Average temperature ranges (in degrees Fahrenheit (°F)) from the mid-40s to the high 90s, with an average of 201 days warmer than 70°F. The SDAB experiences 9 to 13 inches of rainfall annually, with most of the region's precipitation falling from November through March, with infrequent (approximately 10%) precipitation during the summer. El Niño and La Niña patterns have large effects on the annual rainfall received in San Diego, where San Diego receives less than normal rainfall during La Niña years.

The interaction of ocean, land, and the Pacific High maintains clear skies for much of the year and influences the direction of prevailing winds (westerly to northwesterly). The winds tend to

[2] The discussion of meteorological and topographical conditions of the SDAB is based on information provided in the SDAPCD *2016 Monitoring Plan* (SDAPCD 2017a), the County of San Diego *Guidelines for Determining Significance – Air Quality* (County of San Diego 2007), the County of San Diego *General Plan Update EIR* (County of San Diego 2011), and the CARB *Recommended Area Designation for the 2010 Federal Sulfur Dioxide Standard* (CARB 2011).

blow onshore in the day and offshore at night. Local terrain is often the dominant factor inland, and winds in inland mountainous areas tend to blow through the valleys during the day and down the hills and valleys at night.

The favorable climate of San Diego also works to create air pollution problems. Sinking, or subsiding air from the Pacific High, creates a temperature inversion known as a subsidence inversion, which acts as a "lid" to vertical dispersion of pollutants. Weak summertime pressure gradients further limit horizontal dispersion of pollutants in the mixed layer below the subsidence inversion. Poorly dispersed anthropogenic emissions combined with strong sunshine leads to photochemical reactions that result in the creation of ozone (O_3) at this surface layer. In addition, light winds during the summer further limit ventilation.

In the fall months, the SDAB is often impacted by Santa Ana winds, which are the result of a high-pressure system over the Nevada and Utah regions that overcomes the westerly wind pattern and forces hot, dry winds from the east to the Pacific Ocean. The Santa Ana winds are powerful and can blow the SDAB's pollutants out to sea. However, a weak Santa Ana can transport air pollution from the South Coast Air Basin and greatly increase O_3 concentrations in the San Diego area.

Under certain conditions, atmospheric oscillation results in the offshore transport of air from the Los Angeles region to San Diego County. This often produces high O_3 concentrations, as measured at air pollutant monitoring stations within San Diego County. The transport of air pollutants from Los Angeles to San Diego can also occur within the stable layer of the elevated subsidence inversion, where high levels of O_3 are transported.

Site-Specific Meteorological Conditions

The local climate within the project area is characterized as semi-arid with consistently mild, warmer temperatures throughout the year. The average summertime high temperature in the region is approximately 67.6°F, with highs reaching 73.6°F on average during the months of July through September. The average wintertime low temperature is approximately 52.9°F, reaching as low as 44.2°F on average during the months of November through March. Average precipitation in the local area is approximately 10.54 inches per year, with the bulk of precipitation falling between November and March (WRCC 2016).

2.3 Regulatory Setting

2.3.1 Federal

Criteria Air Pollutants

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the Clean Air Act, including setting National Ambient Air Quality Standards (NAAQS) for major air pollutants; setting hazardous air pollutant (HAP) standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric O_3 protection measures, and enforcement provisions. Under the Clean Air Act, NAAQS are established for the following criteria pollutants: O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for O_3, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O_3, NO_2, SO_2, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean Air Act requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan (SIP) that demonstrates how those areas will attain the standards within mandated time frames.

Hazardous Air Pollutants

The 1977 federal CAA amendments required the EPA to identify National Emission Standards for Hazardous Air Pollutants to protect public health and welfare. Hazardous air pollutants include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 CAA amendments, which expanded the control program for hazardous air pollutants, 187 substances and chemical families were identified as hazardous air pollutants.

2.3.2 State

Criteria Air Pollutants

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has

been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products.

CARB has established California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered "in attainment" if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, and $PM_{2.5}$ and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. The NAAQS and CAAQS are presented in Table 1.

Table 1
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary*[c,d]	*Secondary*[c,e]
O_3	1 hour	0.09 ppm (180 µg/m³)	—	Same as Primary Standard[f]
	8 hours	0.070 ppm (137 µg/m³)	0.070 ppm (137 µg/m³)[f]	
NO_2[g]	1 hour	0.18 ppm (339 µg/m³)	0.100 ppm (188 µg/m³)	Same as Primary Standard
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)	
CO	1 hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	None
	8 hours	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	
SO_2[h]	1 hour	0.25 ppm (655 µg/m³)	0.075 ppm (196 µg/m³)	—
	3 hours	—	—	0.5 ppm (1,300 µg/m³)
	24 hours	0.04 ppm (105 µg/m³)	0.14 ppm (for certain areas)[g]	—
	Annual	—	0.030 ppm (for certain areas)[g]	—
PM_{10}[i]	24 hours	50 µg/m³	150 µg/m³	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m³	—	
$PM_{2.5}$[i]	24 hours	—	35 µg/m³	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m³	12.0 µg/m³	15.0 µg/m³
Lead[j,k]	30-day Average	1.5 µg/m³	—	—
	Calendar Quarter	—	1.5 µg/m³ (for certain areas)[k]	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 µg/m³	

Table 1
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary*[c,d]	*Secondary*[c,e]
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m^3)	—	—
Vinyl chloride[j]	24 hours	0.01 ppm (26 µg/m^3)	—	—
Sulfates	24- hours	25 µg/m^3	—	—
Visibility reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: CARB 2016b.

Notes: µg/m^3 = micrograms per cubic meter; CO = carbon monoxide; mg/m^3= milligrams per cubic meter; NO_2 = nitrogen dioxide; O_3 = ozone; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns; ppm = parts per million by volume; SO_2 = sulfur dioxide

a California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter (PM_{10}, $PM_{2.5}$), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

b National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

c Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

d National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

e National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

f On October 1, 2015, the EPA Administrator signed the notice for the final rule to revise the primary and secondary NAAQS for O_3. The EPA is revising the levels of both standards from 0.075 ppm to 0.070 ppm and retaining their indicators (O_3), forms (fourth-highest daily maximum, averaged across 3 consecutive years) and averaging times (8 hours). The EPA is in the process of submitting the rule for publication in the Federal Register. The final rule will be effective 60 days after the date of publication in the Federal Register. The lowered national 8-hour standards are reflected in the table.

g To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

h On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

i On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

[j] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

Toxic Air Contaminants

The state Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807 (Tanner). The California TAC list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) HAPs. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources; however, AB 2588 does not regulate air toxics emissions. TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. The regulation is anticipated to result in an 80% decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000 (CARB 2000). Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. All of these regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel powered equipment. Several Airborne Toxic Control Measures (ATCMs) that reduce diesel emissions including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

California Health and Safety Code Section 41700

Section 41700 of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

2.3.3 Local

San Diego Air Pollution Control District

Although CARB is responsible for the regulation of mobile emissions sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. The Project Area is located within the SDAB and is subject to the guidelines and regulations of the SDAPCD.

Federal Attainment Plans

In December 2016, the SDAPCD adopted an update to the Eight-Hour Ozone Attainment Plan for San Diego County (2008 O_3 NAAQS). The 2016 Eight-Hour Ozone Attainment Plan for San Diego County indicates that local controls and state programs would allow the region to reach attainment of the federal 8-hour O_3 standard (1997 O_3 NAAQS) by 2018 (SDAPCD 2016a). In this plan, SDAPCD relies on the Regional Air Quality Strategy (RAQS) to demonstrate how the region will comply with the federal O_3 standard. The RAQS details how the region will manage and reduce O_3 precursors (NOx and VOCs) by identifying measures and regulations intended to reduce these pollutants. The control measures identified in the RAQS generally focus on stationary sources; however, the emissions inventories and projections in the RAQS address all potential sources, including those under the authority of CARB and the EPA. Incentive programs for reduction of emissions from heavy-duty diesel vehicles, off-road equipment, and school buses are also established in the RAQS.

As documented in the 2016 8-Hour Ozone Attainment Plan for San Diego County, the County has a likely chance of obtaining attainment due to the transition to low emission cars, stricter new source review rules, and continuing the requirement of general conformity for military growth and the San Diego International Airport. The County will also continue emission control measures including ongoing implementation of existing regulations in ozone precursor reduction to stationary and area-wide sources, subsequent inspections of facilities and sources, and the adoption of laws requiring Best Available Retrofit Control Technology for control of emissions (SDAPCD 2016a).

State Attainment Plans

The SDAPCD and the 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 RAQS for the SDAB was initially adopted in 1991 and is updated on a triennial basis, most recently in 2016 (SDAPCD 2016a). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O_3. The RAQS relies on

information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County and the cities in the county, to forecast future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the county as part of the development of their general plans (SANDAG 2017a, 2017b).

In December 2016, the SDAPCD adopted the revised RAQS for the County. Since 2007, the San Diego region reduced daily VOC emissions and NOx emissions by 3.9% and 7.0% respectively; the SDAPCD expects to continue reductions through 2035 (SDAPCD 2016). These reductions were achieved through implementation of six VOC control measures and three NO_x control measures adopted in the SDAPCD's 2009 RAQS (SDAPCD 2009a); in addition, the SDAPCD is considering additional measures, including three VOC measures and four control measures to reduce 0.3 daily tons of VOC and 1.2 daily tons of NO_x, provided they are found to be feasible region-wide. In addition, SDAPCD has implemented nine incentive-based programs, has worked with SANDAG to implement regional transportation control measures, and has reaffirmed the state emission offset repeal.

In regards to particulate matter emissions reduction efforts, in December 2005, the SDAPCD prepared a report titled "Measures to Reduce Particulate Matter in San Diego County" to address implementation of Senate Bill (SB) 656 in San Diego County (SB 656 required additional controls to reduce ambient concentrations of PM_{10} and $PM_{2.5}$) (SDAPCD 2005). In the report, SDAPCD evaluated implementation of source-control measures that would reduce particulate matter emissions associated with residential wood combustion; various construction activities including earthmoving, demolition, and grading; bulk material storage and handling; carryout and trackout removal and cleanup methods; inactive disturbed land; disturbed open areas; unpaved parking lots/staging areas; unpaved roads; and windblown dust (SDAPCD 2005).

SDAPCD Rules and Regulations

As stated above, the SDAPCD is responsible for planning, implementing, and enforcing federal and state ambient standards in the SDAB. The following rules and regulations apply to all sources in the jurisdiction of SDAPCD, and would apply to the Proposed Project:

SDAPCD Regulation IV: Prohibitions; Rule 50: Visible Emissions. Prohibits discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than 3 minutes in any period of 60 consecutive minutes that is darker in shade than that designated as Number 1 on the Ringelmann Chart, as published by the United States

Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 1 on the Ringelmann Chart (SDAPCD 1997).

Construction of the Proposed Project may result in visible emissions, primarily during earth-disturbing activities, which would be subject to SDAPCD Rule 50. Although visible emissions are less likely to occur during operation of the Proposed Project, compliance with SDAPCD Rule 50 would be required during both construction and operational phases.

SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance. Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property (SDAPCD 1969).

Any criteria air pollutant emissions, TAC emissions, or odors that would be generated during construction or operation of the Proposed Project would be subject to SDAPCD Rule 51. Violations can be reported to the SDAPCD in the form of an air quality compliant by telephone, email, or online form. Complaints are investigated by SDAPCD as soon as possible.

SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust. Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site (SDAPCD 2009b).

Construction of the Proposed Project, primarily during earth-disturbing activities, may result in fugitive dust emissions that would be subject to SDAPCD Rule 55. Implementation of PDF-AQ-1 would limit fugitive dust emissions through a fugitive dust control plan, as outlined in Rule 55.[3] Fugitive dust emissions are not anticipated during operation of the Proposed Project.

SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings. Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2015a). Construction and operation of the Proposed Project would include application of architectural coatings (e.g., paint and other finishes) that are subject to SDAPCD Rule 67.0.1. Implementation of PDF-AQ-2 would limit the VOC content for interior and exterior coatings during construction of the Proposed Project's residential and non-residential land uses, and is more restrictive than the VOC

[3] Specific assumptions included in CalEEMod in compliance with Rule 55 are included in Table 15.

content limits identified in SDAPCD Rule 67.0.1. Architectural coatings used in the reapplication of coatings during operation of the Proposed Project would be subject to the VOC content limits identified in SDAPCD Rule 67.0.1, which applies to coatings manufactured, sold, or distributed within San Diego County.[4]

SDAPCD Regulation XII: Toxic Air Contaminates; Rule 1200: Toxic Air Contaminants - New Source Review. Requires new or modified stationary source units with the potential to emit TACs above rule threshold levels to either demonstrate that they will not increase the maximum incremental cancer risk above 1 in 1 million at every receptor location, or demonstrate that toxics best available control technology (T-BACT) will be employed if maximum incremental cancer risk is equal to or less than 10 in 1 million, or demonstrate compliance with SDAPCD's protocol for those sources with an increase in maximum incremental cancer risk at any receptor location of greater than 10 in 1 million but less than 100 in 1 million (SDAPCD 2017b).

The Proposed Project does not propose specific stationary sources that would generate TACs that are not commonly associated with residential development projects. If stationary sources with the potential to emit TACs were to be included as part of the Proposed Project, or at a later date, those sources would be subject to SDAPCD Rule 1200, and would be subject to New Source Review requirements.

SDAPCD Regulation XII: Toxic Air Contaminates; Rule 1210: Toxic Air Contaminant Public Health Risks – Public Notification and Risk Reduction. Requires each stationary source that is required to prepare a public risk assessment to provide written public notice of risks at or above the following levels: maximum incremental cancer risks equal to or greater than 10 in 1 million, or cancer burden equal to or greater than 1.0, or total acute noncancer health hazard index equal to or greater than 1.0, or total chronic noncancer health hazard index equal to or greater than 1.0 (SDAPCD 2017c).

The Proposed Project does not propose specific stationary sources that would generate TACs. If stationary sources with the potential to emit TACs were to be included as part of the Proposed Project, or at a later date, those sources would be subject to SDAPCD Rule 1210, and would be subject to Public Notification and Risk Reduction requirements. The thresholds identified in Rule 1210 are used in this analysis as thresholds for the health risk assessment, which are consistent with the SDAPCD health risk assessment guidelines (SDAPCD 2015b).

[4] Specific assumptions included in CalEEMod in compliance with Rule 67.0.1 are included in Table 15.

San Diego Association of Governments

SANDAG is the regional planning agency for San Diego County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SANDAG serves as the federally designated metropolitan planning organization for San Diego County. With respect to air quality planning and other regional issues, SANDAG has prepared *San Diego Forward: The Regional Plan* (Regional Plan) for the San Diego region (SANDAG 2015). The Regional Plan combines the big-picture vision for how our region will grow over the next 35 years with an implementation program to help make that vision a reality. The Regional Plan, including its Sustainable Communities Strategy (SCS), is built on an integrated set of public policies, strategies, and investments to maintain, manage, and improve the transportation system so that it meets the diverse needs of the San Diego region through 2050.

In regard to air quality, the Regional Plan sets the policy context in which SANDAG participates in and responds to the air district's air quality plans and builds off the air district's air quality plan processes that are designed to meet health-based criteria pollutant standards in several ways (SANDAG 2015). First, it complements air quality plans by providing guidance and incentives for public agencies to consider best practices that support the technology-based control measures in air quality plans. Second, the Regional Plan emphasizes the need for better coordination of land use and transportation planning, which heavily influences the emissions inventory from the transportation sectors of the economy. This also minimizes land use conflicts, such as residential development near freeways, industrial areas, or other sources of air pollution.

On September 23, 2016, SANDAG's Board of Directors adopted the final *2016 Regional Transportation Improvement Program* (RTIP). The 2016 RTIP is a multi-billion dollar, multi-year program of projects for major transportation projects in the San Diego region. Transportation projects supported through federal, state, and TransNet (the San Diego transportation sales tax program) funds must be included in an approved RTIP. The programming of locally funded projects also may be programmed at the discretion of the agency. The 2016 RTIP covers five fiscal years and incrementally implements the Regional Plan (SANDAG 2016).

City of Oceanside

The City of Oceanside General Plan includes various policies related to improving air quality (both directly and indirectly) (City of Oceanside 2002). Applicable policies include the following:

Land Use Element

Bicycle Facilities

Policy A: Development shall provide Class II Bikeways (Bike Lanes) on all secondary, major, and prime arterials.

Policy B: Collector streets which function as links for Bicycle Circulation System shall require Class II Bikeways (Bike Lanes). In such cases the City shall reduce hazards to cyclists on collector streets by eliminating on-street parking.

Policy D: The use of land shall integrate the Bicycle Circulation System with auto, pedestrian, and transit systems:

1. Development shall provide short-term bicycle parking and long-term bicycle storage facilities such as bicycle racks, pedestal posts, and rental bicycle lockers.
2. Development shall provide safe and convenient bicycle access to high activity land uses, such as schools, parks, shopping, employment, and entertainment centers.

Pedestrian

Policy A: The construction of five (5) foot wide sidewalks adjacent to the curb shall be required in all new developments and street improvements.

Transit System

Policy A: The City shall coordinate and encourage the existing bus system to serve newly developed areas.

Policy B: The City shall investigate the responsibilities of development in providing necessary on-site and off-site bus system improvements including bus shelters within new commercial, residential, and industrial developments.

Energy

Policy A: The City shall encourage the design, installation, and use of passive and active solar collection systems.

Policy B: The City shall encourage the use of energy efficient design, structures, materials, and equipment in all land developments or uses.

Policy C: The City shall encourage the use of long-term lower cost energy sources.

Grading and Excavation

Policy A: Investigation and evaluation of affected areas will indicate the measures to be included, such as the following measures:

1. Keep Grading to a minimum; leave vegetation and soils undisturbed wherever possible.
2. Plant bare slopes and cleared areas with appropriate vegetation immediately after grading.
3. Chemically treat soils to increase and resistance to erosion.
4. Install retaining structures where appropriate.
5. Construct drainage systems to direct and control rate of surface runoff.
6. Construct silt traps and settling basins in drainage systems.
7. Construct weirs and check dams on streams.

Circulation Element

Transportation Demand Management

The City shall:

Policy A: Encourage the reduction of vehicle miles, reduction of the total number of daily and peak hour vehicle trips, and provide better utilization of the circulation system through development and implementation of Transportation Demand Management and Transportation System Management programs. These may include implementation of mandatory peak hour trip reduction, requirements for staggered work hours, telecommunication, increased development of employment centers where transit usage is highly viable, encouragement of ride sharing in the public and private sector, provision of park-and-ride facilities adjacent to the regional transportation system, and provision for transit subsidies.

Policy B: Maintain and implement the policies and recommendations of the Bicycle Master Plan as part of the Recreational Trails Element. These facilities shall connect residential areas with schools, parks, recreation areas, major employment centers, and neighborhood commercial areas.

Policy C: Maintain and implement the policies and recommendations of the Pedestrian Master Plan as part of the Recreational Trails Element to ensure pedestrian access along streets and other locations throughout the City are properly maintained and provided.

Policy D: Support parking policies that increase the cost of parking and/or reduce the supply of off-street parking to encourage drivers to consider using alternative modes of transportation or carpool/vanpool opportunities where transit facilities are available.

Policy E: Encourage businesses to offer financial incentives to use modes of transportation other than the single occupant vehicle by way of subsidized transit, carpool/vanpool programs, bike to work programs, parking cash-out programs, or some combination of these.

Policy F: Encourage new developments to provide on-site facilities such as showers, lockers, carpool stalls, and bicycle racks.

The City shall:

Policy A: Cooperate with the North County Transit District (NCTD) to attain a balance of transportation opportunities. This shall include the establishment of criteria to implement transportation improvements, short and long-range transit service plans, corridor improvements, transit centers, park-and-ride lots with amenities for bicyclists, and the preservation of rights-of-way for commuter rail stations.

Policy B: The City shall require developers to construct, where appropriate, transit facilities when their development is on a transit service route including bus stop amenities to include lighted shelters, benches, and route information signs (where appropriate) through coordination with NCTD.

Policy C: Work with the NCTD to assure that transit centers and major stops have adequate bicycle and pedestrian access, including secure bicycle storage. The City shall continue to work with NCTD to encourage more bus services that accommodate bicycles.

Policy D: Encourage, in coordination with the NCTD, the utilization of the multi-modal transit center by coordinating bus routes and requiring, when applicable, shuttle services to major employment centers. Improved information signage giving directions to the transit center should be a main objective for the Coast Highway and other area thoroughfares.

Bicycle Facilities

The City shall:

Policy A: Integrate bicycle and pedestrian planning and safety considerations more fully into the planning and design of the roadway network, transit facilities, public buildings, and parks.

Policy B: Provide and maintain a safe, direct, and comprehensive bicycle network connecting neighborhoods, employment locations, public facilities, transit stations, parks and other key destinations.

Policy C: Plan Class II bicycle lanes into all prime arterial, major arterials, and secondary collectors where safe and appropriate as determined by City staff.

Policy D: Encourage large new developments to be designed with features such as secure bicycle parking and lockers, bike racks, shower facilities, and other amenities that accommodate bicycle users.

Pedestrian Facilities

The City shall:

Policy A: Require the construction of a minimum five-foot wide sidewalk in all new developments and street improvements but will encourage sidewalk widths that go beyond the minimum five-foot ADA standards in areas with high pedestrian activity.

Policy B: Encourage the inclusion of public walkways, open space, or trails for pedestrian usage in large, private developments.

Policy C: Work with NCTD to provide accessible pedestrian facilities at transit stations and bus stops.

2.4 Background Air Quality

2.4.1 Pollutants and Effects

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O_3, NO_2, CO, sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$), and lead. These pollutants, as well as toxic air contaminants

(TACs), are discussed in the following paragraphs.[5] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone. O_3 is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. These precursors are mainly NO_x and volatile organic compounds (VOCs). The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during late spring, summer, and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere ozone layer as well as at the Earth's surface in the troposphere.[6] The O_3 that the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O_3. Stratospheric, or "good," O_3 occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O_3 layer, plant and animal life would be seriously harmed.

O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013). These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

Nitrogen Dioxide. NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide, which is a colorless, odorless gas. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O_3. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers. NO_2 can irritate the lungs and may potentially lower resistance to respiratory infections (EPA 2016a).

[5] The descriptions of each of the criteria air pollutants and associated health effects are based on the U.S. Environmental Protection Agency's (EPA's) "Criteria Air Pollutants" (2016a) and CARB's "Glossary of Air Pollution Terms" (2016a).

[6] The troposphere is the layer of the Earth's atmosphere nearest to the surface of the Earth. The troposphere extends outward about 5 miles at the poles and about 10 miles at the equator.

Carbon Monoxide. CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, such as the project location, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels.

SO_2 is an irritant gas that affects the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter, SO_2 can injure lung tissue and reduce visibility and the level of sunlight. SO_2 can also yellow plant leaves, and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Coarse particulate matter (PM_{10}) consists of particulate matter that is 10 microns or less in diameter and is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter ($PM_{2.5}$) consists of particulate matter that is 2.5 microns or less in diameter and is roughly one-twentieth the diameter of a human hair. $PM_{2.5}$ results from fuel

combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

People with influenza, chronic respiratory or cardiovascular disease, and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. Premature mortality has been linked to $PM_{2.5}$ exposure even in otherwise healthy populations. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in PM_{10} and $PM_{2.5}$ (EPA 2009).

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Before 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

Sulfates. Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO_2 in the atmosphere. Sulfates can result in respiratory impairment, as well as reduced visibility.

Vinyl Chloride. Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air can cause nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

Hydrogen Sulfide. Hydrogen sulfide is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of hydrogen sulfide include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to hydrogen sulfide can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

Visibility-Reducing Particles. Visibility-reducing particles are any particles in the air that obstruct the range of visibility. Effects of reduced visibility can include obscuring the viewshed of natural scenery, reducing airport safety, and discouraging tourism. Sources of visibility-reducing particles are the same as for $PM_{2.5}$ described above.

Volatile Organic Compounds. Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O_3 are referred to and regulated as VOCs (also referred to as reactive organic gases). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of O_3 and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate health standards for VOCs as a group.

Non-Criteria Air Pollutants

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic non-cancer health effects. In California, specific air toxics are designated as TACs through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. Federal laws use the term hazardous air pollutants (HAPs) to refer to the same types of compounds that are referred to as TACs under state law.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area

sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter. Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70th the diameter of a human hair), and thus is a subset of $PM_{2.5}$ (CARB 2016a). DPM is typically composed of carbon particles ("soot," also called black carbon, or BC) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2016a). The CARB classified "particulate emissions from diesel-fueled engines" (i.e., DPM; 17 CCR 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars, and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). Because it is part of $PM_{2.5}$, DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2016a). Those most vulnerable to non-cancer health effects are children whose lungs are still developing and the elderly who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Valley Fever. Coccidioidomycosis, more commonly known as "Valley Fever," is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. When fungal spores are present, any activity that disturbs the

soil, such as digging, grading or other earth moving operations, can cause the spores to become airborne and thereby increase the risk of exposure. The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline sandy soils.

San Diego County is not considered a highly endemic region for Valley Fever as the San Diego County Health and Human Services Agency (HHSA) listed as having 4.4 cases per 100,000 people (HHSA 2017). The project site is located within the 92057 zip code; the incidence of Coccidioidomycosis is either less than the average County rate or had too few cases to be reliability utilized to calculate a rate (Nelson 2018). For comparison, statewide incidences in 2016 were 13.7 per 100,000 people (CDHP 2017).

Even if present at a site, earthmoving activities may not result in increased incidence of Valley Fever. Propagation of *Coccidioides immitis* is dependent on climatic conditions, with the potential for growth and surface exposure highest following early seasonal rains and long dry spells. *Coccidioides immitis* spores can be released when filaments are disturbed by earthmoving activities, although receptors must be exposed to and inhale the spores to be at increased risk of developing Valley Fever. Moreover, exposure to *Coccidioides immitis* does not guarantee that an individual will become ill—approximately 60% of people exposed to the fungal spores are asymptomatic and show no signs of an infection (USGS 2016).

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005). The SDAPCD identifies sensitive receptors as those who are especially susceptible to adverse health effects from exposure to toxic air contaminants, such as children, the elderly, and the ill. Sensitive receptors include schools (grades Kindergarten through 12), day care centers, nursing homes, retirement homes, health clinics, and hospitals within 2 kilometers of the facility (SDAPCD 2015).

The closest sensitive receptors (single-family residences) are located along the Proposed Project's western boundary. Del Rio Elementary School and the Melba Bishop Recreation Center are located approximately 0.19 mile west of the project site. In addition, the Proposed Project would result in the development of residences, which would be considered sensitive receptors.

2.4.2 San Diego Air Basin Attainment Designation

Pursuant to the 1990 federal Clean Air Act amendments, the EPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant, based on whether the NAAQS have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "nonattainment" for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as "unclassified" or "unclassifiable." The designation of "unclassifiable/attainment" means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are re-designated as maintenance areas and must have approved Maintenance Plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as "attainment" or "nonattainment," but based on CAAQS rather than the NAAQS. Table 2 depicts the current attainment status of the Proposed Project site with respect to the NAAQS and CAAQS.

Table 2
San Diego Air Basin Attainment Classification

Pollutant	Designation/Classification	
	Federal Standards	*State Standards*
Ozone (O_3) – 1 hour [a]	Attainment[a]	**Nonattainment**
O_3 (8-hour – 1997) (8-hour – 2008)	Attainment (Maintenance) **Nonattainment (Moderate)**	**Nonattainment**
Nitrogen Dioxide (NO_2)	Unclassifiable/Attainment	Attainment
Carbon Monoxide (CO)	Attainment (Maintenance)	Attainment
Sulfur Dioxide (SO_2)	Unclassifiable/Attainment	Attainment
Coarse Particulate Matter (PM_{10})	Unclassifiable/Attainment	**Nonattainment**
Fine Particulate Matter ($PM_{2.5}$)	Unclassifiable/Attainment	**Nonattainment**
Lead (Pb)	Unclassifiable/Attainment	Attainment
Hydrogen Sulfide	No federal standard	Attainment
Sulfates	No federal standard	Unclassified
Visibility-Reducing Particles	No federal standard	Unclassified
Vinyl Chloride	No federal standard	No designation

Sources: EPA 2016b (federal); CARB 2016c (state).
Notes:
Attainment = meets the standards; Attainment/Maintenance = achieve the standards after a nonattainment designation; Nonattainment = does not meet the standards; Unclassified or Unclassifiable = insufficient data to classify; Unclassifiable/Attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.
[a] The federal 1-hour standard of 0.12 ppm was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in SIPs.

In summary, the SDAB is designated as an attainment area for the 1997 8-hour O_3 NAAQS and as a nonattainment area for the 2008 8-hour O_3 NAAQS. The SDAB is designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ CAAQS. The portion of the SDAB where the Proposed Project is located in is designated as attainment or unclassifiable/unclassified for all other criteria pollutants under the NAAQS and CAAQS.

2.4.3 Air Quality Monitoring Data

CARB, air districts, and other agencies monitor ambient air quality at approximately 250 air quality monitoring stations across the state. Local ambient air quality is monitored by the SDAPCD. The SDAPCD operates a network of ambient air monitoring stations throughout San Diego County, which measure ambient concentrations of pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The nearest SDAPCD-operated monitoring station is the Camp Pendleton monitoring station, which is located approximately 6.8 miles southwest of the Proposed Project site. This site was used to show the background ambient air quality for O_3 and NO_2. The closest monitoring site that measures PM_{10} and $PM_{2.5}$ is the Kearny Villa Road monitoring station located at 6125A Kearny Villa Road, San Diego, which is about 29 miles southeast of the site. The closest monitoring site that measures CO and SO_2 is the Floyd Smith Drive monitoring station located at 10537 Floyd Smith Drive, El Cajon, which is about 35 miles southeast of the site. The most recent background ambient air quality data and number of days exceeding the ambient air quality standards from 2014 to 2016 are presented in Table 3.

Table 3
Local Ambient Air Quality Data

Averaging Time	Unit	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
				2014	*2015*	*2016*	*2014*	*2015*	*2016*
Ozone (O_3) – Camp Pendleton									
Maximum 1-hour concentration	ppm	State	0.09	0.097	0.093	0.083	1	0	0
Maximum 8-hour concentration	ppm	State	0.070	0.080	0.077	0.073	6	3	5
		Federal	0.070	0.079	0.076	0.073	5	2	4
Nitrogen Dioxide (NO_2) – Camp Pendleton									
Maximum 1-hour concentration	ppm	State	0.18	0.060	0.060	0.072	0	0	0
		Federal	0.100	0.060	0.060	0.072	0	0	0
Annual concentration	ppm	State	0.030	0.007	0.007	0.006	—	—	—
		Federal	0.053	0.007	0.007	0.006	—	—	—
Carbon Monoxide (CO) – Floyd Smith Drive									
Maximum 1-hour concentration	ppm	State	20	2.0	1.4	1.7	0	0	0
		Federal	35	2.0	1.4	1.7	0	0	0

Table 3
Local Ambient Air Quality Data

Averaging Time	Unit	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
				2014	*2015*	*2016*	*2014*	*2015*	*2016*
Maximum 8-hour concentration	ppm	State	9.0	1.8	1.1	1.0	0	0	0
		Federal	9	1.8	1.1	1.0	0	0	0
Sulfur Dioxide (SO_2) – Floyd Smith Drive									
Maximum 1-hour concentration	ppm	Federal	0.075	0.012	0.012	0.018	0	0	0
Maximum 24-hour concentration	ppm	Federal	0.14	0.005	0.004	0.005	0	0	0
Annual concentration	ppm	Federal	0.030	0.001	0.001	0.001	0	0	0
Coarse Particulate Matter (PM_{10})[a] – Kearny Villa Road									
Maximum 24-hour concentration	µg/m³	State	50	39.0	37.0	35.0	0.0 (0)	0.0 (0)	0.0 (0)
		Federal	150	39.0	39.0	36.0	0.0 (0)	0.0 (0)	0.0 (0)
Annual concentration	µg/m³	State	20	19.5	16.7	—	0.0 (0)	0.0 (0)	—
Fine Particulate Matter ($PM_{2.5}$)[a] – Kearny Villa Road									
Maximum 24-hour concentration	µg/m³	Federal	35	20.2	25.7	19.4	0.0 (0)	0.0 (0)	0.0 (0)
Annual concentration	µg/m³	State	12	8.7	—	7.8	0.0 (0)	0.0 (0)	0.0 (0)
		Federal	12.0	8.1	7.2	7.5	0.0 (0)	0.0 (0)	0.0 (0)

Sources: CARB 2016d; EPA 2016c.

Notes: — = not available; µg/m³ = micrograms per cubic meter; ppm = parts per million

Data taken from CARB iADAM (http://www.arb.ca.gov/adam) and EPA AirData (http://www.epa.gov/airdata/) represent the highest concentrations experienced over a given year.

Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed federal or state standards during the years shown. There is no federal standard for 1-hour O_3, annual PM_{10}, or 24-hour SO_2, nor is there a state 24-hour standard for $PM_{2.5}$.

Camp Pendleton monitoring station is located at 21441 West B Street, Camp Pendleton, California.

El Cajon monitoring station is located at West Bradley Avenue and Floyd Smith Drive, El Cajon, California.

San Diego – Kearny Villa Road monitoring station is located at 6125A Kearny Villa Road, San Diego, California.

[a] Measurements of PM_{10} and $PM_{2.5}$ are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

3 SIGNIFICANCE CRITERIA AND METHODOLOGY

3.1 Thresholds of Significance

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) provides guidance for evaluating whether a development project may result in significant impacts. Based on Appendix G of the CEQA Guidelines, the Proposed Project would have a significant impact on air quality it would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
4. Expose sensitive receptors to substantial pollutant concentrations.
5. Create objectionable odors affecting a substantial number of people.

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or pollution control district may be relied upon to determine whether the Proposed Project would have a significant impact on air quality.

As part of its air quality permitting process, the SDAPCD has established thresholds in Rule 20.2 requiring the preparation of Air Quality Impact Assessments (AQIA) for permitted stationary sources (SDAPCD 2016b). The SDAPCD sets forth quantitative emission thresholds below which a stationary source would not have a significant impact on ambient air quality. Although these trigger levels do not generally apply to mobile sources or general land development projects, for comparative purposes these levels may used to evaluate the increased emissions which would be discharge to the SDAB from proposed land development projects (County of San Diego 2007). Proposed-Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 4, SDAPCD Air Quality Significance Thresholds, are exceeded.

Table 4
SDAPCD Air Quality Significance Thresholds

Construction Emissions			
Pollutant	*Total Emissions (Pounds 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 (VOC)	75*		
Operational Emissions			
Pollutant	*Total Emissions*		
	Pounds per Hour	*Pounds 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
Sulfur Oxides (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

Sources: SDAPCD Rules 1501 (SDAPCD 1995) and 20.2(d)(2) (SDAPCD 2016b).
* VOC threshold based on the threshold of significance for VOCs from the South Coast Air Quality Management District for the Coachella Valley as stated in the San Diego County Guidelines for Determining Significance.

The thresholds listed in Table 4 represent screening-level thresholds that can be used to evaluate whether Proposed-Project-related emissions could cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. The emissions-based thresholds for O_3 precursors are intended to serve as a surrogate for an "O_3 significance threshold" (i.e., the potential for adverse O_3 impacts to occur). This approach is used because O_3 is not emitted directly (see the discussion of O_3 and its sources in Section 2.4.1, Pollutants and Effects, and the effects of an individual project's emissions of O_3 precursors (VOC and NO_x) on O_3 levels in ambient air cannot be determined through air quality models or other quantitative methods. For nonattainment pollutants, if emissions exceed the thresholds shown in Table 4, the Proposed 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.

With respect to odors, SDAPCD Rule 51 (Public Nuisance) prohibits emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person. A project that proposes a use that would produce

objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

3.2 Construction Emissions Methodology

Emissions from the construction phase of the Proposed Project were estimated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 (CAPCOA 2017).

For the purposes of modeling, it was assumed that construction of the Proposed Project would commence in June 2019 and would occur over a period of approximately 5 years, ending in August 2024.

As described in Section 1.3, Proposed Project Description, the Proposed Project would grade approximately 155 acres of the 176.6-acre site. Cut-and-fill quantities would be balanced on site and no external soil export would be required. Soil balance would occur within each subset area and hauling would not be required between subset areas. A total of approximately 1,040,200 cubic yards of cut and fill would occur within the Project Area. Balancing activities are anticipated to be performed through the use of off-road construction equipment (e.g., excavators, graders, dozers, and scrapers). Blasting activities are not anticipated for the project and are not accounted for in this analysis. The analysis contained herein is based on the assumptions outlined in Table 5 (duration of phases is approximate). The Proposed Project schedule was based on information provided by the Proposed Project applicant.

Table 5
Construction Phasing Assumptions

Proposed Project Construction Phase	Construction Start Month/Year	Construction End Month/Year
Demolition	06/2019	07/2019
Site Preparation	07/2019	08/2019
Grading	08/2019	03/2020
Paving	03/2020	09/2020
Building Construction	08/2020	08/2024
Architectural Coating	08/2022	08/2024

Source: Integral Communities 2017.

The construction equipment mix used for estimating the construction emissions of the Proposed Project is based on information provided by the applicant and is shown in Table 6. Notably, because detailed specific information regarding the construction equipment fleet is unknown at the time of analysis, the analysis is based on the default construction equipment fleet provided by CalEEMod. The construction tabs within CalEEMod contain default information that was

obtained from a survey of construction sites conducted by South Coast Air Quality Management District (SCAQMD) (CAPCOA 2017). The construction survey data is grouped by construction phase and lot acreage and can be found in Appendix E1 of the CalEEMod User Guide. The default construction equipment list and phase length data were determined to be the most appropriate for the size and types surveyed. Furthermore, because of data gaps presented in the projects surveyed, the data was extrapolated to create default values for project sizes that were not in the survey (CAPCOA 2017).

Table 6
Construction Scenario Assumptions

Construction Phase	One-way Vehicle Trips			Equipment		
	Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Demolition	15	0	145	Concrete/Industrial Saws	1	8
				Excavators	3	8
				Rubber Tired Dozers	2	8
Site Preparation	18	0	0	Rubber Tired Dozers	3	8
				Tractors/Loaders/Backhoes	4	8
Grading	20	0	0	Excavators	2	8
				Graders	1	8
				Rubber Tired Dozers	1	8
				Scrapers	2	8
				Tractors/Loaders/Backhoes	2	8
Paving	15	0	0	Pavers	2	8
				Paving Equipment	2	8
				Rollers	2	8
Building Construction	96	183	0	Cranes	1	7
				Forklifts	3	8
				Generator Sets	1	8
				Tractors/Loaders/Backhoes	3	7
				Trenchers	1	8
				Welders	1	8
Architectural Coating	20	0	0	Air Compressors	1	6

Notes: See Appendix A for details.

Construction phasing specifications were provided by the project applicant, while the default values generated by CalEEMod were used for the construction equipment mix. This equipment mix accounts for both on-site construction equipment, as well as construction equipment required for off-site improvements. For the analysis, it was generally assumed that heavy construction equipment would be operating both on the project site and at the off-site improvement areas for approximately 8 hours per day, 5 days per week (22 days per month)

during project construction. CalEEMod defaults were applied for the worker, haul, and vendor trips (CAPCOA 2017).

Construction of Proposed Project components would be subject to SDAPCD Rule 55 – Fugitive Dust Control. This rule requires that construction of Proposed Project components include steps to restrict visible emissions of fugitive dust beyond the property line (SDAPCD 2009b). Compliance with Rule 55 would limit fugitive dust (PM_{10} and $PM_{2.5}$) that may be generated during grading and construction activities.

A detailed depiction of the construction schedule—including information regarding subphases, demolition, and equipment used during each subphase—is included in Appendix A of this report. The information contained in Appendix A was used as CalEEMod model inputs.

Health Risk Assessment

As a precautionary measure, a health risk assessment (HRA) was performed to assess the impact of construction on sensitive receptors proximate to the project. This report includes an HRA associated with emissions from construction of the project based on the methodologies prescribed in the Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxics Hot Spots Program Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015). To implement the OEHHA Guidelines based on Project information, the SDAPCD has developed a three-tiered approach where each successive tier is progressively more refined, with fewer conservative assumptions. The SDAPCD *Supplemental Guidelines for Submission of Air Toxics "Hot Spots" Program Health Risk Assessments* provides guidance with which to perform HRAs within the SDAB (SDAPCD 2015b).

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SDAPCD recommends a carcinogenic (cancer) risk threshold of 10 in a million. Additionally, some TACs increase non-cancer health risk due to long-term (chronic) exposures. The Chronic Hazard Index is the sum of the individual substance chronic hazard indices for all TACs affecting the same target organ system. The SDAPCD recommends a Chronic Hazard Index significance threshold of 1.0 (project increment). The exhaust from diesel engines is a complex mixture of gases, vapors, and particles, many of which are known human carcinogens. DPM has established cancer risk factors and relative exposure values for long-term chronic health hazard impacts. No short-term, acute relative exposure level has been established for DPM; therefore, acute impacts of DPM are not addressed in this assessment. This HRA evaluated the risk to future residents from diesel emissions from exhaust from on-site construction equipment and diesel haul and vendor trucks.

The dispersion modeling of DPM was performed using the American Meteorological Society/EPA Regulatory Model (AERMOD), which is the model SDAPCD requires for atmospheric dispersion of emissions. AERMOD is a steady-state Gaussian plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of surface and elevated sources, building downwash, and simple and complex terrain (EPA 2015). For the Project, AERMOD was run with all sources emitting unit emissions (1 gram per second) to obtain the "X/Q" values. X/Q is a dispersion factor that is the average effluent concentration normalized by source strength and is used as a way to simplify the representation of emissions from many sources. The X/Q values of ground-level concentrations were determined for construction emissions using AERMOD and the maximum concentrations determined for the 1-hour and Period averaging periods. Principal parameters of this modeling are presented in Table 7.

Table 7
AERMOD Principal Parameters

Parameter	Details
Meteorological Data	The latest 3-year meteorological data (2010–2012) for the Camp Pendleton Station (Station ID 3177) from SDAPCD were downloaded and then input to AERMOD. For cancer or chronic noncancer risk assessments, the average cancer risk of all years modeled was used.
Urban versus Rural Option	Urban areas typically have more surface roughness, as well as structures and low-albedo surfaces that absorb more sunlight—and thus more heat—relative to rural areas. However, based on the SDAPCD guidelines, the rural dispersion option was selected due to the Project's proximity to the ocean.
Terrain Characteristics	The terrain in the vicinity of the modeled proposed project site is generally flat. The elevation of the modeled site is approximately 200 feet above sea level. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate (National Elevation Dataset 1/3 – 10 meter resolution).
Emission Sources and Release Parameters	Air dispersion modeling of DPM emissions was conducted assuming the equipment would operate in accordance with the modeling scenario estimated in CalEEMod (Appendix B). The DPM emissions were modeled as a series of volume sources.
Source Release Characterizations	For modeling construction emissions dispersion using AERMOD, it was assumed that the total project area would operate in accordance with the respective construction schedules. A unit emission rate of 1.0 gram per second was normalized over the number of volume sources for each AERMOD run.
Discrete Receptors	A uniform Cartesian grid was placed over the proposed project site with 20-meter spacing (2,700 meters by 2,700 meters) and converted into discrete Cartesian receptors to represent existing sensitive receptors adjacent to the site.

Note: See Appendix B.

Dispersion model plotfiles from AERMOD were then imported into CARB's Hotspots Analysis and Reporting Program Version 2 to determine health risk, which requires peak 1-hour emission rates and annual-averaged emission rates for all pollutants for each modeling source. For the residential health risk, the HRA assumes exposure would start in the third trimester of pregnancy. Based on the HRA included in Appendix B, the maximally exposed individual resident

would be located at the northeastern corner of the Project site. The results of the HRA are provided in Section 4.4, and detailed results and methodology are provided in Appendix B.

3.3 Operational Emissions Methodology

Emissions from the operational phase of the Proposed Project were estimated using the CalEEMod. Operational year 2025 was assumed as it would be the first full year following completion of construction.

3.3.1 Area Sources

CalEEMod was used to estimate operational emissions from area sources, including emissions from consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating and water heating are calculated in the building energy use module of CalEEMod, as described in the following text.

Consumer products are chemically formulated products used by household and institutional consumers, including detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. Other paint products, furniture coatings, or architectural coatings are not considered consumer products (CAPCOA 2017). Consumer product VOC emissions are estimated in CalEEMod based on the floor area of commercial buildings and on the default factor of pounds of VOC per building square foot per day. The CalEEMod default values for consumer products were assumed.

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings such as in paints and primers using during building maintenance. CalEEMod calculates the VOC evaporative emissions from application of surface coatings based on the VOC emission factor, the building square footage, the assumed fraction of surface area, and the reapplication rate. VOC emissions were estimated based on compliance with SDAPCD Rule 67.0.1. Rule 67.0.1 provides VOC content limits for various coatings. The three general coatings categories are 50 grams per liter (g/L) VOC for flat coatings, 100 g/L VOC for non-flat coatings, and 150 g/L VOC for non-flat high-gloss coatings. Consistent with typical construction practices, it is anticipated that interior paint would not exceed flat coating limits, exterior paint would not exceed non-flat coating limits, and a small portion of exterior paint and finishes (trim and other minor finishes) would not exceed non-flat high-gloss coatings limits. It was conservatively assumed that all residential and non-residential (interior and exterior) architectural coating would

be 150 g/L VOC.[7] The VOC emission factor is based on the VOC content of the surface coatings, and SDAPCD's Rule 67.0.1 (Architectural Coatings) governs the VOC content for interior and exterior coatings. This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2015a). The model default reapplication rate of 10% of area per year is assumed. Consistent with CalEEMod defaults, it is assumed that the surface area for painting equals 2.7 times the floor square footage, with 75% assumed for interior coating and 25% assumed for exterior surface coating (CAPCOA 2017). For parking lot land uses, 250 g/L VOC was assumed consistent with CalEEMod default VOC rates. CalEEMod default VOC values were assumed for the application of architectural coatings during operation as that would not be controlled by the Proposed Project applicant.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers. The emissions associated from landscape equipment use are estimated based on CalEEMod default values for emission factors (grams per square foot of building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days.

3.3.2 Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth). Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for greenhouse gases in CalEEMod, because criteria pollutant emissions occur at the site of the power plant, which is typically off site.

The Proposed Project would incorporate solar photovoltaic (PV) panels on all residential units and non-residential uses in order to offset the Proposed Project's energy use. According to the PV Loads Report, it was estimated that 1.81 megawatts (MW) of PV panels would be required to offset electrical energy consumption from residential uses and to meet the CEC's definition of zero net energy (ZNE) buildings (VCA Green 2018). (ZNE buildings are designed to achieve enhanced energy efficiency in the building envelope and to use renewable energy sources, such

[7] SDAPCD Rule 67.0.1 identifies VOC limits for various specialty coatings that exceed 150 g/L VOC, but the primarily residential Proposed Project is not anticipated to require a substantial amount of specialty coatings. In addition, many of the specialty coating categories have limits of less than 150 g/L, including driveway sealers (50 g/L VOC); floor coatings (100 g/L VOC); and primers, sealers, and undercoaters (100 g/L VOC).

as rooftop-mounted solar panels). Further, approximately 0.44 MW of panels would be installed to offset the energy use from non-residential uses.

For non-residential buildings, CalEEMod default values for each land use were updated to reflect the annual electrical consumption provided in the PV Loads Report. An energy intensity rate for each category (e.g., Title 24 electricity, Non-Title 24 electricity, lighting electricity) was calculated from the total energy consumption from the PV Loads Report, using the default proportions in CalEEMod to allocate the appropriate energy consumption rate for each land use type. Similarly, the CalEEMod default energy intensity rates for residential uses were updated to reflect the Proposed Project's annual electricity consumption. Overall, residential and non-residential energy consumption would be offset through the installation of 2.25 MW of PV panels. The residential and non-residential energy use rates input into CalEEMod are presented in Table 8.

Table 8
Energy Use Rates

Land Use	Title 24 Electricity	Non-Title 24 Electricity	Lighting Electricity
	kWh per unit per year		
Retail	1.24	1.23	2.43
Restaurant	5.02	14.45	4.14
Hotel	3.14	2.41	2.96
Apartment Low-Rise	141.68	2,366.28	624.21
Condo/Townhouse	185.50	3,449.26	901.45
Single-Family Housing	190.92	3,550.02	927.78

Source: VCA Green 2017.
Notes:
kWh = kilowatt hour.

Community Swimming Pool

The Proposed Project would include a private swimming pool located in River Village Park with an approximate size of 127,908 gallons. Energy demand for swimming pools was estimated using a baseline demand in the SDG&E service area (SCE 2016). The swimming pool is assumed to use natural gas for water heating. Table 9 shows the estimated energy use associated with heating the Proposed Project's swimming pool. As shown in Table 9, pool heating would require 7,165 million British thermal units (MMBtu) annually.

Table 9
Swimming Pool Heating Energy Use

Facility Name	Pool Volume (gallons)	MMBtu/gallons/day	MMBtu/day
River Village Park	127,908	0.000153	19.63

Sources: SCE 2016; DOE 2017.
Notes: MMBtu = million British thermal units.
Pool hours of operation assume 12 hours daily.
Pool heaters from the SDG&E study were assumed to use 78% efficient heaters (the minimum required by 10 CFR Part 431). Newer pools use heaters with 89%–95% efficiency (DOE 2017). Heaters in the Proposed Project were assumed to use 90% efficient heaters.

3.3.3 Mobile Sources

To quantify emissions associated with project operational mobile sources, trip generation rates and trip lengths for each analyzed project land use were adjusted in CalEEMod to match the overall weekday daily trips (8,180 trips) and the total average daily vehicle miles traveled (VMT) length data (11.3 miles per trip) provided by the traffic consultant (Hilgesen 2017~~LLC 2018~~). Notably, because the Proposed Project includes a mix of uses including residential and commercial uses, the Proposed Project would include a mixed-use trips reduction (5% of the total trips). In order to account for the mixed-use reduction from the traffic analysis, the traffic mitigation section of CalEEMod was updated to reflect a VMT reduction of 5% by selecting suburban center and increase diversity options in CalEEMod.[8] CalEEMod default data, including trip characteristics, variable start information and emissions factors were conservatively used for the model inputs. Project-related traffic was assumed to include a mixture of vehicles consistent with CalEEMod default vehicle fleet assumptions. Emission factors for 2025 (the first full year of project operation) were used to estimate emissions associated with full buildout of the proposed project. The traffic consultant did not account for a reduction in internal vehicle trips based on the pedestrian and bicycle amenities provided because it is difficult to quantify the reduction in trips assuming people would walk or ride their bicycles to go to the Village Core or park, for example. No VMT reduction associated with pedestrian and bicycle was assumed in CalEEMod. Not accounting for any internal trip reduction provides a more conservative analysis.

[8] The traffic analysis calculated a reduction because the Proposed Project includes a mixed-use development; however, the VMT of 11.3 miles per trip did not account for this.

3.4 Carbon Monoxide Hotpots

Mobile source impacts occur on two scales of motion, regionally and locally. Regionally, Proposed-Project-related travel would add to regional trip generation and increase the VMT within the local airshed and the SDAB. Locally, Proposed-Project-generated traffic would be added to the County's roadway system near the Project Area. If such traffic occurs (1) during periods of poor atmospheric ventilation; (2) is composed of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds; and (3) is operating on roadways already congested with non-Proposed-Project traffic, there is a potential for the formation of microscale CO hotspots in the area immediately around points of congested traffic.

In addition to the numerous factors that would need to be present for a CO hotspot to occur, the potential for CO hotspots in the SDAB is steadily decreasing because of the continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion and the already very low ambient CO concentrations. Furthermore, CO transport is extremely limited and disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors such as residents, school children, hospital patients, and the elderly. Typically, high CO concentrations are associated with roadways or intersections operating at an unacceptable level of service (LOS). Projects contributing to adverse traffic impacts may result in the formation of CO hotspots.

Because the City does not have CO hotspot guidance, the guidance recommended by the County of San Diego was applied to evaluate the potential for CO hotspots to occur as a result of the project. As indicated in the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements Air Quality (County of San Diego 2007), a site-specific CO hotspot analysis should be performed if a proposed development would cause road intersections to operate at or below a LOS E with intersection peak-hour trips exceeding 3,000. Appendix B presents additional details for the CO hotspot assessment.

INTENTIONALLY LEFT BLANK

4 PROJECT IMPACT ANALYSIS

This section evaluates the air quality impacts associated with the Proposed Project. The SDAPCD significance criteria described in Section 5, Significance Criteria and Methodology, was used to evaluate impacts associated with the construction and operation of the Proposed Project.

4.1 Would the project conflict with or obstruct implementation of the applicable air quality plan?

As mentioned in Section 2.3, Local Regulations, the SDAPCD and SANDAG are responsible for developing and implementing the clean air plans for attainment and maintenance of the ambient air quality standards in the basin—specifically, the SIP and RAQS.[9] The federal O_3 maintenance plan, which is part of the SIP, was adopted in 2012. The most recent O_3 attainment plan was adopted in 2016. The SIP includes a demonstration that current strategies and tactics will maintain acceptable air quality in the basin based on the NAAQS. The RAQS was initially adopted in 1991 and is updated on a triennial basis (most recently in 2016). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O_3. The SIP and RAQS rely on information from CARB and SANDAG, including mobile and area source emissions as well as information regarding projected growth in the County as a whole and the cities in the County, to project future emissions and determine the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans.

If a project proposes development that is greater than that anticipated in the local plan and SANDAG's growth projections, the project might be in conflict with the SIP and RAQS and may contribute to a potentially significant cumulative impact on air quality. According to the City of Oceanside's land use map and zoning map (City of Oceanside 1992) the Project site has a designation of Agricultural (A) and is zoned as Agriculture (A) in the portion north of North River Road and is zoned as Agriculture-Scenic Park (A-SP) in the portion south of North River Road. The purpose of A districts are to allow for large-scale agriculture and mining operations, only permitting low-density residential development associated with the low-intensity agriculture, while the purpose of SP districts are to conserve and protect and preserve valuable natural resources of recreational and scenic areas in and adjacent to public parks. These designations do not allow for the development of residential uses or a mix of land uses as are

[9] For the purpose of this discussion, the relevant federal air quality plan is the ozone maintenance plan (SDAPCD 2012). The RAQS is the applicable plan for purposes of state air quality planning. Both plans reflect growth projections in the basin.

proposed under the Proposed Project. The Proposed Project would require a zone amendment that will change the project site to Planned Development (PD). The PD designation would allow for the project site to be developed with a mixed uses including residential, commercial, and agriculture.

While the SDAPCD and City do not provide guidance regarding the analysis of impacts associated with air quality plan conformance, the County's *Guidelines for Determining Significance and Report and Format and Content Requirements – Air Quality* does discuss conformance with the RAQS (County of San Diego 2007). The guidance indicates that if a project, in conjunction with other projects, contributes to growth projections that would not exceed SANDAG's growth projections for the City, the project would not be in conflict with the RAQS (County of San Diego 2007). As previously discussed, the Proposed Project would require a zoning amendment in order to refine the land uses allowable for the project site. Therefore, the Proposed Project would contribute to additional unaccounted for growth to the region.

The guidance also indicates that, in the event that a project requires a general plan amendment, additional analysis may still provide substantial evidence that the growth is accounted for in the RAQS assumptions. To demonstrate conformance in this case, a growth projection analysis can be completed for the applicable Subregional Area (SRA) and/or Metropolitan Statistical Area (MSA) by comparing the SANDAG growth projections with the actual development expected to occur. If the project in conjunction with other projects, contributes to growth projections that would not exceed SANDAG's growth projections for that SRA or MSA, the project would not be in conflict with the RAQS or SIP.

The Proposed Project is located within SRA 42 – Oceanside, which includes the City of Oceanside in its entirety. SANDAG's population estimate for this SRA in 2012 (the closest year SANDAG has available data to 2012 when the most recent RAQS was adopted) was 161,221, and the forecasted population in 2020 (the closest year SANDAG has available data to a project buildout of 2025) is 170,543. Therefore, SANDAG's projections anticipated approximately 9,322 new residents in this SRA over an 8-year period. Because the western portion of SRA 42 is essentially built out, the anticipated growth would occur almost exclusively in the eastern portion of the City of Oceanside.

The addition of 689 residential units (approximately 1,971[10] new residents) to the SRA as a result of the Proposed Project would be accommodated in the population forecast used to prepare the 2016 RAQS. While the Proposed Project was not included in the underlying growth estimates for the SDAB used as the basis for the SIP and RAQS update, it would not

[10] ~~Service population~~Number of residents based on the City of Oceanside average household size of 2.86 persons per dwelling unit (SANDAG 2017a).

conflict with or obstruct implementation of the SIP or RAQS because the SANDAG population projections for SRA 42 would accommodate more growth (9,322 new residents) than that associated with the Proposed Project (1,971 residents). Because the growth forecasts and development assumptions upon which the SIP and RAQS are based would not be exceeded, the Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan and impacts would be **less than significant**.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

The Proposed Project would have a less than significant impact prior to mitigation.

4.2 Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction Emissions

Construction of the Proposed Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (worker vehicle trips). Construction emissions can vary substantially day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions.

Criteria air pollutant emissions associated with construction activity were quantified using CalEEMod. Default values provided by CalEEMod were used where detailed Proposed Project information was not available. A detailed depiction of the construction schedule—including information regarding phasing, equipment used during each phase, haul trucks, vendor trucks, and worker vehicles—is included in Section 5.2.1. The information contained in Appendix A was used as CalEEMod inputs.

Implementation of the Proposed Project would generate air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, architectural coating, and asphalt pavement application. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. The Proposed Project is subject to SDAPCD Rule 55, Fugitive Dust Control. This rule requires that the Proposed Project take steps to restrict visible emissions of fugitive dust beyond the property line. Compliance with Rule 55 would limit fugitive dust (PM_{10} and

$PM_{2.5}$) generated during grading and construction activities. To account for dust control measures in the calculations, it was assumed that the active sites would be watered at least three times daily, resulting in an approximately 61% reduction of particulate matter.

Exhaust from internal combustion engines used by construction equipment and worker vehicles would result in emissions of VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. The application of architectural coatings and asphalt pavement would also produce VOC emissions.

Table 10 shows the estimated maximum daily construction emissions associated with the construction of the Proposed Project without mitigation. Complete details of the emissions calculations are provided in Appendix A of this document.

Table 10
Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2019	4.83	54.58	34.00	0.06	9.59	6.11
2020	5.93	57.97	42.94	0.11	5.98	3.45
2021	3.24	39.79	26.86	0.09	4.86	2.13
2022	48.97	38.25	28.47	0.09	4.93	2.10
2023	48.66	33.00	27.66	0.09	4.78	1.95
2024	48.51	31.69	27.27	0.09	4.68	1.85
Maximum Daily Emissions	**48.97**	**57.97**	**42.94**	**0.11**	**9.59**	**6.11**
SDAPCD Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: See Appendix A for detailed results.
Notes: The values shown are the maximum summer or winter daily emissions results from CalEEMod. These emissions reflect CalEEMod "mitigated" output, which accounts for compliance with SDAPCD Rule 55 (Fugitive Dust).
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SDAPCD = San Diego Air Pollution Control District.

As shown in Table 10, daily construction emissions would not exceed the significance thresholds for any criteria air pollutant. Therefore, impacts during construction would be less than significant.

Operational Emissions

The Proposed Project involves the development of 689 residential dwelling units, a community farm, and a Village Core, which will include a boutique hotel, various shops, and a restaurant. Operation of the Proposed Project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources, including vehicle trips; area sources, including the use of consumer products, natural gas hearths, and landscape maintenance equipment; and energy

sources. As discussed in Section 5.2.2, Operation, pollutant emissions associated with long-term operations were quantified using CalEEMod. Proposed Project-generated mobile source emissions were estimated in CalEEMod based on Proposed Project-specific trip rates and trip lengths. CalEEMod default values were used, with the exception to energy and water use, to estimate emissions from the Proposed Project area and energy sources. Energy use estimates for the community swimming pool was calculated outside of CalEEMod in a spreadsheet based model which is based on CalEEMod default emission factors and natural gas energy intensity for residential and non-residential land uses. Emission estimates from the community swimming pool's energy use has been added to the energy source emissions in Table 11.

Table 11 presents the maximum daily area, energy, and mobile source emissions associated with operation (Year 2025) of the Proposed Project. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Appendix A.

Table 11
Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Area	35.30	10.94	61.23	0.07	1.15	1.15
Energy	0.21	1.81	0.77	0.01	0.15	0.15
Mobile	12.30	48.25	151.13	0.59	57.55	15.67
Total	**47.81**	**61.00**	**213.13**	**0.67**	**58.85**	**16.97**
SDAPCD Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: See Appendix A for detailed results.
Notes: Emissions were modeled with CalEEMod and are based on the "Mitigated" CalEEMod outputs. Additionally, a project setting of Suburban Center and Increase Diversity were selected in CalEEMod to account for a 5% mixed use reduction based on the trip reduction from the Traffic Impact Analysis (LLG 2018).
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SDAPCD = San Diego Air Pollution Control District.

As shown in Table 11, the combined daily area, energy, and mobile source emissions would not exceed the City's operational thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. Impacts associated with Proposed Project-generated operational criteria air pollutant emissions would be **less than significant**.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

The Proposed Project would have a less than significant impact prior to mitigation.

4.3 Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SDAPCD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality. As described under Section 6.2, the Proposed Project would have a less than significant impact for short-term construction and long-term operations.

The SDAB is a nonattainment area for O_3 under the NAAQS and CAAQS. The poor air quality in the SDAB is the result of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emission sources. Projects that emit these pollutants or their precursors (i.e., VOCs and NO_x for O_3) potentially contribute to poor air quality. In analyzing cumulative impacts from a project, the analysis must specifically evaluate the project's contribution to the cumulative increase in pollutants for which the basin is designated as nonattainment for the CAAQS and NAAQS. If the project does not exceed thresholds and is determined to have less than significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the project, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, a project would only be considered to have a significant cumulative impact if the project's contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact).

Additionally, for the basin, the RAQS serves as the long-term regional air quality planning document for the purpose of assessing cumulative operational emissions in the basin to ensure the SDAB continues to make progress toward NAAQS- and CAAQS-attainment status. As such, cumulative projects located in the San Diego region would have the potential to result in a cumulative impact to air quality if, in combination, they would conflict with or obstruct implementation of the RAQS. Similarly, individual projects that are inconsistent with the

regional planning documents upon which the RAQS is based would have the potential to result in cumulative operational impacts if they represent development and population increases beyond regional projections.

The SDAB has been designated as a federal nonattainment area for O_3 and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the basin. As discussed previously, the Proposed Project would not exceed significance thresholds during construction or operation. As such, the Proposed Project would result in **less than significant** impacts to air quality relative to emissions.

Regarding long-term cumulative operational emissions in relation to consistency with local air quality plans, the SIP and RAQS serve as the primary air quality planning documents for the state and SDAB, respectively. The SIP and RAQS rely on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and the County as part of the development of their general plans. Therefore, projects that propose development that is consistent with the growth anticipated by local plans would be consistent with the SIP and RAQS and would not be considered to result in cumulatively considerable impacts from operational emissions. As stated previously, the Proposed Project would be consistent with the growth assumptions for the region and would not result in significant regional growth that is not accounted for within the RAQS. As a result, the Proposed Project would not result in a cumulatively considerable contribution to regional O_3 concentrations or other criteria pollutant emissions. Cumulative impacts would be **less than significant** during operation.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

The Proposed Project would have a less than significant impact prior to mitigation.

4.4 Would the project expose sensitive receptors to substantial pollutant concentrations?

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion. Reduced visibility, eye irritation, and adverse health impacts upon those persons termed “sensitive receptors” are the most serious hazards of existing air quality conditions in the area. Some land

uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. Sensitive receptors include residences, schools, playgrounds, child-care centers, athletic facilities, long-term health-care facilities, rehabilitation centers, convalescent centers, and retirement homes. The closest sensitive receptors (single-family residences) are located along the Proposed Project's western boundary. Del Rio Elementary School and the Melba Bishop Recreation Center are located approximately 0.19 mile west of the project site. In addition, the Proposed Project would result in the development of residences, which would be considered sensitive receptors.

Table 12 presents a list of the criteria pollutants and other related pollutants of concern, emission sources, associated health effects, and current SDAB attainment status.

Table 12
Pollutants, Sources, Health Effects, and Attainment Status

Pollutant	Sources	Health Effects	Attainment Status	
			NAAQS	*CAAQS*
O_3	Formed when VOCs and NO_x react in the presence of sunlight. VOC sources include any source that burns fuels (e.g., gasoline, natural gas, wood, oil); solvents; petroleum processing and storage.	Breathing difficulties, lung tissue damage, vegetation damage, damage to rubber and some plastics.	Nonattainment	Nonattainment
PM_{10}	Road dust, windblown dust, agriculture and construction, fireplaces. Also formed from other pollutants (NO_x, SO_x, organics). Incomplete combustion.	Increased respiratory disease, lung damage, cancer, premature death, reduced visibility, surface soiling.	Unclassifiable/ Attainment	Nonattainment
$PM_{2.5}$	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning. Also formed from reaction of other pollutants (NO_x, SO_x, organics, and NH_3).	Increases respiratory disease, lung damage, cancer, and premature death, reduced visibility, surface soiling. Particles can aggravate heart diseases such as congestive heart failure and coronary artery disease	Unclassifiable/ Attainment	Nonattainment
CO	Any source that burns fuel such as automobiles, trucks, heavy construction and farming equipment, residential heating.	Chest pain in heart patients, headaches, reduced mental alertness.	Attainment	Attainment
NO_2	See carbon monoxide.	Lung irritation and damage. Reacts in the atmosphere to form ozone and acid rain.	Unclassifiable/ Attainment	Attainment
Lead	Metal smelters, resource recovery, leaded gasoline, deterioration of lead paint.	Learning disabilities, brain and kidney damage.	Unclassifiable/ Attainment	Attainment

Table 12
Pollutants, Sources, Health Effects, and Attainment Status

Pollutant	Sources	Health Effects	Attainment Status	
SO_2	Coal or oil burning power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Unclassifiable/ Attainment	Attainment
Sulfates	Produced by reaction in the air of SO_2, (see SO_2 sources), a component of acid rain.	Breathing difficulties aggravates asthma, reduced visibility.	(no federal standard)	Attainment
Hydrogen Sulfide	Geothermal power plants, petroleum production and refining, sewer gas.	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations).	(no federal standard)	Unclassified
Visibly Reducing Particles	See $PM_{2.5}$	Reduced visibility (e.g., obscures mountains and other scenery), reduced airport safety.	(no federal standard)	Unclassified
Vinyl Chloride	Exhaust gases from factories that manufacture or process vinyl chloride (construction, packaging, and transportation industries)	Central nervous system effects (e.g., dizziness, drowsiness, headaches), kidney irritation, liver damage, liver cancer.	N/A	N/A
TAC	Combustion engines (stationary and mobile), diesel combustion, storage and use of TAC-containing substances (i.e., gasoline, lead smelting, etc.)	Depends on TAC, but may include cancer, mutagenic and/or teratogenic effects, other acute or chronic health effects	N/A	N/A

Source: County of San Diego 2007 (pollutant descriptions); EPA 2016b (federal); CARB 2016a (state).
O_3 = ozone; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; CO = carbon monoxide; NO_2 = nitrogen dioxide; SO_2 = sulfur dioxide; TAC = toxic air contaminant

Health Impacts of Toxic Air Contaminants

"Incremental cancer risk" is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period would contract cancer based on the use of standard OEHHA risk-assessment methodology (OEHHA 2015). In addition, some TACs have non-carcinogenic effects. TACs that would potentially be emitted during construction activities would be DPM emitted from heavy-duty construction equipment and heavy-duty trucks. Heavy-duty construction equipment and diesel trucks are subject to CARB ATCMs to reduce DPM emissions. According to the OEHHA, HRAs should be based on a 30-year exposure duration based on typical residency period; however, such assessments should be limited to the period/duration of activities associated with the project (OEHHA 2015). Thus, the duration of proposed construction activities (approximately 36 months) would only constitute a small percentage of the total long-term exposure period and would not result in exposure of proximate sensitive receptors to substantial TACs. After construction is completed there would be no long-term source of TAC emissions during operation.

However, as a precautionary measure a HRA was performed to evaluate the risk from diesel exhaust emissions on existing sensitive receptors from construction activities. The HRA methodology was further described in Section 3.2, and the detailed assessment is provided in Appendix B. The results of the HRA for Project construction are summarized in Table 13.

Table 13
Construction Activity Health Risk Assessment Results

Impact Parameter	Units	Proposed Project Impact	CEQA Threshold	Level of Significance
Cancer Risk	Per Million	28.28	10.0	**Potentially significant**
HIC	Not Applicable	0.01	1.0	Less than Significant

Sources: Appendix B
Notes: CEQA = California Environmental Quality Act; HIC = Chronic Hazard Index.

The results of the HRA demonstrate that the TAC exposure from construction diesel exhaust emissions would result in cancer risk off-site above the 10 in 1 million threshold and Chronic Hazard Index less than 1. Therefore, TAC emissions from construction of the Project would result in a **potentially significant** impact and thus mitigation is required.

The following mitigation measures would reduce potentially significant impacts to air quality to a level below significance.

MM-AQ-1 **Diesel Exhaust.** To reduce the potential for health risks as a result of construction of the proposed project the Applicant shall:

A. Prior to the start of construction activities, the project applicant, or its designee, shall ensure that all diesel-powered cranes, generator sets, trenchers, forklifts, rubber tired dozers, and tractors/loaders/backhoes are powered with CARB certified Tier 4 Interim engines, except where the project applicant establishes to the satisfaction of the City that Tier 4 Interim equipment is not available.

~~A.~~B. All other diesel-powered construction equipment will be classified as Tier 3 or higher, at a minimum~~, except where the project applicant establishes to the satisfaction of the City that Tier 3 equipment is not available~~.

Before an exception to the engine tier requirements exemption may be granted considered by the City, the applicant shall be required to demonstrate that three construction fleet owners/operators in the San Diego region with fleets sufficiently sized to provide the types and quantities of equipment needed by the project were contacted and that the owners/operators determined that the requested equipment (Tier 4) could not be located within the region.

In the case that Tier 4 Interim engines are not available, the City shall require the applicant to use Tier 3 engines for the subject types of equipment. As such, the City shall require the applicant to prioritize the use of higher engine tiers over lower engine tiers.

~~In the case where the applicant is unable to secure a piece of equipment that meets the Tier 4 Interim requirement, the applicant may upgrade another piece of equipment to compensate (from Tier 4 Interim to Tier 4 Final).~~ Engine Tier requirements in accordance with this measure shall be incorporated on all construction plans.

The construction of the proposed project would result in a potentially significant impact to sensitive receptors prior to mitigation. With implementation of MM-AQ-1, the emissions of DPM are significantly reduced compared to the unmitigated scenario. The detailed emissions assumptions and model outputs using CalEEMod are provided in Appendix B. Table 14 shows the results of the HRA after implementation of MM-AQ-1 for the proposed project.

Table 14
Construction Activity Health Risk Assessment Results - Mitigated

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Proposed Project				
MICR – Residential Off Site	Per Million	7.40	10.0	Less than Significant
HIC – Off Site	Not Applicable	0.003	1.0	Less than Significant

Sources: Appendix B
Notes: MICR – Maximum Individual Cancer Risk; HIC – Chronic Hazard Index

The mitigated results shown in Table 14 demonstrate that the construction mobile sources exhibit maximum individual cancer risks (MICR) below the 10 in a million threshold and chronic hazard indices (HIC) less than 1. AERMOD and HARP2 outputs are contained in Appendix B. Therefore, the exposure to TAC emissions would be **less than significant** with mitigation.

Valley Fever Exposure

As discussed in Section 2.1.2, Valley Fever is not highly endemic to San Diego County and within San Diego County the incidents rate in the Project Area is below the County average as well as the statewide average. The Proposed Project would be consistent with SDAPCD Rule 55 which limits the amount of fugitive dust generated during construction and would also control the release of the *Coccidioides immitis* fungus from construction activities by watering three times per day and limiting speed on unpaved roads to 15 miles per hour. The nearest existing off-site

sensitive-receptor land uses includes existing residences, Del Rio Elementary School and the Melba Bishop Recreation Center, which are located to the west of the Proposed Project site. Because the Proposed Project's previous uses include agriculture operations, it is quite possible that the local sensitive receptors near the project area have already been exposed to Valley Fever simply by living in the region. Based on the low incidence rate of Coccidioidomycosis in the project area and in greater San Diego County, and the Proposed Project's implementation of dust control strategies, it is not anticipated that earthmoving activities during Proposed Project construction would result in exposure of nearby sensitive receptors to Valley Fever. Therefore, the Proposed Project would have a less than significant impact with respect to Valley Fever exposure to sensitive receptors.

Health Impacts from Agriculture Operations

Agricultural operations could require the application of synthetic chemicals such as fertilizers, pesticides, and herbicides. The application of pesticides is regulated by Title 3, Division 6, of the California Code of Regulations (CCR). The CCR has specified guidelines governing application of individual pesticides (4 CCR 6445 et seq.). Synthetic chemicals can only be applied during periods of calm weather conditions. The code also prohibits the application of synthetic chemicals when there is a reasonable possibility of contamination of persons not involved in the application process. The Proposed Project would also be required to comply with recent amendments to Title 3, Division 6, of the CCR adopted by the California Department of Pesticide Regulation (DPR) in effect as of January 1, 2018. DPR 16-004, Pesticide Use Near School Sites requires that growers notify public schools, child day care facilities, and the County's Agricultural Commissioner when certain pesticide applications made for the production of an agriculture commodity near a school site are planned in the coming year and in days prior to application. Certain pesticide applications near school sites are also prohibited at certain times. San Diego County is the entity responsible for enforcing and monitoring pesticide application. Farms are required to register the type and amount of pesticides they use for their crops with the County's Agricultural Commissioner's Office. Normal use could result in some off-site movement, which occurs with every application; however, the application of synthetic chemicals are regulated in order to minimize spray drift affecting nearby residents and/or employees within the project area. Furthermore, the Proposed Project would implement natural growing methods and permaculture techniques, which would avoid the likelihood of exposure to the community and surrounding area. Therefore, the Proposed Project would have a less than significant impact in regards to exposing sensitive receptors to synthetic chemicals from agricultural operations.

Health Impacts of Carbon Monoxide

Mobile-source impacts occur on two basic scales of motion. Regionally, Proposed Project - related travel will add to regional trip generation and increase the VMT within the local airshed and the SDAB. Locally, Proposed Project traffic will be added to the City's roadway system. If such traffic occurs during periods of poor atmospheric ventilation, consists of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and operates on roadways already crowded with non-project traffic, there is a potential for the formation of microscale CO "hotspots" in the area immediately around points of congested traffic. Because of continued improvement in mobile emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the basin is steadily decreasing.

Projects contributing to adverse traffic impacts may result in the formation of CO hotspots. To verify that the Proposed Project would not cause or contribute to a violation of the CO standard, a screening evaluation of the potential for CO hotspots was conducted. A Transportation Impact Analysis (LLG 2018) evaluated the LOS (i.e., increased congestion) impacts at intersections affected by the Proposed Project. The potential for CO hotspots was evaluated based on the results of the traffic report. As the City of Oceanside does not have CO hotspots guidelines the County of San Diego's Guidelines (County of San Diego 2007) CO hotspot screening guidance was followed to determine if the Proposed Project would require a site-specific hotspot analysis. The California Department of Transportation (Caltrans) and the U.C. Davis Institute of Transportation Studies *Transportation Project-Level Carbon Monoxide Protocol* (CO Protocol) (Caltrans 2010), The County recommends that a local CO hotspot analysis be conducted if the intersection meets one of the following criteria: (1) the project causes road intersections to operate at level of service (LOS) E or worse and where peak-hour trips exceeds 3,000 trips, or (2) the project causes road intersections to operate at LOS E or worse and under cumulative conditions when the addition of peak-hour trips from the project and the surrounding project exceeds 2,000 trips. The screening evaluation is included as Appendix C. If the screening criteria are exceeded, additional site-specific analyses are performed to determine whether a project would result in a significant impact.

A Transportation Impact Analysis (LLG 2018) was prepared for the Proposed Project and evaluated whether there would be a decrease in the LOS (e.g., congestion) at the intersections affected by the Proposed Project. The Proposed Project's traffic analysis evaluated 23 intersections based on existing traffic volumes and current street geometry. As shown in Appendix C, one of the key study intersections would operate at LOS E or worse due to the Proposed Project and would operate at greater than 2,000 peak hour trips in the cumulative scenario, according to the criteria above:

1. North River Road and College Boulevard (LOS E in the AM)

The remaining key intersections operate at an acceptable LOS during the AM and PM peak hours in the scenarios evaluated.

For each scenario (existing plus project conditions, near-term existing plus cumulative plus project conditions, year 2035 traffic conditions, and year 2035 traffic conditions without the Melrose Drive extension), the screening evaluation presents LOS and whether a quantitative CO hotspots analysis may be required. The results above represent the worst-case year 2035 with general plan amendment land use traffic volumes (without Melrose Drive extension) and the Proposed Project build-out. According to the CO Protocol, there is a cap on the number of intersections that need to be analyzed for any one project. For a single project with multiple intersections, only the three intersections representing the worst LOS ratings of a project, and, to the extent they are different intersections, the three intersections representing the highest traffic volumes, need be analyzed. For each intersection failing the test described in the CO Protocol, an additional intersection should be analyzed (Caltrans 2010). One intersection was analyzed consistent with the CO Protocol, as discussed below.

Based on the CO hotspot screening evaluation (Appendix C), the intersection of North River Road and College Boulevard was modelled as it was the only intersection meeting the County's recommendation as discussed previously. The potential impact of the Proposed Project on local CO levels was assessed at these intersections with the Caltrans CL4 interface based on the California LINE Source Dispersion Model (CALINE4), which allows microscale CO concentrations to be estimated along each roadway corridor or near intersections (Caltrans 1998a).

The emissions factor represents the weighted average emissions rate of the local County vehicle fleet expressed in grams per mile per vehicle. Consistent with the traffic scenario, emissions factors for 2035 were used for the modeled intersection. Emissions factors for 2035 were predicted by EMFAC 2014 based on a 5-mile-per-hour average speed for all of the intersections for approach and departure segments. The hourly traffic volume anticipated to travel on each link, in units of vehicles per hour, was based on information provided by the traffic consultant and modeling assumptions are outlined in Appendix C.

Consistent with the California Department of Transportation (Caltrans) and the U.C. Davis Institute of Transportation Studies *Transportation Project-Level Carbon Monoxide Protocol* (CO Protocol) (Caltrans 2010), four receptor locations at each intersection were modeled to determine CO ambient concentrations. A receptor was assumed on the sidewalk at each corner of the modeled intersections, for a total of four receptors adjacent to the intersection, to represent the future possibility of extended outdoor exposure. CO concentrations were modeled at these locations to assess the maximum potential CO exposure that could occur in 2035. A receptor

height of 5.9 feet (1.8 meters) was used in accordance with Caltrans recommendations for all receptor locations (Caltrans 1998b).

The maximum CO concentration measured at the Redwood Avenue and Floyd Smith Drive monitoring stations in El Cajon over the last 3 years was 2.0 parts per million, which was measured in 2014. This maximum 1-hour concentration value is used as the background concentration when evaluating the addition of the vehicle generated CO emissions. To estimate an 8-hour average CO concentration, a persistence factor of 0.6, as calculated based on Caltrans guidance (Caltrans 2010), was applied to the output values of predicted concentrations in parts per million at each of the receptor locations.

The results of the model are shown in Table 15. Model input and output data are provided in Appendix C.

Table 15
CALINE4 Predicted Carbon Monoxide Concentrations

Intersection	Maximum Modeled Impact for Year 2035 (without Melrose Drive extension) with General Plan Amendment Land Use (ppm)	
	1-hour	*8-hour*[a]
North River Road and College Boulevard (AM peak hour)	2.1	1.3

Source: Caltrans 1998a (CALINE4).
Notes:
CO = carbon monoxide; ppm = parts per million.
See Appendix C.
[a] 8-hour concentrations were obtained by multiplying the 1-hour concentration by a persistence factor of 0.6 (Caltrans 2010).

As shown in Table 15, the maximum CO concentration predicted for the 1-hour averaging period at the studied intersections would be 2.1 parts per million (ppm), which is below the 1-hour CO CAAQS of 20 ppm (CARB 2016b). The maximum predicted 8-hour CO concentration of 1.3 ppm at the studied intersections would be below the 8-hour CO CAAQS of 9 ppm (CARB 2016b). Neither the 1-hour nor 8-hour CAAQS would be equaled or exceeded at any of the intersections studied. Impact would be less than significant.

Health Impacts of Other Criteria Air Pollutants

Construction and operation of the Proposed Project would not result in emissions that exceed the SDAPCD's emission thresholds for any criteria air pollutants. Regarding VOCs, some VOCs would be associated with motor vehicles and construction equipment, while others are associated with architectural coatings, the emissions of VOCs, would not result in the exceedances of the SDAPCD's thresholds. Generally, the VOCs in architectural coatings are of relatively low

toxicity. Additionally, SDAPCD Rule 67.0.1 restricts the VOC content of coatings for both construction and operational applications.

In addition, VOCs and NO_x are precursors to O_3, for which the SDAB is designated as nonattainment with respect to the NAAQS and CAAQS (the SDAB is designated by the EPA as a nonattainment area for the 2008 8-hour O_3 NAAQS). The health effects associated with O_3, as discussed in Section 3.1, are generally associated with reduced lung function. The contribution of VOCs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the SDAB due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O_3 AAQS tend to occur between April and October when solar radiation is highest.

The holistic effect of a single project's emissions of O_3 precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, the VOC and NO_x emissions associated with Proposed Project construction could minimally contribute to regional O_3 concentrations and the associated health impacts. Due to the minimal contribution during construction and operation, as well as the existing good air quality in coastal San Diego areas, health impacts would be considered less than significant.

Similar to O_3, construction of the Proposed Project would not exceed thresholds for PM_{10} or $PM_{2.5}$ and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter. The Proposed Project would also not result in substantial DPM emissions during construction and operation and therefore, would not result in significant health effects related to DPM exposure. Due to the minimal contribution of particulate matter during construction and operation, health impacts would be considered less than significant.

Regarding NO_2, according to the construction emissions analysis, construction of the Proposed Project would not contribute to exceedances of the NAAQS and CAAQS for NO_2. As described in Section 3.1, NO_2 and NO_x health impacts are associated with respiratory irritation, which may be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, these operations would be relatively short term, and the Proposed Project would be required to comply with SDAPCD Rule 55, which limits the amount of fugitive dust generated during construction. Additionally, off-road construction equipment would be operating at various portions of the site and would not be concentrated in one portion of the site at any one time. Construction of the Proposed Project would not require any stationary emission sources that would create substantial, localized NO_x impacts. Therefore, health impacts would be considered less than significant.

The VOC and NO_x emissions, as described previously, would minimally contribute to regional O_3 concentrations and the associated health effects. In addition to O_3, NO_x emissions would not contribute to potential exceedances of the NAAQS and CAAQS for NO_2. As shown in Table 3, the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards. Thus, it is not expected the Proposed Project's operational NO_x emissions would result in exceedances of the NO_2 standards or contribute to the associated health effects. CO tends to be a localized impact associated with congested intersections. The potential CO "hotspots" were discussed previously as a less-than-significant impact. Thus, the Proposed Project's CO emissions would not contribute to significant health effects associated with this pollutant. PM_{10} and $PM_{2.5}$ would not contribute to potential exceedances of the NAAQS and CAAQS for particulate matter and would not obstruct the SDAB from coming into attainment for these pollutants and would not contribute to significant health effects associated with particulates. Therefore, health impacts associated with criteria air pollutants would be considered **less than significant**.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

The Proposed Project would have a less than significant impact prior to mitigation.

4.5 Would the project create objectionable odors affecting a substantial number of people?

The State of California Health and Safety Code, Division 26, Part 4, Chapter 3, Section 41700 SDAPCD Rule 51, and City of Oceanside Municipal Code Section 13.16, commonly referred to as public nuisance law, prohibits emissions from any source whatsoever in such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to the public health or damage to property. Projects required to obtain permits from SDAPCD are evaluated by SDAPCD staff for potential odor nuisance, and conditions may be applied (or control equipment required) where necessary to prevent occurrence of public nuisance.

SDAPCD Rule 51 (Public Nuisance) also prohibits emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person. A project that proposes a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors. Odor issues are very subjective by the nature of odors themselves and due to the fact that their measurements are difficult to quantify. As a result, this guideline is qualitative, and will focus on the existing and potential surrounding uses and location of sensitive receptors.

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

Odors would be potentially generated from vehicles and equipment exhaust emissions during construction of the Proposed Project. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment. Such odors would disperse rapidly from the Proposed Project site and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be less than significant**.** Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (SCAQMD 1993). Subsequent agriculture operations may include various diesel-powered vehicles and equipment used on the property. These sources are mobile and transient in nature, and the distance to the closest off-site residences would provide for dilution of odor-producing constituent emissions. These odors would dissipate rapidly and are temporary. Additionally, the Proposed Project would include composting of organic material, which also would create odors. The siting of composting and locations of odor sources could affect the occurrence of objectionable odors at off-site receptors in the vicinity. Any such composing operations would be located within the southernmost portion of the project site, within the farm hub. The Proposed Project would be required to implement an Odor Impact Minimization Plan as required by law and codified in the CCR, Title 14 (Natural Resources), Division 7, Section 17863.4 (Odor Impact Minimization Plan) for composting operations. Because of the distance between the Proposed Project and the nearest sensitive receptors, odors emitted from agricultural operations may be noticeable beyond the area of operation. Thus, odors associated with the Proposed Project would be **potentially significant** without processes in place to mitigate odor.

Mitigation Measures

Mitigation Measure MM-AQ-2 has been identified to reduce objectionable odor exposure to nearby sensitive receptors. The Odor Impact Minimization Plan describes the procedures to follow upon receiving a complaint. The protocol includes measures to identify the odor and requires appropriate adjustments to storage, process control, and facility improvements to reduce odor impacts.

MM-AQ-2 **Odor Control.** The Odor Impact Minimization Plan must be site specific and meet the requirements set forth in Title 14 CCR, Section 17863.4, which includes at a minimum the following items:

1. An odor monitoring protocol that describes the proximity of possible odor receptors and a method for assessing odor impacts at the locations of the possible odor receptors.
2. A description of meteorological conditions effecting migration of odors and/or transport of odor-causing material off site. Seasonal variations that effect wind velocity and direction shall also be described.
3. A complaint response protocol.
4. A description of design considerations and/or projected ranges of optimal operation to be employed in minimizing odor, including method and degree of aeration, moisture content of materials, feedstock characteristics, airborne emission production, process water distribution, pad and site drainage and permeability, equipment reliability, personnel training, weather event impacts, utility service interruptions, and site specific concerns.
5. A description of operating procedures for minimizing odor, including aeration, moisture management, feedstock quality, drainage controls, pad maintenance, wastewater pond controls, storage practices (e.g., storage time and pile geometry), contingency plans (i.e., equipment, water, power, and personnel), biofiltration, and tarping.

Level of Significance After Mitigation

Compliance with the Odor Impact Minimization Plan would assure that odor impacts from the Proposed Project would be **less than significant**.

INTENTIONALLY LEFT BLANK

5 REFERENCES CITED

13 CCR 2025. Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles.

13 CCR 2449–2449.3 and Appendix A. General Requirements for In-Use Off-Road Diesel-Fueled Fleets.14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

14 CCR 15000 et seq. Guidelines for Implementation of the California Environmental Quality Act.

17 CCR 93000. Substances Identified as Toxic Air Contaminants. In Subchapter 7, Toxic Air Contaminants.

California Public Resources Code Sections 40000–40511. Part 1. Integrated Waste Management.

Caltrans (California Department of Transportation). 1998a. *CALINE4 - A Dispersion Model for Predicting Air Pollutant Concentrations Near Roadways*. Version 1.32. Written by Sonoma Technology, Inc. Petaluma, California. Sponsored by the University of California, Davis Institute of Transportation Studies and Caltrans. http://www.dot.ca.gov/hq/InfoSvcs/EngApps/.

Caltrans. 1998b. *User's Guide for CL4: A User-Friendly Interface for the CALINE4 Model for Transportation Project Impact Assessments*. User's Guide STI-997480-1814-UG. June1998. http://www.dot.ca.gov/hq/env/air/documents/CL4Guide.pdf.

Caltrans. 2010. *Transportation Project-Level Carbon Monoxide Protocol*. Appendix B, Table B.2. Prepared by the Institute of Transportation Studies, University of California, Davis. Revised December 1997.Re-released 2010.

CAPCOA (California Air Pollution Control Officers Association). 2017. *California Emissions Estimator Model (CalEEMod) User's Guide Version 2016.3.2*. Prepared by BREEZE Software, A Division of Trinity Consultants in collaboration with South Coast Air Quality Management District and the California Air Districts. Accessed December 2017. http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4.

CARB (California Air Resources Board). 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October 2000. Accessed August 2016. http://www.arb.ca.gov/diesel/documents/rrpfinal.pdf.

CARB. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005. Accessed August 2016. http://www.arb.ca.gov/ch/landuse.htm.

CARB. 2011. *Recommended Area Designation for the 2010 Federal Sulfur Dioxide Standard* - Appendix 1 Five Factor Analyses for California Air Basins. June 2011. https://www.arb.ca.gov/desig/so2a1.pdf.

CARB. 2016a. "Glossary of Air Pollution Terms." CARB website. Accessed June 2016. https://ww2.arb.ca.gov/about/glossary.

CARB. 2016b. "Ambient Air Quality Standards." May 4, 2016. Accessed August 2016. http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

CARB. 2016c. "Area Designation Maps/State and National." Last updated May 5, 2016. http://www.arb.ca.gov/desig/adm/adm.htm.

CARB. 2016d. "iADAM: Air Quality Data Statistics." Accessed July 2016. http://www.arb.ca.gov/adam/topfour/topfour1.php.

CEC (California Energy Commission). 2012. "Building Energy Efficiency Standards: Frequently Asked Questions." May 2012. Accessed August 2016. http://www.energy.ca.gov/title24/2013standards/rulemaking/documents/2013_Building_Energy_Efficiency_Standards_FAQ.pdf.

CEC. 2015. "2016 Building Efficiency Standards Frequently Asked Questions." Accessed August 2016. http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf.

CDHP. 2017. Epidemiologic Summary of Coccidioidomycosis in California, 2016. https://www.cdph.ca.gov/Programs/ CID/DCDC/CDPH%20Document%20Library/CocciEpiSummary2016.pdf.

City of Oceanside. 1992. Inland Zoning Map. http://www.ci.oceanside.ca.us/civica/filebank/blobdload.asp?BlobID=25416

City of Oceanside. 2002. General Plan. Accessed September 2017. http://www.ci.oceanside.ca.us/civicax/filebank/blobdload.aspx?BlobID=24785.

City of Oceanside. 2011. Initial Study Checklist. http://www.ci.oceanside.ca.us/civicax/filebank/blobdload.aspx?BlobID=25421. Accessed September 2017.

County of San Diego. 2007. *Guidelines for Determining Significance and Report and Format and Content Requirements – Air Quality*. March 19, 2007. Accessed April 2017. http://www.sandiegocounty.gov/content/dam/sdc/pds/ProjectPlanning/docs/AQ-Guidelines.pdf.

County of San Diego. 2011. *San Diego County General Plan Update Environmental Impact Report*. Section 2.3 Air Quality. August 2011. https://www.sandiegocounty.gov/content/dam/sdc/pds/gpupdate/docs/BOS_Aug2011/EIR/FEIR_2.03_-_Air_Quality_2011.pdf.

DOE (Department of Energy). 2017. *Gas Swimming Pool Heaters*. Accessed April 2017.

EPA (U.S. Environmental Protection Agency). 2009. "Integrated Science Assessment for Particulate Matter." EPA/600/R-08/139F. Accessed September 2017. http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=494959.

EPA. 2010. *EPA and NHTSA Finalize Historic National Program to Reduce Greenhouse Gases and Improve Fuel Economy for Cars and Trucks*. April 2010. Accessed August 2016. https://nepis.epa.gov/Exe/ZyPDF.cgi/P100AKHW.PDF?Dockey=P100AKHW.PDF.

EPA. 2013. "Integrated Science Assessment of Ozone and Related Photochemical Oxidants." https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=247492.

EPA. 2015. AERMOD Version 16216r & Implementation Guide. Accessed August 2017. http://www3.epa.gov/ttn/scram/dispersion_prefrec.htm.

EPA. 2016a. "Criteria Air Pollutants." July 21, 2016. Accessed August 2016. https://www.epa.gov/criteria-air-pollutants.

EPA. 2016b. "EPA Region 9 Air Quality Maps and Geographic Information." Last updated April 27, 2016. Accessed August 2016. http://www.epa.gov/region9/air/maps/.

EPA. 2016c. "AirData: Access to Air Pollution Data." Last updated February 23, 2016. Accessed August 2016. http://www.epa.gov/airdata/ad_rep_mon.html.

Hilgesen, C. 2017. North River Farms Vehicle Trip Length. Email from C. Hilgesen (Linscott, Law and Greenspan, Engineers) to N. Hammond (Integral Communities). October 20, 2017.

Integral Communities. 2017. *Construction and Operational Data Needs*.

LLG (Linscott, Law & Greenspan, Engineers). 2018. *Traffic Impact Analysis*. June 2018.

Nelson J. 2018. "Coccidioidomycosis Data Requests." Email from J. Nelson (County of San Diego Health & Human Services Agency Epidemiologist II) to J. Reed (Dudek). January 2018.

OEHHA (Office of Environmental Health Hazard Assessment). 2015. Air Toxics Hot Spots Program, Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments. Accessed August 2017. https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

SANDAG (San Diego Association of Governments). 2015. *San Diego Forward: The Regional Plan*. October 2015. Accessed November 2016. http://www.sdforward.com/pdfs/RP_final/The%20Plan%20-%20combined.pdf.

SANDAG. 2016. *2016 Regional Transportation Improvement Program*. September. Accessed November 2016. http://www.sandag.org/uploads/publicationid/publicationid_2071_21174.pdf.

SANDAG. 2017a. *Series 13: 2050 Regional Growth Forecast.* Accessed June 2017. http://www.sandag.org/index.asp?classid=12&subclassid=84&projectid=503&fuseaction=projects.detail.

SANDAG. 2017b. *2050 Regional Transportation Plan.* Accessed June 2017. http://www.sandag.org/index.asp?projectid=349&fuseaction=projects.detail.

SCAQMD (South Coast Air Quality Management District). 1993. *CEQA Air Quality Handbook*. http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book.

SDAPCD (San Diego Air Pollution Control District). 1976. *Rules and Regulations*. Regulation IV. Prohibitions. Rule 51. Nuisance. Effective November 8, 1976. http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R50-1-51.pdf.

SDAPCD. 1995. *Rules and Regulations*. Regulation XV. Federal Conformity. Rule 1501. Conformity with General Federal Actions. Adopted March 7, 1995.

SDAPCD. 1997. *Rules and Regulations*. Regulation IV. Prohibitions. Rule 50. Visible Emissions. Effective August 13, 1997. Accessed June 2017. http://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R50.pdf.

SDAPCD. 2005. *Measures to Reduce Particulate Matter in San Diego County*. December 2005. http://www.sdapcd.org/planning/plan.html.

SDAPCD. 2009a. *2009 Regional Air Quality Strategy Revision*. April 2009. http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Air%20Quality%20Planning/2009-RAQS.pdf.

SDAPCD. 2009b. SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust. June 24, 2009. http://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R55.pdf.

SDAPCD. 2015a. SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings. June 24. Accessed May 2017. http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R67-0-1.pdf.

SDAPCD. 2015b. *Supplemental Guidelines for Submission of Air Toxics "Hot Spots" Program Health Risk Assessments (HRAs).* June 2015. Accessed May 2017. http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Misc/APCD_HRA_Guidelines.pdf.

SDAPCD. 2016a. 2016 Revision of the Regional Air Quality Strategy for San Diego County. December. Accessed September 2017. http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Air%20Quality%20Planning/2016%20RAQS.pdf.

SDAPCD. 2016b. SDAPCD Rule 20.2(d)(2), New Source Review for Non-Major Stationary Sources. https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Permits/APCD_R20-2.pdf

SDAPCD. 2017a. Annual Air Quality Monitoring Network Plan 2016. April 2017. https://www.sdapcd.org/content/dam/sdc/apcd/monitoring/2016_Network_Plan.pdf

SDAPCD. 2017b. Regulation XII. Toxic Air Contaminants, Rule 1200. July 2017. https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Toxic_Air_Cotaminants/ACPD_R1200.pdf.

SDAPCD. 2017c. Regulation XII. Toxic Air Contaminants, Rule 1210. July 2017. https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Rule_Development-Archive/2013/R1210-Tables_rev101113.pdf.

USGS (United States Geological Survey). 2000.*Operational Guidelines (version 1.0) for Geological Fieldwork in Areas 1 Endemic for Coccidioidomycosis (Valley Fever).*

VCA Green. 2018. Integral Communities North River Farms Preliminary PV Loads Report. April 27, 2018.

WRCC (Western Regional Climate Center). 2016. Oceanside Marina. Temperature and Precipitation. Accessed April 2017. https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6377.

6 LIST OF PREPARERS

Ian McIntire	Air Quality Specialist
Jennifer Reed	Air Quality Services Manager
Adam Poll	Senior Air Quality Specialist
Devin Brookhart	Publications Specialist Lead
Kara Murphy	Publications Specialist
Taylor Eaton	Publications Specialist

INTENTIONALLY LEFT BLANK

APPENDIX A

Emission Calculations

CalEEMod Version: CalEEMod.2016.3.2

Date: 4/25/2018 8:17 AM

North River Farms - Construction

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	30.00	4,000.00	0
Other Asphalt Surfaces	40.40	Acre	40.40	1,759,824.00	0
Parking Lot	421.00	Space	3.79	168,400.00	0
City Park	12.96	Acre	12.96	564,537.60	0
Hotel	100.00	Room	3.33	60,000.00	0
Quality Restaurant	5.00	1000sqft	0.11	5,000.00	0
Condo/Townhouse	130.00	Dwelling Unit	8.13	130,000.00	372
Single Family Housing	559.00	Dwelling Unit	73.05	1,006,200.00	1599
Regional Shopping Center	25.00	1000sqft	6.57	25,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction run.

Land Use - 559 SF residences, 130 MF residences, 30 acres of agriculture, 12.96 acres in park/open space, 25 ksf in retail, 5 ksf restaurant, 100 room hotel, 40.4 acres in roadway, and 421 parking spaces. Service population based on 2.81 persons per du.

Construction Phase - Construction would begin June 2019 and woould be completed in August 2024.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment. Added 1 trencher for utlity work.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Trips and VMT - Default trips

On-road Fugitive Dust -

Demolition - 1,464 tons of debris removed.

Grading - Assumed soil balanced onsite.

Architectural Coating - Assume low VOC architectural coatings per SDAPCD Rule 67.0.1 (150g/L).

Construction Off-road Equipment Mitigation - Water three times per day. On-site speed limit of 15 mph.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	200.00	21.00
tblConstructionPhase	NumDays	120.00	24.00
tblConstructionPhase	NumDays	310.00	155.00
tblConstructionPhase	NumDays	220.00	135.00
tblConstructionPhase	NumDays	3,100.00	1,045.00
tblConstructionPhase	NumDays	220.00	525.00
tblLandUse	LandUseSquareFeet	0.00	4,000.00
tblLandUse	LandUseSquareFeet	145,200.00	60,000.00
tblLandUse	LotAcreage	0.00	30.00
tblLandUse	LotAcreage	181.49	73.05
tblLandUse	LotAcreage	0.57	6.57
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Building Construction
tblTripsAndVMT	VendorTripNumber	498.00	183.00
tblTripsAndVMT	WorkerTripNumber	1,379.00	96.00
tblTripsAndVMT	WorkerTripNumber	276.00	20.00

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					
2019	0.3488	3.8660	2.3291	4.3600e-003	0.7731	0.1752	0.9483	0.3243	0.1614	0.4856	0.0000	391.8187	391.8187	0.1182	0.0000	394.7745
2020	0.4575	4.5619	3.2999	7.9200e-003	0.5533	0.1853	0.7386	0.1555	0.1719	0.3274	0.0000	720.2448	720.2448	0.1437	0.0000	723.8366
2021	0.4154	5.2185	3.4707	0.0113	0.4581	0.1643	0.6223	0.1213	0.1539	0.2752	0.0000	1,053.1097	1,053.1097	0.1343	0.0000	1,056.4672
2022	2.9082	4.8863	3.4971	0.0114	0.4651	0.1460	0.6111	0.1232	0.1370	0.2602	0.0000	1,061.5637	1,061.5637	0.1328	0.0000	1,064.8829
2023	6.3181	4.3046	3.5706	0.0115	0.4772	0.1323	0.6095	0.1264	0.1245	0.2509	0.0000	1,071.5724	1,071.5724	0.1295	0.0000	1,074.8105
2024	3.7549	2.4643	2.0992	6.8300e-003	0.2845	0.0709	0.3554	0.0754	0.0667	0.1420	0.0000	634.2808	634.2808	0.0765	0.0000	636.1927
Maximum	**6.3181**	**5.2185**	**3.5706**	**0.0115**	**0.7731**	**0.1853**	**0.9483**	**0.3243**	**0.1719**	**0.4856**	**0.0000**	**1,071.5724**	**1,071.5724**	**0.1437**	**0.0000**	**1,074.8105**

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					
2019	0.3488	3.8660	2.3291	4.3600e-003	0.3093	0.1752	0.4845	0.1286	0.1614	0.2899	0.0000	391.8183	391.8183	0.1182	0.0000	394.7741
2020	0.4575	4.5619	3.2999	7.9200e-003	0.3398	0.1853	0.5251	0.0935	0.1719	0.2654	0.0000	720.2443	720.2443	0.1437	0.0000	723.8361
2021	0.4154	5.2185	3.4707	0.0113	0.4581	0.1643	0.6223	0.1213	0.1539	0.2752	0.0000	1,053.1093	1,053.1093	0.1343	0.0000	1,056.4668
2022	2.9082	4.8863	3.4971	0.0114	0.4651	0.1460	0.6111	0.1232	0.1370	0.2602	0.0000	1,061.5632	1,061.5632	0.1328	0.0000	1,064.8825
2023	6.3181	4.3046	3.5706	0.0115	0.4772	0.1323	0.6095	0.1264	0.1245	0.2509	0.0000	1,071.5719	1,071.5719	0.1295	0.0000	1,074.8100
2024	3.7549	2.4643	2.0992	6.8300e-003	0.2845	0.0709	0.3554	0.0754	0.0667	0.1420	0.0000	634.2805	634.2805	0.0765	0.0000	636.1924
Maximum	**6.3181**	**5.2185**	**3.5706**	**0.0115**	**0.4772**	**0.1853**	**0.6223**	**0.1286**	**0.1719**	**0.2899**	**0.0000**	**1,071.5719**	**1,071.5719**	**0.1437**	**0.0000**	**1,074.8100**

	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**	**22.49**	**0.00**	**17.43**	**27.83**	**0.00**	**14.80**	**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	Demolition	Demolition	6/1/2019	7/1/2019	5	21	
2	Site Preparation	Site Preparation	7/2/2019	8/2/2019	5	24	
3	Grading	Grading	8/3/2019	3/6/2020	5	155	
4	Paving	Paving	3/7/2020	9/11/2020	5	135	
5	Building Construction	Building Construction	8/1/2020	8/2/2024	5	1045	
6	Architectural Coating	Architectural Coating	8/1/2022	8/2/2024	5	525	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 44.19

Residential Indoor: 2,300,805; Residential Outdoor: 766,935; Non-Residential Indoor: 144,000; Non-Residential Outdoor: 48,000; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	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
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Demolition	6	15.00	0.00	145.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	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
Building Construction	10	96.00	183.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	20.00	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 Demolition - 2019

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					0.0159	0.0000	0.0159	2.4000e-003	0.0000	2.4000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0369	0.3757	0.2316	4.1000e-004		0.0189	0.0189		0.0175	0.0175	0.0000	36.3577	36.3577	0.0101	0.0000	36.6105
Total	**0.0369**	**0.3757**	**0.2316**	**4.1000e-004**	**0.0159**	**0.0189**	**0.0347**	**2.4000e-003**	**0.0175**	**0.0199**	**0.0000**	**36.3577**	**36.3577**	**0.0101**	**0.0000**	**36.6105**

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	6.4000e-004	0.0222	4.8500e-003	6.0000e-005	1.2400e-003	8.0000e-005	1.3200e-003	3.4000e-004	8.0000e-005	4.2000e-004	0.0000	5.6521	5.6521	5.1000e-004	0.0000	5.6649
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	6.2000e-004	4.8000e-004	4.6100e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	1.1789	1.1789	4.0000e-005	0.0000	1.1798
Total	**1.2600e-003**	**0.0227**	**9.4600e-003**	**7.0000e-005**	**2.5000e-003**	**9.0000e-005**	**2.5900e-003**	**6.8000e-004**	**9.0000e-005**	**7.6000e-004**	**0.0000**	**6.8309**	**6.8309**	**5.5000e-004**	**0.0000**	**6.8447**

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					6.1900e-003	0.0000	6.1900e-003	9.4000e-004	0.0000	9.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0369	0.3757	0.2316	4.1000e-004		0.0189	0.0189		0.0175	0.0175	0.0000	36.3576	36.3576	0.0101	0.0000	36.6105
Total	**0.0369**	**0.3757**	**0.2316**	**4.1000e-004**	**6.1900e-003**	**0.0189**	**0.0250**	**9.4000e-004**	**0.0175**	**0.0185**	**0.0000**	**36.3576**	**36.3576**	**0.0101**	**0.0000**	**36.6105**

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	6.4000e-004	0.0222	4.8500e-003	6.0000e-005	1.2400e-003	8.0000e-005	1.3200e-003	3.4000e-004	8.0000e-005	4.2000e-004	0.0000	5.6521	5.6521	5.1000e-004	0.0000	5.6649
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	6.2000e-004	4.8000e-004	4.6100e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	1.1789	1.1789	4.0000e-005	0.0000	1.1798
Total	**1.2600e-003**	**0.0227**	**9.4600e-003**	**7.0000e-005**	**2.5000e-003**	**9.0000e-005**	**2.5900e-003**	**6.8000e-004**	**9.0000e-005**	**7.6000e-004**	**0.0000**	**6.8309**	**6.8309**	**5.5000e-004**	**0.0000**	**6.8447**

3.3 Site Preparation - 2019

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					0.2168	0.0000	0.2168	0.1192	0.0000	0.1192	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0520	0.5469	0.2648	4.6000e-004		0.0287	0.0287		0.0264	0.0264	0.0000	41.0024	41.0024	0.0130	0.0000	41.3267
Total	**0.0520**	**0.5469**	**0.2648**	**4.6000e-004**	**0.2168**	**0.0287**	**0.2455**	**0.1192**	**0.0264**	**0.1456**	**0.0000**	**41.0024**	**41.0024**	**0.0130**	**0.0000**	**41.3267**

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	8.5000e-004	6.5000e-004	6.3200e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.6168	1.6168	5.0000e-005	0.0000	1.6181
Total	**8.5000e-004**	**6.5000e-004**	**6.3200e-003**	**2.0000e-005**	**1.7300e-003**	**1.0000e-005**	**1.7400e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**	**0.0000**	**1.6168**	**1.6168**	**5.0000e-005**	**0.0000**	**1.6181**

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					0.0846	0.0000	0.0846	0.0465	0.0000	0.0465	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0520	0.5469	0.2648	4.6000e-004		0.0287	0.0287		0.0264	0.0264	0.0000	41.0024	41.0024	0.0130	0.0000	41.3267
Total	**0.0520**	**0.5469**	**0.2648**	**4.6000e-004**	**0.0846**	**0.0287**	**0.1132**	**0.0465**	**0.0264**	**0.0729**	**0.0000**	**41.0024**	**41.0024**	**0.0130**	**0.0000**	**41.3267**

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	8.5000e-004	6.5000e-004	6.3200e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.6168	1.6168	5.0000e-005	0.0000	1.6181
Total	**8.5000e-004**	**6.5000e-004**	**6.3200e-003**	**2.0000e-005**	**1.7300e-003**	**1.0000e-005**	**1.7400e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**	**0.0000**	**1.6168**	**1.6168**	**5.0000e-005**	**0.0000**	**1.6181**

3.4 Grading - 2019

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					0.5277	0.0000	0.5277	0.1993	0.0000	0.1993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2535	2.9168	1.7857	3.3200e-003		0.1275	0.1275		0.1173	0.1173	0.0000	298.0021	298.0021	0.0943	0.0000	300.3592
Total	**0.2535**	**2.9168**	**1.7857**	**3.3200e-003**	**0.5277**	**0.1275**	**0.6551**	**0.1993**	**0.1173**	**0.3166**	**0.0000**	**298.0021**	**298.0021**	**0.0943**	**0.0000**	**300.3592**

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	4.2200e-003	3.2400e-003	0.0313	9.0000e-005	8.5800e-003	6.0000e-005	8.6400e-003	2.2800e-003	6.0000e-005	2.3400e-003	0.0000	8.0089	8.0089	2.6000e-004	0.0000	8.0154
Total	**4.2200e-003**	**3.2400e-003**	**0.0313**	**9.0000e-005**	**8.5800e-003**	**6.0000e-005**	**8.6400e-003**	**2.2800e-003**	**6.0000e-005**	**2.3400e-003**	**0.0000**	**8.0089**	**8.0089**	**2.6000e-004**	**0.0000**	**8.0154**

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					0.2058	0.0000	0.2058	0.0777	0.0000	0.0777	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2535	2.9168	1.7857	3.3200e-003		0.1275	0.1275		0.1173	0.1173	0.0000	298.0017	298.0017	0.0943	0.0000	300.3588
Total	**0.2535**	**2.9168**	**1.7857**	**3.3200e-003**	**0.2058**	**0.1275**	**0.3333**	**0.0777**	**0.1173**	**0.1950**	**0.0000**	**298.0017**	**298.0017**	**0.0943**	**0.0000**	**300.3588**

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	4.2200e-003	3.2400e-003	0.0313	9.0000e-005	8.5800e-003	6.0000e-005	8.6400e-003	2.2800e-003	6.0000e-005	2.3400e-003	0.0000	8.0089	8.0089	2.6000e-004	0.0000	8.0154
Total	**4.2200e-003**	**3.2400e-003**	**0.0313**	**9.0000e-005**	**8.5800e-003**	**6.0000e-005**	**8.6400e-003**	**2.2800e-003**	**6.0000e-005**	**2.3400e-003**	**0.0000**	**8.0089**	**8.0089**	**2.6000e-004**	**0.0000**	**8.0154**

3.4 Grading - 2020

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					0.3500	0.0000	0.3500	0.1016	0.0000	0.1016	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1068	1.2047	0.7670	1.4900e-003		0.0522	0.0522		0.0480	0.0480	0.0000	130.7623	130.7623	0.0423	0.0000	131.8196
Total	**0.1068**	**1.2047**	**0.7670**	**1.4900e-003**	**0.3500**	**0.0522**	**0.4022**	**0.1016**	**0.0480**	**0.1496**	**0.0000**	**130.7623**	**130.7623**	**0.0423**	**0.0000**	**131.8196**

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	1.7700e-003	1.3100e-003	0.0128	4.0000e-005	3.8500e-003	3.0000e-005	3.8800e-003	1.0200e-003	3.0000e-005	1.0500e-003	0.0000	3.4794	3.4794	1.0000e-004	0.0000	3.4820
Total	**1.7700e-003**	**1.3100e-003**	**0.0128**	**4.0000e-005**	**3.8500e-003**	**3.0000e-005**	**3.8800e-003**	**1.0200e-003**	**3.0000e-005**	**1.0500e-003**	**0.0000**	**3.4794**	**3.4794**	**1.0000e-004**	**0.0000**	**3.4820**

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					0.1365	0.0000	0.1365	0.0396	0.0000	0.0396	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1068	1.2047	0.7670	1.4900e-003		0.0522	0.0522		0.0480	0.0480	0.0000	130.7622	130.7622	0.0423	0.0000	131.8194
Total	**0.1068**	**1.2047**	**0.7670**	**1.4900e-003**	**0.1365**	**0.0522**	**0.1887**	**0.0396**	**0.0480**	**0.0876**	**0.0000**	**130.7622**	**130.7622**	**0.0423**	**0.0000**	**131.8194**

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	1.7700e-003	1.3100e-003	0.0128	4.0000e-005	3.8500e-003	3.0000e-005	3.8800e-003	1.0200e-003	3.0000e-005	1.0500e-003	0.0000	3.4794	3.4794	1.0000e-004	0.0000	3.4820
Total	**1.7700e-003**	**1.3100e-003**	**0.0128**	**4.0000e-005**	**3.8500e-003**	**3.0000e-005**	**3.8800e-003**	**1.0200e-003**	**3.0000e-005**	**1.0500e-003**	**0.0000**	**3.4794**	**3.4794**	**1.0000e-004**	**0.0000**	**3.4820**

3.5 Paving - 2020

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	0.0916	0.9494	0.9890	1.5400e-003		0.0508	0.0508		0.0468	0.0468	0.0000	135.1905	135.1905	0.0437	0.0000	136.2836
Paving	0.0579					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1495**	**0.9494**	**0.9890**	**1.5400e-003**		**0.0508**	**0.0508**		**0.0468**	**0.0468**	**0.0000**	**135.1905**	**135.1905**	**0.0437**	**0.0000**	**136.2836**

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	3.7300e-003	2.7600e-003	0.0271	8.0000e-005	8.1200e-003	6.0000e-005	8.1800e-003	2.1600e-003	5.0000e-005	2.2100e-003	0.0000	7.3394	7.3394	2.2000e-004	0.0000	7.3449
Total	**3.7300e-003**	**2.7600e-003**	**0.0271**	**8.0000e-005**	**8.1200e-003**	**6.0000e-005**	**8.1800e-003**	**2.1600e-003**	**5.0000e-005**	**2.2100e-003**	**0.0000**	**7.3394**	**7.3394**	**2.2000e-004**	**0.0000**	**7.3449**

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	0.0916	0.9494	0.9890	1.5400e-003		0.0508	0.0508		0.0468	0.0468	0.0000	135.1903	135.1903	0.0437	0.0000	136.2834
Paving	0.0579					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1495**	**0.9494**	**0.9890**	**1.5400e-003**		**0.0508**	**0.0508**		**0.0468**	**0.0468**	**0.0000**	**135.1903**	**135.1903**	**0.0437**	**0.0000**	**136.2834**

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	3.7300e-003	2.7600e-003	0.0271	8.0000e-005	8.1200e-003	6.0000e-005	8.1800e-003	2.1600e-003	5.0000e-005	2.2100e-003	0.0000	7.3394	7.3394	2.2000e-004	0.0000	7.3449
Total	**3.7300e-003**	**2.7600e-003**	**0.0271**	**8.0000e-005**	**8.1200e-003**	**6.0000e-005**	**8.1800e-003**	**2.1600e-003**	**5.0000e-005**	**2.2100e-003**	**0.0000**	**7.3394**	**7.3394**	**2.2000e-004**	**0.0000**	**7.3449**

3.6 Building Construction - 2020

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	0.1384	1.2526	1.0619	1.6500e-003		0.0764	0.0764		0.0715	0.0715	0.0000	142.3855	142.3855	0.0360	0.0000	143.2861
Total	**0.1384**	**1.2526**	**1.0619**	**1.6500e-003**		**0.0764**	**0.0764**		**0.0715**	**0.0715**	**0.0000**	**142.3855**	**142.3855**	**0.0360**	**0.0000**	**143.2861**

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	0.0380	1.1368	0.3020	2.7000e-003	0.1130	5.5500e-003	0.1186	0.0306	5.3100e-003	0.0359	0.0000	263.1622	263.1622	0.0202	0.0000	263.6665
Worker	0.0193	0.0143	0.1400	4.2000e-004	0.0783	3.0000e-004	0.0786	0.0201	2.8000e-004	0.0203	0.0000	37.9255	37.9255	1.1400e-003	0.0000	37.9540
Total	**0.0573**	**1.1511**	**0.4420**	**3.1200e-003**	**0.1913**	**5.8500e-003**	**0.1971**	**0.0507**	**5.5900e-003**	**0.0563**	**0.0000**	**301.0877**	**301.0877**	**0.0213**	**0.0000**	**301.6204**

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	0.1384	1.2526	1.0619	1.6500e-003		0.0764	0.0764		0.0715	0.0715	0.0000	142.3854	142.3854	0.0360	0.0000	143.2859
Total	**0.1384**	**1.2526**	**1.0619**	**1.6500e-003**		**0.0764**	**0.0764**		**0.0715**	**0.0715**	**0.0000**	**142.3854**	**142.3854**	**0.0360**	**0.0000**	**143.2859**

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	0.0380	1.1368	0.3020	2.7000e-003	0.1130	5.5500e-003	0.1186	0.0306	5.3100e-003	0.0359	0.0000	263.1622	263.1622	0.0202	0.0000	263.6665
Worker	0.0193	0.0143	0.1400	4.2000e-004	0.0783	3.0000e-004	0.0786	0.0201	2.8000e-004	0.0203	0.0000	37.9255	37.9255	1.1400e-003	0.0000	37.9540
Total	**0.0573**	**1.1511**	**0.4420**	**3.1200e-003**	**0.1913**	**5.8500e-003**	**0.1971**	**0.0507**	**5.5900e-003**	**0.0563**	**0.0000**	**301.0877**	**301.0877**	**0.0213**	**0.0000**	**301.6204**

3.6 Building Construction - 2021

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	0.2980	2.7332	2.5032	3.9500e-003		0.1584	0.1584		0.1482	0.1482	0.0000	340.9902	340.9902	0.0855	0.0000	343.1264
Total	**0.2980**	**2.7332**	**2.5032**	**3.9500e-003**		**0.1584**	**0.1584**		**0.1482**	**0.1482**	**0.0000**	**340.9902**	**340.9902**	**0.0855**	**0.0000**	**343.1264**

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	0.0738	2.4542	0.6545	6.4000e-003	0.2706	5.1900e-003	0.2758	0.0733	4.9700e-003	0.0782	0.0000	624.3580	624.3580	0.0463	0.0000	625.5165
Worker	0.0436	0.0311	0.3130	9.7000e-004	0.1875	7.1000e-004	0.1882	0.0481	6.5000e-004	0.0487	0.0000	87.7615	87.7615	2.5200e-003	0.0000	87.8244
Total	**0.1174**	**2.4853**	**0.9675**	**7.3700e-003**	**0.4581**	**5.9000e-003**	**0.4640**	**0.1213**	**5.6200e-003**	**0.1269**	**0.0000**	**712.1195**	**712.1195**	**0.0489**	**0.0000**	**713.3409**

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	0.2980	2.7332	2.5032	3.9500e-003		0.1584	0.1584		0.1482	0.1482	0.0000	340.9898	340.9898	0.0855	0.0000	343.1260
Total	**0.2980**	**2.7332**	**2.5032**	**3.9500e-003**		**0.1584**	**0.1584**		**0.1482**	**0.1482**	**0.0000**	**340.9898**	**340.9898**	**0.0855**	**0.0000**	**343.1260**

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	0.0738	2.4542	0.6545	6.4000e-003	0.2706	5.1900e-003	0.2758	0.0733	4.9700e-003	0.0782	0.0000	624.3580	624.3580	0.0463	0.0000	625.5165
Worker	0.0436	0.0311	0.3130	9.7000e-004	0.1875	7.1000e-004	0.1882	0.0481	6.5000e-004	0.0487	0.0000	87.7615	87.7615	2.5200e-003	0.0000	87.8244
Total	**0.1174**	**2.4853**	**0.9675**	**7.3700e-003**	**0.4581**	**5.9000e-003**	**0.4640**	**0.1213**	**5.6200e-003**	**0.1269**	**0.0000**	**712.1195**	**712.1195**	**0.0489**	**0.0000**	**713.3409**

3.6 Building Construction - 2022

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	0.2691	2.4694	2.4651	3.9400e-003		0.1363	0.1363		0.1276	0.1276	0.0000	339.8013	339.8013	0.0846	0.0000	341.9173
Total	**0.2691**	**2.4694**	**2.4651**	**3.9400e-003**		**0.1363**	**0.1363**		**0.1276**	**0.1276**	**0.0000**	**339.8013**	**339.8013**	**0.0846**	**0.0000**	**341.9173**

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	0.0684	2.3087	0.6173	6.3000e-003	0.2696	4.4500e-003	0.2740	0.0730	4.2600e-003	0.0773	0.0000	616.0758	616.0758	0.0447	0.0000	617.1937
Worker	0.0411	0.0282	0.2895	9.3000e-004	0.1867	6.9000e-004	0.1874	0.0479	6.4000e-004	0.0485	0.0000	84.2204	84.2204	2.3000e-003	0.0000	84.2778
Total	**0.1095**	**2.3369**	**0.9067**	**7.2300e-003**	**0.4563**	**5.1400e-003**	**0.4615**	**0.1209**	**4.9000e-003**	**0.1258**	**0.0000**	**700.2962**	**700.2962**	**0.0470**	**0.0000**	**701.4715**

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	0.2691	2.4694	2.4651	3.9400e-003		0.1363	0.1363		0.1276	0.1276	0.0000	339.8009	339.8009	0.0846	0.0000	341.9169
Total	**0.2691**	**2.4694**	**2.4651**	**3.9400e-003**		**0.1363**	**0.1363**		**0.1276**	**0.1276**	**0.0000**	**339.8009**	**339.8009**	**0.0846**	**0.0000**	**341.9169**

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	0.0684	2.3087	0.6173	6.3000e-003	0.2696	4.4500e-003	0.2740	0.0730	4.2600e-003	0.0773	0.0000	616.0758	616.0758	0.0447	0.0000	617.1937
Worker	0.0411	0.0282	0.2895	9.3000e-004	0.1867	6.9000e-004	0.1874	0.0479	6.4000e-004	0.0485	0.0000	84.2204	84.2204	2.3000e-003	0.0000	84.2778
Total	**0.1095**	**2.3369**	**0.9067**	**7.2300e-003**	**0.4563**	**5.1400e-003**	**0.4615**	**0.1209**	**4.9000e-003**	**0.1258**	**0.0000**	**700.2962**	**700.2962**	**0.0470**	**0.0000**	**701.4715**

3.6 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	0.2495	2.2904	2.4487	3.9400e-003		0.1201	0.1201		0.1124	0.1124	0.0000	339.9342	339.9342	0.0842	0.0000	342.0383
Total	**0.2495**	**2.2904**	**2.4487**	**3.9400e-003**		**0.1201**	**0.1201**		**0.1124**	**0.1124**	**0.0000**	**339.9342**	**339.9342**	**0.0842**	**0.0000**	**342.0383**

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	0.0528	1.8137	0.5621	6.1300e-003	0.2696	2.1700e-003	0.2717	0.0730	2.0800e-003	0.0751	0.0000	600.5668	600.5668	0.0408	0.0000	601.5877
Worker	0.0389	0.0258	0.2685	9.0000e-004	0.1867	6.8000e-004	0.1874	0.0479	6.3000e-004	0.0485	0.0000	81.0034	81.0034	2.1000e-003	0.0000	81.0558
Total	**0.0917**	**1.8395**	**0.8306**	**7.0300e-003**	**0.4563**	**2.8500e-003**	**0.4592**	**0.1209**	**2.7100e-003**	**0.1236**	**0.0000**	**681.5702**	**681.5702**	**0.0429**	**0.0000**	**682.6436**

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	0.2495	2.2903	2.4487	3.9400e-003		0.1201	0.1201		0.1124	0.1124	0.0000	339.9338	339.9338	0.0842	0.0000	342.0379
Total	**0.2495**	**2.2903**	**2.4487**	**3.9400e-003**		**0.1201**	**0.1201**		**0.1124**	**0.1124**	**0.0000**	**339.9338**	**339.9338**	**0.0842**	**0.0000**	**342.0379**

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	0.0528	1.8137	0.5621	6.1300e-003	0.2696	2.1700e-003	0.2717	0.0730	2.0800e-003	0.0751	0.0000	600.5668	600.5668	0.0408	0.0000	601.5877
Worker	0.0389	0.0258	0.2685	9.0000e-004	0.1867	6.8000e-004	0.1874	0.0479	6.3000e-004	0.0485	0.0000	81.0034	81.0034	2.1000e-003	0.0000	81.0558
Total	**0.0917**	**1.8395**	**0.8306**	**7.0300e-003**	**0.4563**	**2.8500e-003**	**0.4592**	**0.1209**	**2.7100e-003**	**0.1236**	**0.0000**	**681.5702**	**681.5702**	**0.0429**	**0.0000**	**682.6436**

3.6 Building Construction - 2024

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	0.1404	1.2868	1.4538	2.3500e-003		0.0645	0.0645		0.0603	0.0603	0.0000	202.6846	202.6846	0.0499	0.0000	203.9329
Total	**0.1404**	**1.2868**	**1.4538**	**2.3500e-003**		**0.0645**	**0.0645**		**0.0603**	**0.0603**	**0.0000**	**202.6846**	**202.6846**	**0.0499**	**0.0000**	**203.9329**

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	0.0304	1.0661	0.3245	3.6300e-003	0.1607	1.2600e-003	0.1620	0.0435	1.2100e-003	0.0447	0.0000	355.7546	355.7546	0.0241	0.0000	356.3558
Worker	0.0221	0.0141	0.1495	5.1000e-004	0.1113	4.0000e-004	0.1117	0.0285	3.7000e-004	0.0289	0.0000	46.3893	46.3893	1.1500e-003	0.0000	46.4181
Total	**0.0524**	**1.0801**	**0.4739**	**4.1400e-003**	**0.2720**	**1.6600e-003**	**0.2737**	**0.0721**	**1.5800e-003**	**0.0736**	**0.0000**	**402.1440**	**402.1440**	**0.0252**	**0.0000**	**402.7738**

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	0.1404	1.2867	1.4538	2.3500e-003		0.0645	0.0645		0.0603	0.0603	0.0000	202.6844	202.6844	0.0499	0.0000	203.9326
Total	**0.1404**	**1.2867**	**1.4538**	**2.3500e-003**		**0.0645**	**0.0645**		**0.0603**	**0.0603**	**0.0000**	**202.6844**	**202.6844**	**0.0499**	**0.0000**	**203.9326**

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	0.0304	1.0661	0.3245	3.6300e-003	0.1607	1.2600e-003	0.1620	0.0435	1.2100e-003	0.0447	0.0000	355.7546	355.7546	0.0241	0.0000	356.3558
Worker	0.0221	0.0141	0.1495	5.1000e-004	0.1113	4.0000e-004	0.1117	0.0285	3.7000e-004	0.0289	0.0000	46.3893	46.3893	1.1500e-003	0.0000	46.4181
Total	**0.0524**	**1.0801**	**0.4739**	**4.1400e-003**	**0.2720**	**1.6600e-003**	**0.2737**	**0.0721**	**1.5800e-003**	**0.0736**	**0.0000**	**402.1440**	**402.1440**	**0.0252**	**0.0000**	**402.7738**

3.7 Architectural Coating - 2022

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	2.5147					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0113	0.0775	0.0998	1.6000e-004		4.4900e-003	4.4900e-003		4.4900e-003	4.4900e-003	0.0000	14.0429	14.0429	9.1000e-004	0.0000	14.0658
Total	**2.5260**	**0.0775**	**0.0998**	**1.6000e-004**		**4.4900e-003**	**4.4900e-003**		**4.4900e-003**	**4.4900e-003**	**0.0000**	**14.0429**	**14.0429**	**9.1000e-004**	**0.0000**	**14.0658**

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	3.6200e-003	2.4900e-003	0.0255	8.0000e-005	8.8200e-003	6.0000e-005	8.8800e-003	2.3400e-003	6.0000e-005	2.4000e-003	0.0000	7.4233	7.4233	2.0000e-004	0.0000	7.4283
Total	**3.6200e-003**	**2.4900e-003**	**0.0255**	**8.0000e-005**	**8.8200e-003**	**6.0000e-005**	**8.8800e-003**	**2.3400e-003**	**6.0000e-005**	**2.4000e-003**	**0.0000**	**7.4233**	**7.4233**	**2.0000e-004**	**0.0000**	**7.4283**

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	2.5147					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0113	0.0775	0.0998	1.6000e-004		4.4900e-003	4.4900e-003		4.4900e-003	4.4900e-003	0.0000	14.0429	14.0429	9.1000e-004	0.0000	14.0657
Total	**2.5260**	**0.0775**	**0.0998**	**1.6000e-004**		**4.4900e-003**	**4.4900e-003**		**4.4900e-003**	**4.4900e-003**	**0.0000**	**14.0429**	**14.0429**	**9.1000e-004**	**0.0000**	**14.0657**

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	3.6200e-003	2.4900e-003	0.0255	8.0000e-005	8.8200e-003	6.0000e-005	8.8800e-003	2.3400e-003	6.0000e-005	2.4000e-003	0.0000	7.4233	7.4233	2.0000e-004	0.0000	7.4283
Total	**3.6200e-003**	**2.4900e-003**	**0.0255**	**8.0000e-005**	**8.8200e-003**	**6.0000e-005**	**8.8800e-003**	**2.3400e-003**	**6.0000e-005**	**2.4000e-003**	**0.0000**	**7.4233**	**7.4233**	**2.0000e-004**	**0.0000**	**7.4283**

3.7 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	5.9438					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0249	0.1694	0.2355	3.9000e-004		9.2100e-003	9.2100e-003		9.2100e-003	9.2100e-003	0.0000	33.1923	33.1923	1.9900e-003	0.0000	33.2419
Total	**5.9688**	**0.1694**	**0.2355**	**3.9000e-004**		**9.2100e-003**	**9.2100e-003**		**9.2100e-003**	**9.2100e-003**	**0.0000**	**33.1923**	**33.1923**	**1.9900e-003**	**0.0000**	**33.2419**

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	8.1100e-003	5.3700e-003	0.0559	1.9000e-004	0.0209	1.4000e-004	0.0210	5.5400e-003	1.3000e-004	5.6700e-003	0.0000	16.8757	16.8757	4.4000e-004	0.0000	16.8866
Total	**8.1100e-003**	**5.3700e-003**	**0.0559**	**1.9000e-004**	**0.0209**	**1.4000e-004**	**0.0210**	**5.5400e-003**	**1.3000e-004**	**5.6700e-003**	**0.0000**	**16.8757**	**16.8757**	**4.4000e-004**	**0.0000**	**16.8866**

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	5.9438					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0249	0.1694	0.2354	3.9000e-004		9.2100e-003	9.2100e-003		9.2100e-003	9.2100e-003	0.0000	33.1923	33.1923	1.9900e-003	0.0000	33.2419
Total	**5.9688**	**0.1694**	**0.2354**	**3.9000e-004**		**9.2100e-003**	**9.2100e-003**		**9.2100e-003**	**9.2100e-003**	**0.0000**	**33.1923**	**33.1923**	**1.9900e-003**	**0.0000**	**33.2419**

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	8.1100e-003	5.3700e-003	0.0559	1.9000e-004	0.0209	1.4000e-004	0.0210	5.5400e-003	1.3000e-004	5.6700e-003	0.0000	16.8757	16.8757	4.4000e-004	0.0000	16.8866
Total	**8.1100e-003**	**5.3700e-003**	**0.0559**	**1.9000e-004**	**0.0209**	**1.4000e-004**	**0.0210**	**5.5400e-003**	**1.3000e-004**	**5.6700e-003**	**0.0000**	**16.8757**	**16.8757**	**4.4000e-004**	**0.0000**	**16.8866**

3.7 Architectural Coating - 2024

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	3.5434					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0140	0.0945	0.1403	2.3000e-004		4.7200e-003	4.7200e-003		4.7200e-003	4.7200e-003	0.0000	19.7877	19.7877	1.1100e-003	0.0000	19.8156
Total	**3.5575**	**0.0945**	**0.1403**	**2.3000e-004**		**4.7200e-003**	**4.7200e-003**		**4.7200e-003**	**4.7200e-003**	**0.0000**	**19.7877**	**19.7877**	**1.1100e-003**	**0.0000**	**19.8156**

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	4.6000e-003	2.9400e-003	0.0311	1.1000e-004	0.0124	8.0000e-005	0.0125	3.3000e-003	8.0000e-005	3.3800e-003	0.0000	9.6645	9.6645	2.4000e-004	0.0000	9.6704
Total	**4.6000e-003**	**2.9400e-003**	**0.0311**	**1.1000e-004**	**0.0124**	**8.0000e-005**	**0.0125**	**3.3000e-003**	**8.0000e-005**	**3.3800e-003**	**0.0000**	**9.6645**	**9.6645**	**2.4000e-004**	**0.0000**	**9.6704**

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	3.5434					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0140	0.0945	0.1403	2.3000e-004		4.7200e-003	4.7200e-003		4.7200e-003	4.7200e-003	0.0000	19.7877	19.7877	1.1100e-003	0.0000	19.8156
Total	**3.5575**	**0.0945**	**0.1403**	**2.3000e-004**		**4.7200e-003**	**4.7200e-003**		**4.7200e-003**	**4.7200e-003**	**0.0000**	**19.7877**	**19.7877**	**1.1100e-003**	**0.0000**	**19.8156**

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	4.6000e-003	2.9400e-003	0.0311	1.1000e-004	0.0124	8.0000e-005	0.0125	3.3000e-003	8.0000e-005	3.3800e-003	0.0000	9.6645	9.6645	2.4000e-004	0.0000	9.6704
Total	**4.6000e-003**	**2.9400e-003**	**0.0311**	**1.1000e-004**	**0.0124**	**8.0000e-005**	**0.0125**	**3.3000e-003**	**8.0000e-005**	**3.3800e-003**	**0.0000**	**9.6645**	**9.6645**	**2.4000e-004**	**0.0000**	**9.6704**

CalEEMod Version: CalEEMod.2016.3.2

Date: 4/25/2018 8:19 AM

North River Farms - Construction

San Diego County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	30.00	4,000.00	0
Other Asphalt Surfaces	40.40	Acre	40.40	1,759,824.00	0
Parking Lot	421.00	Space	3.79	168,400.00	0
City Park	12.96	Acre	12.96	564,537.60	0
Hotel	100.00	Room	3.33	60,000.00	0
Quality Restaurant	5.00	1000sqft	0.11	5,000.00	0
Condo/Townhouse	130.00	Dwelling Unit	8.13	130,000.00	372
Single Family Housing	559.00	Dwelling Unit	73.05	1,006,200.00	1599
Regional Shopping Center	25.00	1000sqft	6.57	25,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction run.

Land Use - 559 SF residences, 130 MF residences, 30 acres of agriculture, 12.96 acres in park/open space, 25 ksf in retail, 5 ksf restaurant, 100 room hotel, 40.4 acres in roadway, and 421 parking spaces. Service population based on 2.81 persons per du.

Construction Phase - Construction would begin June 2019 and woould be completed in August 2024.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment. Added 1 trencher for utlity work.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Trips and VMT - Default trips

On-road Fugitive Dust -

Demolition - 1,464 tons of debris removed.

Grading - Assumed soil balanced onsite.

Architectural Coating - Assume low VOC architectural coatings per SDAPCD Rule 67.0.1 (150g/L).

Construction Off-road Equipment Mitigation - Water three times per day. On-site speed limit of 15 mph.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	200.00	21.00
tblConstructionPhase	NumDays	120.00	24.00
tblConstructionPhase	NumDays	310.00	155.00
tblConstructionPhase	NumDays	220.00	135.00
tblConstructionPhase	NumDays	3,100.00	1,045.00
tblConstructionPhase	NumDays	220.00	525.00
tblLandUse	LandUseSquareFeet	0.00	4,000.00
tblLandUse	LandUseSquareFeet	145,200.00	60,000.00
tblLandUse	LotAcreage	0.00	30.00
tblLandUse	LotAcreage	181.49	73.05
tblLandUse	LotAcreage	0.57	6.57
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Building Construction
tblTripsAndVMT	VendorTripNumber	498.00	183.00
tblTripsAndVMT	WorkerTripNumber	1,379.00	96.00
tblTripsAndVMT	WorkerTripNumber	276.00	20.00

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					
2019	4.8174	54.5750	33.9956	0.0638	18.2141	2.3914	20.6055	9.9699	2.2001	12.1700	0.0000	6,314.0594	6,314.0594	1.9482	0.0000	6,362.7643
2020	5.8449	57.9574	42.5402	0.1126	8.8376	2.2614	11.0127	3.6401	2.1069	5.6411	0.0000	11,403.9913	11,403.9913	1.9475	0.0000	11,450.6779
2021	3.1688	39.7947	26.4767	0.0877	3.5959	1.2582	4.8542	0.9508	1.1783	2.1291	0.0000	8,993.8903	8,993.8903	1.1250	0.0000	9,022.0161
2022	48.8903	38.2521	28.1346	0.0914	3.7602	1.1703	4.9306	0.9944	1.1013	2.0957	0.0000	9,354.4525	9,354.4525	1.1300	0.0000	9,382.7032
2023	48.5888	33.0020	27.4248	0.0897	3.7602	1.0175	4.7777	0.9944	0.9570	1.9514	0.0000	9,187.2574	9,187.2574	1.0912	0.0000	9,214.5381
2024	48.4380	31.6918	27.0454	0.0890	3.7602	0.9149	4.6752	0.9944	0.8598	1.8542	0.0000	9,120.1079	9,120.1079	1.0810	0.0000	9,147.1332
Maximum	**48.8903**	**57.9574**	**42.5402**	**0.1126**	**18.2141**	**2.3914**	**20.6055**	**9.9699**	**2.2001**	**12.1700**	**0.0000**	**11,403.9913**	**11,403.9913**	**1.9482**	**0.0000**	**11,450.6779**

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					
2019	4.8174	54.5750	33.9956	0.0638	7.1937	2.3914	9.5851	3.9122	2.2001	6.1123	0.0000	6,314.0594	6,314.0594	1.9482	0.0000	6,362.7643
2020	5.8449	57.9574	42.5402	0.1126	3.7192	2.2614	5.9806	1.4462	2.1069	3.4473	0.0000	11,403.9913	11,403.9913	1.9475	0.0000	11,450.6779
2021	3.1688	39.7947	26.4767	0.0877	3.5959	1.2582	4.8542	0.9508	1.1783	2.1291	0.0000	8,993.8903	8,993.8903	1.1250	0.0000	9,022.0161
2022	48.8903	38.2521	28.1346	0.0914	3.7602	1.1703	4.9306	0.9944	1.1013	2.0957	0.0000	9,354.4525	9,354.4525	1.1300	0.0000	9,382.7032
2023	48.5888	33.0020	27.4248	0.0897	3.7602	1.0175	4.7777	0.9944	0.9570	1.9514	0.0000	9,187.2574	9,187.2574	1.0912	0.0000	9,214.5381
2024	48.4380	31.6918	27.0454	0.0890	3.7602	0.9149	4.6752	0.9944	0.8598	1.8542	0.0000	9,120.1079	9,120.1079	1.0810	0.0000	9,147.1332
Maximum	**48.8903**	**57.9574**	**42.5402**	**0.1126**	**7.1937**	**2.3914**	**9.5851**	**3.9122**	**2.2001**	**6.1123**	**0.0000**	**11,403.9913**	**11,403.9913**	**1.9482**	**0.0000**	**11,450.6779**

	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**	**38.49**	**0.00**	**31.56**	**47.03**	**0.00**	**31.93**	**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	Demolition	Demolition	6/1/2019	7/1/2019	5	21	
2	Site Preparation	Site Preparation	7/2/2019	8/2/2019	5	24	
3	Grading	Grading	8/3/2019	3/6/2020	5	155	
4	Paving	Paving	3/7/2020	9/11/2020	5	135	
5	Building Construction	Building Construction	8/1/2020	8/2/2024	5	1045	
6	Architectural Coating	Architectural Coating	8/1/2022	8/2/2024	5	525	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 44.19

Residential Indoor: 2,300,805; Residential Outdoor: 766,935; Non-Residential Indoor: 144,000; Non-Residential Outdoor: 48,000; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	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
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Demolition	6	15.00	0.00	145.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	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
Building Construction	10	96.00	183.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	20.00	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 Demolition - 2019

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					1.5104	0.0000	1.5104	0.2287	0.0000	0.2287			0.0000			0.0000
Off-Road	3.5134	35.7830	22.0600	0.0388		1.7949	1.7949		1.6697	1.6697		3,816.8994	3,816.8994	1.0618		3,843.4451
Total	**3.5134**	**35.7830**	**22.0600**	**0.0388**	**1.5104**	**1.7949**	**3.3053**	**0.2287**	**1.6697**	**1.8984**		**3,816.8994**	**3,816.8994**	**1.0618**		**3,843.4451**

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	0.0599	2.0740	0.4477	5.4800e-003	0.1207	7.8300e-003	0.1285	0.0331	7.4900e-003	0.0406		597.5883	597.5883	0.0529		598.9104
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	0.0589	0.0411	0.4641	1.3100e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		130.5300	130.5300	4.1700e-003		130.6342
Total	**0.1188**	**2.1151**	**0.9118**	**6.7900e-003**	**0.2439**	**8.7100e-003**	**0.2526**	**0.0658**	**8.3000e-003**	**0.0740**		**728.1183**	**728.1183**	**0.0571**		**729.5446**

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					0.5891	0.0000	0.5891	0.0892	0.0000	0.0892			0.0000			0.0000
Off-Road	3.5134	35.7830	22.0600	0.0388		1.7949	1.7949		1.6697	1.6697	0.0000	3,816.8994	3,816.8994	1.0618		3,843.4451
Total	**3.5134**	**35.7830**	**22.0600**	**0.0388**	**0.5891**	**1.7949**	**2.3840**	**0.0892**	**1.6697**	**1.7589**	**0.0000**	**3,816.8994**	**3,816.8994**	**1.0618**		**3,843.4451**

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	0.0599	2.0740	0.4477	5.4800e-003	0.1207	7.8300e-003	0.1285	0.0331	7.4900e-003	0.0406		597.5883	597.5883	0.0529		598.9104
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	0.0589	0.0411	0.4641	1.3100e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		130.5300	130.5300	4.1700e-003		130.6342
Total	**0.1188**	**2.1151**	**0.9118**	**6.7900e-003**	**0.2439**	**8.7100e-003**	**0.2526**	**0.0658**	**8.3000e-003**	**0.0740**		**728.1183**	**728.1183**	**0.0571**		**729.5446**

3.3 Site Preparation - 2019

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	**4.3350**	**45.5727**	**22.0630**	**0.0380**	**18.0663**	**2.3904**	**20.4566**	**9.9307**	**2.1991**	**12.1298**		**3,766.4529**	**3,766.4529**	**1.1917**		**3,796.2445**

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	0.0707	0.0493	0.5569	1.5700e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		156.6359	156.6359	5.0000e-003		156.7610
Total	**0.0707**	**0.0493**	**0.5569**	**1.5700e-003**	**0.1479**	**1.0500e-003**	**0.1489**	**0.0392**	**9.7000e-004**	**0.0402**		**156.6359**	**156.6359**	**5.0000e-003**		**156.7610**

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					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	**4.3350**	**45.5727**	**22.0630**	**0.0380**	**7.0458**	**2.3904**	**9.4362**	**3.8730**	**2.1991**	**6.0721**	**0.0000**	**3,766.4529**	**3,766.4529**	**1.1917**		**3,796.2445**

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	0.0707	0.0493	0.5569	1.5700e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		156.6359	156.6359	5.0000e-003		156.7610
Total	**0.0707**	**0.0493**	**0.5569**	**1.5700e-003**	**0.1479**	**1.0500e-003**	**0.1489**	**0.0392**	**9.7000e-004**	**0.0402**		**156.6359**	**156.6359**	**5.0000e-003**		**156.7610**

3.4 Grading - 2019

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	**4.7389**	**54.5202**	**33.3768**	**0.0620**	**8.6733**	**2.3827**	**11.0560**	**3.5965**	**2.1920**	**5.7885**		**6,140.0195**	**6,140.0195**	**1.9426**		**6,188.5854**

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	0.0785	0.0548	0.6188	1.7500e-003	0.1643	1.1700e-003	0.1655	0.0436	1.0800e-003	0.0447		174.0399	174.0399	5.5600e-003		174.1789
Total	**0.0785**	**0.0548**	**0.6188**	**1.7500e-003**	**0.1643**	**1.1700e-003**	**0.1655**	**0.0436**	**1.0800e-003**	**0.0447**		**174.0399**	**174.0399**	**5.5600e-003**		**174.1789**

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					3.3826	0.0000	3.3826	1.4026	0.0000	1.4026			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	**4.7389**	**54.5202**	**33.3768**	**0.0620**	**3.3826**	**2.3827**	**5.7653**	**1.4026**	**2.1920**	**3.5947**	**0.0000**	**6,140.0195**	**6,140.0195**	**1.9426**		**6,188.5854**

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	0.0785	0.0548	0.6188	1.7500e-003	0.1643	1.1700e-003	0.1655	0.0436	1.0800e-003	0.0447		174.0399	174.0399	5.5600e-003		174.1789
Total	**0.0785**	**0.0548**	**0.6188**	**1.7500e-003**	**0.1643**	**1.1700e-003**	**0.1655**	**0.0436**	**1.0800e-003**	**0.0447**		**174.0399**	**174.0399**	**5.5600e-003**		**174.1789**

3.4 Grading - 2020

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.4501	50.1975	31.9583	0.0620		2.1739	2.1739		2.0000	2.0000		6,005.8653	6,005.8653	1.9424		6,054.4257
Total	**4.4501**	**50.1975**	**31.9583**	**0.0620**	**8.6733**	**2.1739**	**10.8472**	**3.5965**	**2.0000**	**5.5965**		**6,005.8653**	**6,005.8653**	**1.9424**		**6,054.4257**

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	0.0734	0.0495	0.5669	1.6900e-003	0.1643	1.1500e-003	0.1655	0.0436	1.0600e-003	0.0446		168.5494	168.5494	5.0300e-003		168.6752
Total	**0.0734**	**0.0495**	**0.5669**	**1.6900e-003**	**0.1643**	**1.1500e-003**	**0.1655**	**0.0436**	**1.0600e-003**	**0.0446**		**168.5494**	**168.5494**	**5.0300e-003**		**168.6752**

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					3.3826	0.0000	3.3826	1.4026	0.0000	1.4026			0.0000			0.0000
Off-Road	4.4501	50.1975	31.9583	0.0620		2.1739	2.1739		2.0000	2.0000	0.0000	6,005.8653	6,005.8653	1.9424		6,054.4257
Total	**4.4501**	**50.1975**	**31.9583**	**0.0620**	**3.3826**	**2.1739**	**5.5565**	**1.4026**	**2.0000**	**3.4026**	**0.0000**	**6,005.8653**	**6,005.8653**	**1.9424**		**6,054.4257**

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	0.0734	0.0495	0.5669	1.6900e-003	0.1643	1.1500e-003	0.1655	0.0436	1.0600e-003	0.0446		168.5494	168.5494	5.0300e-003		168.6752
Total	**0.0734**	**0.0495**	**0.5669**	**1.6900e-003**	**0.1643**	**1.1500e-003**	**0.1655**	**0.0436**	**1.0600e-003**	**0.0446**		**168.5494**	**168.5494**	**5.0300e-003**		**168.6752**

3.5 Paving - 2020

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	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.8576					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2142**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**		**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

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	0.0550	0.0371	0.4252	1.2700e-003	0.1232	8.6000e-004	0.1241	0.0327	8.0000e-004	0.0335		126.4121	126.4121	3.7700e-003		126.5064
Total	**0.0550**	**0.0371**	**0.4252**	**1.2700e-003**	**0.1232**	**8.6000e-004**	**0.1241**	**0.0327**	**8.0000e-004**	**0.0335**		**126.4121**	**126.4121**	**3.7700e-003**		**126.5064**

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	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.8576					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2142**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**	**0.0000**	**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

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	0.0550	0.0371	0.4252	1.2700e-003	0.1232	8.6000e-004	0.1241	0.0327	8.0000e-004	0.0335		126.4121	126.4121	3.7700e-003		126.5064
Total	**0.0550**	**0.0371**	**0.4252**	**1.2700e-003**	**0.1232**	**8.6000e-004**	**0.1241**	**0.0327**	**8.0000e-004**	**0.0335**		**126.4121**	**126.4121**	**3.7700e-003**		**126.5064**

3.6 Building Construction - 2020

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	2.5396	22.9826	19.4848	0.0303		1.4013	1.4013		1.3118	1.3118		2,879.8751	2,879.8751	0.7286		2,898.0890
Total	**2.5396**	**22.9826**	**19.4848**	**0.0303**		**1.4013**	**1.4013**		**1.3118**	**1.3118**		**2,879.8751**	**2,879.8751**	**0.7286**		**2,898.0890**

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	0.6839	20.6348	5.2569	0.0501	2.1219	0.1010	2.2229	0.5734	0.0966	0.6700		5,380.9335	5,380.9335	0.3970		5,390.8573
Worker	0.3523	0.2374	2.7212	8.1200e-003	1.4740	5.5300e-003	1.4795	0.3774	5.1000e-003	0.3825		809.0372	809.0372	0.0242		809.6411
Total	**1.0362**	**20.8721**	**7.9781**	**0.0582**	**3.5959**	**0.1065**	**3.7024**	**0.9508**	**0.1017**	**1.0525**		**6,189.9707**	**6,189.9707**	**0.4211**		**6,200.4984**

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	2.5396	22.9826	19.4848	0.0303		1.4013	1.4013		1.3118	1.3118	0.0000	2,879.8751	2,879.8751	0.7286		2,898.0890
Total	**2.5396**	**22.9826**	**19.4848**	**0.0303**		**1.4013**	**1.4013**		**1.3118**	**1.3118**	**0.0000**	**2,879.8751**	**2,879.8751**	**0.7286**		**2,898.0890**

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	0.6839	20.6348	5.2569	0.0501	2.1219	0.1010	2.2229	0.5734	0.0966	0.6700		5,380.9335	5,380.9335	0.3970		5,390.8573
Worker	0.3523	0.2374	2.7212	8.1200e-003	1.4740	5.5300e-003	1.4795	0.3774	5.1000e-003	0.3825		809.0372	809.0372	0.0242		809.6411
Total	**1.0362**	**20.8721**	**7.9781**	**0.0582**	**3.5959**	**0.1065**	**3.7024**	**0.9508**	**0.1017**	**1.0525**		**6,189.9707**	**6,189.9707**	**0.4211**		**6,200.4984**

3.6 Building Construction - 2021

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	2.2834	20.9442	19.1815	0.0303		1.2136	1.2136		1.1359	1.1359		2,880.2864	2,880.2864	0.7218		2,898.3301
Total	**2.2834**	**20.9442**	**19.1815**	**0.0303**		**1.2136**	**1.2136**		**1.1359**	**1.1359**		**2,880.2864**	**2,880.2864**	**0.7218**		**2,898.3301**

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	0.5534	18.6348	4.7489	0.0496	2.1219	0.0391	2.1611	0.5734	0.0374	0.6108		5,331.7406	5,331.7406	0.3810		5,341.2649
Worker	0.3321	0.2157	2.5463	7.8500e-003	1.4740	5.4500e-003	1.4795	0.3774	5.0200e-003	0.3824		781.8632	781.8632	0.0223		782.4211
Total	**0.8854**	**18.8505**	**7.2951**	**0.0574**	**3.5959**	**0.0446**	**3.6405**	**0.9508**	**0.0425**	**0.9932**		**6,113.6038**	**6,113.6038**	**0.4033**		**6,123.6860**

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	2.2834	20.9442	19.1815	0.0303		1.2136	1.2136		1.1359	1.1359	0.0000	2,880.2864	2,880.2864	0.7218		2,898.3301
Total	**2.2834**	**20.9442**	**19.1815**	**0.0303**		**1.2136**	**1.2136**		**1.1359**	**1.1359**	**0.0000**	**2,880.2864**	**2,880.2864**	**0.7218**		**2,898.3301**

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	0.5534	18.6348	4.7489	0.0496	2.1219	0.0391	2.1611	0.5734	0.0374	0.6108		5,331.7406	5,331.7406	0.3810		5,341.2649
Worker	0.3321	0.2157	2.5463	7.8500e-003	1.4740	5.4500e-003	1.4795	0.3774	5.0200e-003	0.3824		781.8632	781.8632	0.0223		782.4211
Total	**0.8854**	**18.8505**	**7.2951**	**0.0574**	**3.5959**	**0.0446**	**3.6405**	**0.9508**	**0.0425**	**0.9932**		**6,113.6038**	**6,113.6038**	**0.4033**		**6,123.6860**

3.6 Building Construction - 2022

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	2.0701	18.9953	18.9624	0.0303		1.0485	1.0485		0.9815	0.9815		2,881.2830	2,881.2830	0.7177		2,899.2252
Total	**2.0701**	**18.9953**	**18.9624**	**0.0303**		**1.0485**	**1.0485**		**0.9815**	**0.9815**		**2,881.2830**	**2,881.2830**	**0.7177**		**2,899.2252**

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	0.5146	17.6106	4.4976	0.0490	2.1219	0.0337	2.1556	0.5734	0.0322	0.6056		5,281.6321	5,281.6321	0.3693		5,290.8647
Worker	0.3139	0.1967	2.3677	7.5600e-003	1.4740	5.3300e-003	1.4793	0.3774	4.9100e-003	0.3823		753.1774	753.1774	0.0205		753.6887
Total	**0.8285**	**17.8073**	**6.8654**	**0.0566**	**3.5959**	**0.0390**	**3.6349**	**0.9508**	**0.0371**	**0.9879**		**6,034.8095**	**6,034.8095**	**0.3898**		**6,044.5534**

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	2.0701	18.9953	18.9624	0.0303		1.0485	1.0485		0.9815	0.9815	0.0000	2,881.2830	2,881.2830	0.7177		2,899.2252
Total	**2.0701**	**18.9953**	**18.9624**	**0.0303**		**1.0485**	**1.0485**		**0.9815**	**0.9815**	**0.0000**	**2,881.2830**	**2,881.2830**	**0.7177**		**2,899.2252**

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	0.5146	17.6106	4.4976	0.0490	2.1219	0.0337	2.1556	0.5734	0.0322	0.6056		5,281.6321	5,281.6321	0.3693		5,290.8647
Worker	0.3139	0.1967	2.3677	7.5600e-003	1.4740	5.3300e-003	1.4793	0.3774	4.9100e-003	0.3823		753.1774	753.1774	0.0205		753.6887
Total	**0.8285**	**17.8073**	**6.8654**	**0.0566**	**3.5959**	**0.0390**	**3.6349**	**0.9508**	**0.0371**	**0.9879**		**6,034.8095**	**6,034.8095**	**0.3898**		**6,044.5534**

3.6 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	1.9194	17.6181	18.8361	0.0303		0.9240	0.9240		0.8648	0.8648		2,882.4098	2,882.4098	0.7137		2,900.2515
Total	**1.9194**	**17.6181**	**18.8361**	**0.0303**		**0.9240**	**0.9240**		**0.8648**	**0.8648**		**2,882.4098**	**2,882.4098**	**0.7137**		**2,900.2515**

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	0.3968	13.8639	4.1199	0.0477	2.1219	0.0163	2.1383	0.5734	0.0156	0.5890		5,148.1017	5,148.1017	0.3381		5,156.5541
Worker	0.2972	0.1797	2.1994	7.2700e-003	1.4740	5.2200e-003	1.4792	0.3774	4.8100e-003	0.3822		724.3844	724.3844	0.0187		724.8525
Total	**0.6940**	**14.0435**	**6.3194**	**0.0549**	**3.5959**	**0.0216**	**3.6175**	**0.9508**	**0.0204**	**0.9712**		**5,872.4861**	**5,872.4861**	**0.3568**		**5,881.4066**

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	1.9194	17.6181	18.8361	0.0303		0.9240	0.9240		0.8648	0.8648	0.0000	2,882.4098	2,882.4098	0.7137		2,900.2515
Total	**1.9194**	**17.6181**	**18.8361**	**0.0303**		**0.9240**	**0.9240**		**0.8648**	**0.8648**	**0.0000**	**2,882.4098**	**2,882.4098**	**0.7137**		**2,900.2515**

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	0.3968	13.8639	4.1199	0.0477	2.1219	0.0163	2.1383	0.5734	0.0156	0.5890		5,148.1017	5,148.1017	0.3381		5,156.5541
Worker	0.2972	0.1797	2.1994	7.2700e-003	1.4740	5.2200e-003	1.4792	0.3774	4.8100e-003	0.3822		724.3844	724.3844	0.0187		724.8525
Total	**0.6940**	**14.0435**	**6.3194**	**0.0549**	**3.5959**	**0.0216**	**3.6175**	**0.9508**	**0.0204**	**0.9712**		**5,872.4861**	**5,872.4861**	**0.3568**		**5,881.4066**

3.6 Building Construction - 2024

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	1.8116	16.6032	18.7590	0.0303		0.8319	0.8319		0.7780	0.7780		2,882.8590	2,882.8590	0.7102		2,900.6130
Total	**1.8116**	**16.6032**	**18.7590**	**0.0303**		**0.8319**	**0.8319**		**0.7780**	**0.7780**		**2,882.8590**	**2,882.8590**	**0.7102**		**2,900.6130**

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	0.3828	13.6706	3.9914	0.0473	2.1219	0.0159	2.1379	0.5734	0.0152	0.5886		5,114.9898	5,114.9898	0.3342		5,123.3449
Worker	0.2823	0.1648	2.0564	6.9800e-003	1.4740	5.1300e-003	1.4791	0.3774	4.7200e-003	0.3821		695.8436	695.8436	0.0172		696.2740
Total	**0.6651**	**13.8354**	**6.0479**	**0.0543**	**3.5959**	**0.0211**	**3.6170**	**0.9508**	**0.0200**	**0.9708**		**5,810.8334**	**5,810.8334**	**0.3514**		**5,819.6189**

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	1.8116	16.6032	18.7590	0.0303		0.8319	0.8319		0.7780	0.7780	0.0000	2,882.8590	2,882.8590	0.7102		2,900.6130
Total	**1.8116**	**16.6032**	**18.7590**	**0.0303**		**0.8319**	**0.8319**		**0.7780**	**0.7780**	**0.0000**	**2,882.8590**	**2,882.8590**	**0.7102**		**2,900.6130**

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	0.3828	13.6706	3.9914	0.0473	2.1219	0.0159	2.1379	0.5734	0.0152	0.5886		5,114.9898	5,114.9898	0.3342		5,123.3449
Worker	0.2823	0.1648	2.0564	6.9800e-003	1.4740	5.1300e-003	1.4791	0.3774	4.7200e-003	0.3821		695.8436	695.8436	0.0172		696.2740
Total	**0.6651**	**13.8354**	**6.0479**	**0.0543**	**3.5959**	**0.0211**	**3.6170**	**0.9508**	**0.0200**	**0.9708**		**5,810.8334**	**5,810.8334**	**0.3514**		**5,819.6189**

3.7 Architectural Coating - 2022

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	45.7218					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**45.9263**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	0.0654	0.0410	0.4933	1.5700e-003	0.1643	1.1100e-003	0.1654	0.0436	1.0200e-003	0.0446		156.9120	156.9120	4.2600e-003		157.0185
Total	**0.0654**	**0.0410**	**0.4933**	**1.5700e-003**	**0.1643**	**1.1100e-003**	**0.1654**	**0.0436**	**1.0200e-003**	**0.0446**		**156.9120**	**156.9120**	**4.2600e-003**		**157.0185**

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	45.7218					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**45.9263**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	0.0654	0.0410	0.4933	1.5700e-003	0.1643	1.1100e-003	0.1654	0.0436	1.0200e-003	0.0446		156.9120	156.9120	4.2600e-003		157.0185
Total	**0.0654**	**0.0410**	**0.4933**	**1.5700e-003**	**0.1643**	**1.1100e-003**	**0.1654**	**0.0436**	**1.0200e-003**	**0.0446**		**156.9120**	**156.9120**	**4.2600e-003**		**157.0185**

3.7 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	45.7218					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	**45.9134**	**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	0.0619	0.0374	0.4582	1.5100e-003	0.1643	1.0900e-003	0.1654	0.0436	1.0000e-003	0.0446		150.9134	150.9134	3.9000e-003		151.0109
Total	**0.0619**	**0.0374**	**0.4582**	**1.5100e-003**	**0.1643**	**1.0900e-003**	**0.1654**	**0.0436**	**1.0000e-003**	**0.0446**		**150.9134**	**150.9134**	**3.9000e-003**		**151.0109**

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	45.7218					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	**45.9134**	**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	0.0619	0.0374	0.4582	1.5100e-003	0.1643	1.0900e-003	0.1654	0.0436	1.0000e-003	0.0446		150.9134	150.9134	3.9000e-003		151.0109
Total	**0.0619**	**0.0374**	**0.4582**	**1.5100e-003**	**0.1643**	**1.0900e-003**	**0.1654**	**0.0436**	**1.0000e-003**	**0.0446**		**150.9134**	**150.9134**	**3.9000e-003**		**151.0109**

3.7 Architectural Coating - 2024

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	45.7218					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**45.9025**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

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	0.0588	0.0343	0.4284	1.4500e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		144.9674	144.9674	3.5900e-003		145.0571
Total	**0.0588**	**0.0343**	**0.4284**	**1.4500e-003**	**0.1643**	**1.0700e-003**	**0.1654**	**0.0436**	**9.8000e-004**	**0.0446**		**144.9674**	**144.9674**	**3.5900e-003**		**145.0571**

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	45.7218					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**45.9025**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

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	0.0588	0.0343	0.4284	1.4500e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		144.9674	144.9674	3.5900e-003		145.0571
Total	**0.0588**	**0.0343**	**0.4284**	**1.4500e-003**	**0.1643**	**1.0700e-003**	**0.1654**	**0.0436**	**9.8000e-004**	**0.0446**		**144.9674**	**144.9674**	**3.5900e-003**		**145.0571**

CalEEMod Version: CalEEMod.2016.3.2

Date: 4/25/2018 8:22 AM

North River Farms - Construction

San Diego County APCD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	30.00	4,000.00	0
Other Asphalt Surfaces	40.40	Acre	40.40	1,759,824.00	0
Parking Lot	421.00	Space	3.79	168,400.00	0
City Park	12.96	Acre	12.96	564,537.60	0
Hotel	100.00	Room	3.33	60,000.00	0
Quality Restaurant	5.00	1000sqft	0.11	5,000.00	0
Condo/Townhouse	130.00	Dwelling Unit	8.13	130,000.00	372
Single Family Housing	559.00	Dwelling Unit	73.05	1,006,200.00	1599
Regional Shopping Center	25.00	1000sqft	6.57	25,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction run.

Land Use - 559 SF residences, 130 MF residences, 30 acres of agriculture, 12.96 acres in park/open space, 25 ksf in retail, 5 ksf restaurant, 100 room hotel, 40.4 acres in roadway, and 421 parking spaces. Service population based on 2.81 persons per du.

Construction Phase - Construction would begin June 2019 and woould be completed in August 2024.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment. Added 1 trencher for utlity work.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Trips and VMT - Default trips

On-road Fugitive Dust -

Demolition - 1,464 tons of debris removed.

Grading - Assumed soil balanced onsite.

Architectural Coating - Assume low VOC architectural coatings per SDAPCD Rule 67.0.1 (150g/L).

Construction Off-road Equipment Mitigation - Water three times per day. On-site speed limit of 15 mph.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	200.00	21.00
tblConstructionPhase	NumDays	120.00	24.00
tblConstructionPhase	NumDays	310.00	155.00
tblConstructionPhase	NumDays	220.00	135.00
tblConstructionPhase	NumDays	3,100.00	1,045.00
tblConstructionPhase	NumDays	220.00	525.00
tblLandUse	LandUseSquareFeet	0.00	4,000.00

tblLandUse	LandUseSquareFeet	145,200.00	60,000.00
tblLandUse	LotAcreage	0.00	30.00
tblLandUse	LotAcreage	181.49	73.05
tblLandUse	LotAcreage	0.57	6.57
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Building Construction
tblTripsAndVMT	VendorTripNumber	498.00	183.00
tblTripsAndVMT	WorkerTripNumber	1,379.00	96.00
tblTripsAndVMT	WorkerTripNumber	276.00	20.00

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					
2019	4.8277	54.5817	33.9616	0.0636	18.2141	2.3914	20.6055	9.9699	2.2001	12.1700	0.0000	6,303.4022	6,303.4022	1.9479	0.0000	6,352.1000
2020	5.9313	57.9744	42.9374	0.1107	8.8376	2.2634	11.0127	3.6401	2.1087	5.6411	0.0000	11,208.0236	11,208.0236	1.9472	0.0000	11,255.2948
2021	3.2433	39.7716	26.8627	0.0860	3.5959	1.2598	4.8557	0.9508	1.1798	2.1307	0.0000	8,808.1453	8,808.1453	1.1475	0.0000	8,836.8316
2022	48.9702	38.2216	28.4662	0.0896	3.7602	1.1717	4.9320	0.9944	1.1027	2.0971	0.0000	9,161.2787	9,161.2787	1.1510	0.0000	9,190.0546
2023	48.6612	32.9666	27.6570	0.0880	3.7602	1.0184	4.7786	0.9944	0.9579	1.9523	0.0000	9,001.0661	9,001.0661	1.1084	0.0000	9,028.7753
2024	48.5080	31.6550	27.2697	0.0873	3.7602	0.9158	4.6760	0.9944	0.8606	1.8550	0.0000	8,937.8317	8,937.8317	1.0975	0.0000	8,965.2685
Maximum	**48.9702**	**57.9744**	**42.9374**	**0.1107**	**18.2141**	**2.3914**	**20.6055**	**9.9699**	**2.2001**	**12.1700**	**0.0000**	**11,208.0236**	**11,208.0236**	**1.9479**	**0.0000**	**11,255.2948**

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					
2019	4.8277	54.5817	33.9616	0.0636	7.1937	2.3914	9.5851	3.9122	2.2001	6.1123	0.0000	6,303.4022	6,303.4022	1.9479	0.0000	6,352.1000
2020	5.9313	57.9744	42.9374	0.1107	3.7192	2.2634	5.9825	1.4462	2.1087	3.4473	0.0000	11,208.0236	11,208.0236	1.9472	0.0000	11,255.2948
2021	3.2433	39.7716	26.8627	0.0860	3.5959	1.2598	4.8557	0.9508	1.1798	2.1307	0.0000	8,808.1453	8,808.1453	1.1475	0.0000	8,836.8316
2022	48.9702	38.2216	28.4662	0.0896	3.7602	1.1717	4.9320	0.9944	1.1027	2.0971	0.0000	9,161.2787	9,161.2787	1.1510	0.0000	9,190.0546
2023	48.6612	32.9666	27.6570	0.0880	3.7602	1.0184	4.7786	0.9944	0.9579	1.9523	0.0000	9,001.0661	9,001.0661	1.1084	0.0000	9,028.7753
2024	48.5080	31.6550	27.2697	0.0873	3.7602	0.9158	4.6760	0.9944	0.8606	1.8550	0.0000	8,937.8317	8,937.8317	1.0975	0.0000	8,965.2685
Maximum	**48.9702**	**57.9744**	**42.9374**	**0.1107**	**7.1937**	**2.3914**	**9.5851**	**3.9122**	**2.2001**	**6.1123**	**0.0000**	**11,208.0236**	**11,208.0236**	**1.9479**	**0.0000**	**11,255.2948**

	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**	**38.49**	**0.00**	**31.56**	**47.03**	**0.00**	**31.93**	**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	Demolition	Demolition	6/1/2019	7/1/2019	5	21	
2	Site Preparation	Site Preparation	7/2/2019	8/2/2019	5	24	
3	Grading	Grading	8/3/2019	3/6/2020	5	155	
4	Paving	Paving	3/7/2020	9/11/2020	5	135	
5	Building Construction	Building Construction	8/1/2020	8/2/2024	5	1045	
6	Architectural Coating	Architectural Coating	8/1/2022	8/2/2024	5	525	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 44.19

Residential Indoor: 2,300,805; Residential Outdoor: 766,935; Non-Residential Indoor: 144,000; Non-Residential Outdoor: 48,000; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	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
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Demolition	6	15.00	0.00	145.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	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
Building Construction	10	96.00	183.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	20.00	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 Demolition - 2019

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					1.5104	0.0000	1.5104	0.2287	0.0000	0.2287			0.0000			0.0000
Off-Road	3.5134	35.7830	22.0600	0.0388		1.7949	1.7949		1.6697	1.6697		3,816.8994	3,816.8994	1.0618		3,843.4451
Total	**3.5134**	**35.7830**	**22.0600**	**0.0388**	**1.5104**	**1.7949**	**3.3053**	**0.2287**	**1.6697**	**1.8984**		**3,816.8994**	**3,816.8994**	**1.0618**		**3,843.4451**

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	0.0616	2.0953	0.4798	5.3900e-003	0.1207	8.0100e-003	0.1287	0.0331	7.6600e-003	0.0407		587.5323	587.5323	0.0548		588.9023
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	0.0666	0.0462	0.4386	1.2300e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		122.5371	122.5371	3.9500e-003		122.6359
Total	**0.1282**	**2.1414**	**0.9184**	**6.6200e-003**	**0.2439**	**8.8900e-003**	**0.2528**	**0.0658**	**8.4700e-003**	**0.0742**		**710.0694**	**710.0694**	**0.0588**		**711.5382**

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					0.5891	0.0000	0.5891	0.0892	0.0000	0.0892			0.0000			0.0000
Off-Road	3.5134	35.7830	22.0600	0.0388		1.7949	1.7949		1.6697	1.6697	0.0000	3,816.8994	3,816.8994	1.0618		3,843.4451
Total	**3.5134**	**35.7830**	**22.0600**	**0.0388**	**0.5891**	**1.7949**	**2.3840**	**0.0892**	**1.6697**	**1.7589**	**0.0000**	**3,816.8994**	**3,816.8994**	**1.0618**		**3,843.4451**

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	0.0616	2.0953	0.4798	5.3900e-003	0.1207	8.0100e-003	0.1287	0.0331	7.6600e-003	0.0407		587.5323	587.5323	0.0548		588.9023
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	0.0666	0.0462	0.4386	1.2300e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		122.5371	122.5371	3.9500e-003		122.6359
Total	**0.1282**	**2.1414**	**0.9184**	**6.6200e-003**	**0.2439**	**8.8900e-003**	**0.2528**	**0.0658**	**8.4700e-003**	**0.0742**		**710.0694**	**710.0694**	**0.0588**		**711.5382**

3.3 Site Preparation - 2019

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	**4.3350**	**45.5727**	**22.0630**	**0.0380**	**18.0663**	**2.3904**	**20.4566**	**9.9307**	**2.1991**	**12.1298**		**3,766.4529**	**3,766.4529**	**1.1917**		**3,796.2445**

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	0.0799	0.0554	0.5263	1.4800e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		147.0445	147.0445	4.7400e-003		147.1631
Total	**0.0799**	**0.0554**	**0.5263**	**1.4800e-003**	**0.1479**	**1.0500e-003**	**0.1489**	**0.0392**	**9.7000e-004**	**0.0402**		**147.0445**	**147.0445**	**4.7400e-003**		**147.1631**

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					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	**4.3350**	**45.5727**	**22.0630**	**0.0380**	**7.0458**	**2.3904**	**9.4362**	**3.8730**	**2.1991**	**6.0721**	**0.0000**	**3,766.4529**	**3,766.4529**	**1.1917**		**3,796.2445**

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	0.0799	0.0554	0.5263	1.4800e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		147.0445	147.0445	4.7400e-003		147.1631
Total	**0.0799**	**0.0554**	**0.5263**	**1.4800e-003**	**0.1479**	**1.0500e-003**	**0.1489**	**0.0392**	**9.7000e-004**	**0.0402**		**147.0445**	**147.0445**	**4.7400e-003**		**147.1631**

3.4 Grading - 2019

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	**4.7389**	**54.5202**	**33.3768**	**0.0620**	**8.6733**	**2.3827**	**11.0560**	**3.5965**	**2.1920**	**5.7885**		**6,140.0195**	**6,140.0195**	**1.9426**		**6,188.5854**

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	0.0888	0.0616	0.5848	1.6400e-003	0.1643	1.1700e-003	0.1655	0.0436	1.0800e-003	0.0447		163.3828	163.3828	5.2700e-003		163.5146
Total	**0.0888**	**0.0616**	**0.5848**	**1.6400e-003**	**0.1643**	**1.1700e-003**	**0.1655**	**0.0436**	**1.0800e-003**	**0.0447**		**163.3828**	**163.3828**	**5.2700e-003**		**163.5146**

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					3.3826	0.0000	3.3826	1.4026	0.0000	1.4026			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	**4.7389**	**54.5202**	**33.3768**	**0.0620**	**3.3826**	**2.3827**	**5.7653**	**1.4026**	**2.1920**	**3.5947**	**0.0000**	**6,140.0195**	**6,140.0195**	**1.9426**		**6,188.5854**

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	0.0888	0.0616	0.5848	1.6400e-003	0.1643	1.1700e-003	0.1655	0.0436	1.0800e-003	0.0447		163.3828	163.3828	5.2700e-003		163.5146
Total	**0.0888**	**0.0616**	**0.5848**	**1.6400e-003**	**0.1643**	**1.1700e-003**	**0.1655**	**0.0436**	**1.0800e-003**	**0.0447**		**163.3828**	**163.3828**	**5.2700e-003**		**163.5146**

3.4 Grading - 2020

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.4501	50.1975	31.9583	0.0620		2.1739	2.1739		2.0000	2.0000		6,005.8653	6,005.8653	1.9424		6,054.4257
Total	**4.4501**	**50.1975**	**31.9583**	**0.0620**	**8.6733**	**2.1739**	**10.8472**	**3.5965**	**2.0000**	**5.5965**		**6,005.8653**	**6,005.8653**	**1.9424**		**6,054.4257**

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	0.0831	0.0555	0.5345	1.5900e-003	0.1643	1.1500e-003	0.1655	0.0436	1.0600e-003	0.0446		158.2264	158.2264	4.7600e-003		158.3455
Total	**0.0831**	**0.0555**	**0.5345**	**1.5900e-003**	**0.1643**	**1.1500e-003**	**0.1655**	**0.0436**	**1.0600e-003**	**0.0446**		**158.2264**	**158.2264**	**4.7600e-003**		**158.3455**

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					3.3826	0.0000	3.3826	1.4026	0.0000	1.4026			0.0000			0.0000
Off-Road	4.4501	50.1975	31.9583	0.0620		2.1739	2.1739		2.0000	2.0000	0.0000	6,005.8653	6,005.8653	1.9424		6,054.4257
Total	**4.4501**	**50.1975**	**31.9583**	**0.0620**	**3.3826**	**2.1739**	**5.5565**	**1.4026**	**2.0000**	**3.4026**	**0.0000**	**6,005.8653**	**6,005.8653**	**1.9424**		**6,054.4257**

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	0.0831	0.0555	0.5345	1.5900e-003	0.1643	1.1500e-003	0.1655	0.0436	1.0600e-003	0.0446		158.2264	158.2264	4.7600e-003		158.3455
Total	**0.0831**	**0.0555**	**0.5345**	**1.5900e-003**	**0.1643**	**1.1500e-003**	**0.1655**	**0.0436**	**1.0600e-003**	**0.0446**		**158.2264**	**158.2264**	**4.7600e-003**		**158.3455**

3.5 Paving - 2020

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	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.8576					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2142**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**		**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

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	0.0623	0.0416	0.4009	1.1900e-003	0.1232	8.6000e-004	0.1241	0.0327	8.0000e-004	0.0335		118.6698	118.6698	3.5700e-003		118.7591
Total	**0.0623**	**0.0416**	**0.4009**	**1.1900e-003**	**0.1232**	**8.6000e-004**	**0.1241**	**0.0327**	**8.0000e-004**	**0.0335**		**118.6698**	**118.6698**	**3.5700e-003**		**118.7591**

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	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.8576					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2142**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**	**0.0000**	**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

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	0.0623	0.0416	0.4009	1.1900e-003	0.1232	8.6000e-004	0.1241	0.0327	8.0000e-004	0.0335		118.6698	118.6698	3.5700e-003		118.7591
Total	**0.0623**	**0.0416**	**0.4009**	**1.1900e-003**	**0.1232**	**8.6000e-004**	**0.1241**	**0.0327**	**8.0000e-004**	**0.0335**		**118.6698**	**118.6698**	**3.5700e-003**		**118.7591**

3.6 Building Construction - 2020

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	2.5396	22.9826	19.4848	0.0303		1.4013	1.4013		1.3118	1.3118		2,879.8751	2,879.8751	0.7286		2,898.0890
Total	**2.5396**	**22.9826**	**19.4848**	**0.0303**		**1.4013**	**1.4013**		**1.3118**	**1.3118**		**2,879.8751**	**2,879.8751**	**0.7286**		**2,898.0890**

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	0.7162	20.6181	5.8341	0.0488	2.1219	0.1029	2.2248	0.5734	0.0984	0.6718		5,242.2586	5,242.2586	0.4218		5,252.8043
Worker	0.3990	0.2665	2.5656	7.6200e-003	1.4740	5.5300e-003	1.4795	0.3774	5.1000e-003	0.3825		759.4867	759.4867	0.0229		760.0583
Total	**1.1152**	**20.8846**	**8.3997**	**0.0565**	**3.5959**	**0.1084**	**3.7043**	**0.9508**	**0.1035**	**1.0543**		**6,001.7452**	**6,001.7452**	**0.4447**		**6,012.8626**

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	2.5396	22.9826	19.4848	0.0303		1.4013	1.4013		1.3118	1.3118	0.0000	2,879.8751	2,879.8751	0.7286		2,898.0890
Total	**2.5396**	**22.9826**	**19.4848**	**0.0303**		**1.4013**	**1.4013**		**1.3118**	**1.3118**	**0.0000**	**2,879.8751**	**2,879.8751**	**0.7286**		**2,898.0890**

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	0.7162	20.6181	5.8341	0.0488	2.1219	0.1029	2.2248	0.5734	0.0984	0.6718		5,242.2586	5,242.2586	0.4218		5,252.8043
Worker	0.3990	0.2665	2.5656	7.6200e-003	1.4740	5.5300e-003	1.4795	0.3774	5.1000e-003	0.3825		759.4867	759.4867	0.0229		760.0583
Total	**1.1152**	**20.8846**	**8.3997**	**0.0565**	**3.5959**	**0.1084**	**3.7043**	**0.9508**	**0.1035**	**1.0543**		**6,001.7452**	**6,001.7452**	**0.4447**		**6,012.8626**

3.6 Building Construction - 2021

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	2.2834	20.9442	19.1815	0.0303		1.2136	1.2136		1.1359	1.1359		2,880.2864	2,880.2864	0.7218		2,898.3301
Total	**2.2834**	**20.9442**	**19.1815**	**0.0303**		**1.2136**	**1.2136**		**1.1359**	**1.1359**		**2,880.2864**	**2,880.2864**	**0.7218**		**2,898.3301**

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	0.5833	18.5852	5.2877	0.0483	2.1219	0.0407	2.1627	0.5734	0.0389	0.6123		5,193.8932	5,193.8932	0.4046		5,204.0087
Worker	0.3766	0.2422	2.3935	7.3600e-003	1.4740	5.4500e-003	1.4795	0.3774	5.0200e-003	0.3824		733.9657	733.9657	0.0211		734.4928
Total	**0.9599**	**18.8274**	**7.6812**	**0.0557**	**3.5959**	**0.0462**	**3.6421**	**0.9508**	**0.0440**	**0.9948**		**5,927.8589**	**5,927.8589**	**0.4257**		**5,938.5015**

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	2.2834	20.9442	19.1815	0.0303		1.2136	1.2136		1.1359	1.1359	0.0000	2,880.2864	2,880.2864	0.7218		2,898.3301
Total	**2.2834**	**20.9442**	**19.1815**	**0.0303**		**1.2136**	**1.2136**		**1.1359**	**1.1359**	**0.0000**	**2,880.2864**	**2,880.2864**	**0.7218**		**2,898.3301**

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	0.5833	18.5852	5.2877	0.0483	2.1219	0.0407	2.1627	0.5734	0.0389	0.6123		5,193.8932	5,193.8932	0.4046		5,204.0087
Worker	0.3766	0.2422	2.3935	7.3600e-003	1.4740	5.4500e-003	1.4795	0.3774	5.0200e-003	0.3824		733.9657	733.9657	0.0211		734.4928
Total	**0.9599**	**18.8274**	**7.6812**	**0.0557**	**3.5959**	**0.0462**	**3.6421**	**0.9508**	**0.0440**	**0.9948**		**5,927.8589**	**5,927.8589**	**0.4257**		**5,938.5015**

3.6 Building Construction - 2022

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	2.0701	18.9953	18.9624	0.0303		1.0485	1.0485		0.9815	0.9815		2,881.2830	2,881.2830	0.7177		2,899.2252
Total	**2.0701**	**18.9953**	**18.9624**	**0.0303**		**1.0485**	**1.0485**		**0.9815**	**0.9815**		**2,881.2830**	**2,881.2830**	**0.7177**		**2,899.2252**

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	0.5426	17.5510	5.0066	0.0478	2.1219	0.0351	2.1570	0.5734	0.0336	0.6070		5,144.1779	5,144.1779	0.3917		5,153.9704
Worker	0.3568	0.2208	2.2210	7.0900e-003	1.4740	5.3300e-003	1.4793	0.3774	4.9100e-003	0.3823		707.0646	707.0646	0.0193		707.5472
Total	**0.8994**	**17.7718**	**7.2275**	**0.0549**	**3.5959**	**0.0404**	**3.6364**	**0.9508**	**0.0385**	**0.9893**		**5,851.2425**	**5,851.2425**	**0.4110**		**5,861.5176**

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	2.0701	18.9953	18.9624	0.0303		1.0485	1.0485		0.9815	0.9815	0.0000	2,881.2830	2,881.2830	0.7177		2,899.2252
Total	**2.0701**	**18.9953**	**18.9624**	**0.0303**		**1.0485**	**1.0485**		**0.9815**	**0.9815**	**0.0000**	**2,881.2830**	**2,881.2830**	**0.7177**		**2,899.2252**

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	0.5426	17.5510	5.0066	0.0478	2.1219	0.0351	2.1570	0.5734	0.0336	0.6070		5,144.1779	5,144.1779	0.3917		5,153.9704
Worker	0.3568	0.2208	2.2210	7.0900e-003	1.4740	5.3300e-003	1.4793	0.3774	4.9100e-003	0.3823		707.0646	707.0646	0.0193		707.5472
Total	**0.8994**	**17.7718**	**7.2275**	**0.0549**	**3.5959**	**0.0404**	**3.6364**	**0.9508**	**0.0385**	**0.9893**		**5,851.2425**	**5,851.2425**	**0.4110**		**5,861.5176**

3.6 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	1.9194	17.6181	18.8361	0.0303		0.9240	0.9240		0.8648	0.8648		2,882.4098	2,882.4098	0.7137		2,900.2515
Total	**1.9194**	**17.6181**	**18.8361**	**0.0303**		**0.9240**	**0.9240**		**0.8648**	**0.8648**		**2,882.4098**	**2,882.4098**	**0.7137**		**2,900.2515**

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	0.4189	13.8021	4.5223	0.0465	2.1219	0.0173	2.1392	0.5734	0.0165	0.5899		5,015.4687	5,015.4687	0.3565		5,024.3822
Worker	0.3388	0.2015	2.0586	6.8200e-003	1.4740	5.2200e-003	1.4792	0.3774	4.8100e-003	0.3822		680.0604	680.0604	0.0176		680.5015
Total	**0.7577**	**14.0036**	**6.5809**	**0.0533**	**3.5959**	**0.0225**	**3.6184**	**0.9508**	**0.0213**	**0.9721**		**5,695.5290**	**5,695.5290**	**0.3742**		**5,704.8837**

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	1.9194	17.6181	18.8361	0.0303		0.9240	0.9240		0.8648	0.8648	0.0000	2,882.4098	2,882.4098	0.7137		2,900.2515
Total	**1.9194**	**17.6181**	**18.8361**	**0.0303**		**0.9240**	**0.9240**		**0.8648**	**0.8648**	**0.0000**	**2,882.4098**	**2,882.4098**	**0.7137**		**2,900.2515**

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	0.4189	13.8021	4.5223	0.0465	2.1219	0.0173	2.1392	0.5734	0.0165	0.5899		5,015.4687	5,015.4687	0.3565		5,024.3822
Worker	0.3388	0.2015	2.0586	6.8200e-003	1.4740	5.2200e-003	1.4792	0.3774	4.8100e-003	0.3822		680.0604	680.0604	0.0176		680.5015
Total	**0.7577**	**14.0036**	**6.5809**	**0.0533**	**3.5959**	**0.0225**	**3.6184**	**0.9508**	**0.0213**	**0.9721**		**5,695.5290**	**5,695.5290**	**0.3742**		**5,704.8837**

3.6 Building Construction - 2024

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	1.8116	16.6032	18.7590	0.0303		0.8319	0.8319		0.7780	0.7780		2,882.8590	2,882.8590	0.7102		2,900.6130
Total	**1.8116**	**16.6032**	**18.7590**	**0.0303**		**0.8319**	**0.8319**		**0.7780**	**0.7780**		**2,882.8590**	**2,882.8590**	**0.7102**		**2,900.6130**

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	0.4038	13.6097	4.3785	0.0461	2.1219	0.0168	2.1387	0.5734	0.0160	0.5894		4,984.1308	4,984.1308	0.3519		4,992.9280
Worker	0.3228	0.1848	1.9218	6.5500e-003	1.4740	5.1300e-003	1.4791	0.3774	4.7200e-003	0.3821		653.2915	653.2915	0.0162		653.6965
Total	**0.7267**	**13.7945**	**6.3003**	**0.0527**	**3.5959**	**0.0219**	**3.6178**	**0.9508**	**0.0207**	**0.9715**		**5,637.4223**	**5,637.4223**	**0.3681**		**5,646.6245**

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	1.8116	16.6032	18.7590	0.0303		0.8319	0.8319		0.7780	0.7780	0.0000	2,882.8590	2,882.8590	0.7102		2,900.6130
Total	**1.8116**	**16.6032**	**18.7590**	**0.0303**		**0.8319**	**0.8319**		**0.7780**	**0.7780**	**0.0000**	**2,882.8590**	**2,882.8590**	**0.7102**		**2,900.6130**

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	0.4038	13.6097	4.3785	0.0461	2.1219	0.0168	2.1387	0.5734	0.0160	0.5894		4,984.1308	4,984.1308	0.3519		4,992.9280
Worker	0.3228	0.1848	1.9218	6.5500e-003	1.4740	5.1300e-003	1.4791	0.3774	4.7200e-003	0.3821		653.2915	653.2915	0.0162		653.6965
Total	**0.7267**	**13.7945**	**6.3003**	**0.0527**	**3.5959**	**0.0219**	**3.6178**	**0.9508**	**0.0207**	**0.9715**		**5,637.4223**	**5,637.4223**	**0.3681**		**5,646.6245**

3.7 Architectural Coating - 2022

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	45.7218					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**45.9263**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	0.0743	0.0460	0.4627	1.4800e-003	0.1643	1.1100e-003	0.1654	0.0436	1.0200e-003	0.0446		147.3051	147.3051	4.0200e-003		147.4057
Total	**0.0743**	**0.0460**	**0.4627**	**1.4800e-003**	**0.1643**	**1.1100e-003**	**0.1654**	**0.0436**	**1.0200e-003**	**0.0446**		**147.3051**	**147.3051**	**4.0200e-003**		**147.4057**

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	45.7218					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**45.9263**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	0.0743	0.0460	0.4627	1.4800e-003	0.1643	1.1100e-003	0.1654	0.0436	1.0200e-003	0.0446		147.3051	147.3051	4.0200e-003		147.4057
Total	**0.0743**	**0.0460**	**0.4627**	**1.4800e-003**	**0.1643**	**1.1100e-003**	**0.1654**	**0.0436**	**1.0200e-003**	**0.0446**		**147.3051**	**147.3051**	**4.0200e-003**		**147.4057**

3.7 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	45.7218					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	**45.9134**	**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	0.0706	0.0420	0.4289	1.4200e-003	0.1643	1.0900e-003	0.1654	0.0436	1.0000e-003	0.0446		141.6792	141.6792	3.6800e-003		141.7711
Total	**0.0706**	**0.0420**	**0.4289**	**1.4200e-003**	**0.1643**	**1.0900e-003**	**0.1654**	**0.0436**	**1.0000e-003**	**0.0446**		**141.6792**	**141.6792**	**3.6800e-003**		**141.7711**

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	45.7218					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	**45.9134**	**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	0.0706	0.0420	0.4289	1.4200e-003	0.1643	1.0900e-003	0.1654	0.0436	1.0000e-003	0.0446		141.6792	141.6792	3.6800e-003		141.7711
Total	**0.0706**	**0.0420**	**0.4289**	**1.4200e-003**	**0.1643**	**1.0900e-003**	**0.1654**	**0.0436**	**1.0000e-003**	**0.0446**		**141.6792**	**141.6792**	**3.6800e-003**		**141.7711**

3.7 Architectural Coating - 2024

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	45.7218					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**45.9025**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

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	0.0673	0.0385	0.4004	1.3600e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		136.1024	136.1024	3.3800e-003		136.1868
Total	**0.0673**	**0.0385**	**0.4004**	**1.3600e-003**	**0.1643**	**1.0700e-003**	**0.1654**	**0.0436**	**9.8000e-004**	**0.0446**		**136.1024**	**136.1024**	**3.3800e-003**		**136.1868**

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	45.7218					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**45.9025**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

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	0.0673	0.0385	0.4004	1.3600e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		136.1024	136.1024	3.3800e-003		136.1868
Total	**0.0673**	**0.0385**	**0.4004**	**1.3600e-003**	**0.1643**	**1.0700e-003**	**0.1654**	**0.0436**	**9.8000e-004**	**0.0446**		**136.1024**	**136.1024**	**3.3800e-003**		**136.1868**

CalEEMod Version: CalEEMod.2016.3.2

Date: 4/26/2018 11:20 AM

North River Farms - Buildout Operations

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	40.40	Acre	40.40	1,759,824.00	0
Parking Lot	421.00	Space	3.79	168,400.00	0
City Park	12.96	Acre	12.96	564,537.60	0
Golf Course	30.00	Acre	30.00	1,306,800.00	0
Hotel	100.00	Room	3.33	60,000.00	0
Quality Restaurant	5.00	1000sqft	0.11	5,000.00	0
Apartments Low Rise	130.00	Dwelling Unit	8.13	130,000.00	372
Condo/Townhouse	250.00	Dwelling Unit	32.67	250,000.00	715
Single Family Housing	309.00	Dwelling Unit	40.38	556,200.00	884
Regional Shopping Center	25.00	1000sqft	6.57	25,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	468.32	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Buildout Operations run. Adjusted CO2 Intensity based on 41.5% RPS by 2025 (interpolation between RPS 2020 and 2030 goals).

Land Use - Project includes 689 du, 30 acres of agirculture (golf course), 12.96 acres in park/open space (2,000 sf), 25 ksf in retail, 5 ksf restaurant, 100 room hotel, 40.4 acres in roadway and 421 parking spaces.

Construction Phase - Modeling operations only.

Off-road Equipment - Default equipment. Added 1 trencher for utlity work.

Off-road Equipment - Modeling operations only.

Trips and VMT - Modeling operations only.

On-road Fugitive Dust - Modeling operations only.

Demolition - Modeling operations only.

Grading - Modeling operations only.

Architectural Coating - Modeling operations only.

Vehicle Trips - Adjusted trip generation rates and trip lengths to match the information provided by LLG. Saturday and Sunday adjusted per weekday rates.

Woodstoves - Fireplaces assumed to be gas fueled rather than wood fueled. Default quantities also assumed.

Area Coating -

Energy Use - Updated T24, NT24, and Lighting for condo/townhouse to match single-family. Updated T24, NT24, and Lighting for all land uses based on PV Loads Report by VCA Green.

Water And Wastewater - Adjusted indoor and outdoor water use to match the information provided by Dexter Wilson Engineering.

Solid Waste -

Sequestration -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Project is located in a suburban setting and would increase diversity which accounts for the 5% mixed used reduction (LLG 2018).

Energy Mitigation - residential and nonresidential energy consumption would be offset.

Water Mitigation - Use of low-flow water fixtures.

Waste Mitigation - 75% waste diversion consistent with AB 341.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	200.00	0.00
tblEnergyUse	LightingElect	810.36	635.80
tblEnergyUse	LightingElect	1,001.10	918.19
tblEnergyUse	LightingElect	4.50	5.92
tblEnergyUse	LightingElect	6.78	4.96
tblEnergyUse	LightingElect	6.22	38.43
tblEnergyUse	LightingElect	1,608.84	945.01
tblEnergyUse	NT24E	3,172.76	2,410.23
tblEnergyUse	NT24E	3,795.01	3,513.31
tblEnergyUse	NT24E	3.67	4.83
tblEnergyUse	NT24E	23.69	17.34
tblEnergyUse	NT24E	3.16	19.53
tblEnergyUse	NT24E	6,155.97	3,615.94
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	11.10	0.00
tblEnergyUse	NT24NG	138.46	0.00
tblEnergyUse	NT24NG	1.09	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	T24E	260.86	144.31
tblEnergyUse	T24E	227.22	188.95
tblEnergyUse	T24E	4.78	6.29
tblEnergyUse	T24E	8.23	6.02
tblEnergyUse	T24E	3.18	19.65
tblEnergyUse	T24E	331.07	194.47
tblEnergyUse	T24NG	7,045.49	0.00
tblEnergyUse	T24NG	10,202.85	0.00

tblEnergyUse	T24NG	47.27	0.00
tblEnergyUse	T24NG	35.92	0.00
tblEnergyUse	T24NG	1.14	0.00
tblEnergyUse	T24NG	19,206.92	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	71.50	117.00
tblFireplaces	NumberGas	137.50	225.00
tblFireplaces	NumberGas	169.95	278.10
tblFireplaces	NumberWood	45.50	0.00
tblFireplaces	NumberWood	87.50	0.00
tblFireplaces	NumberWood	108.15	0.00
tblLandUse	LandUseSquareFeet	145,200.00	60,000.00
tblLandUse	LotAcreage	15.63	32.67
tblLandUse	LotAcreage	100.32	40.38
tblLandUse	LotAcreage	0.57	6.57
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	720.49	468.32
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblVehicleTrips	CC_TL	7.30	11.30
tblVehicleTrips	CC_TL	7.30	11.30
tblVehicleTrips	CC_TL	7.30	11.30
tblVehicleTrips	CC_TL	7.30	11.30

tblVehicleTrips	CNW_TL	7.30	11.30
tblVehicleTrips	CNW_TL	7.30	11.30
tblVehicleTrips	CNW_TL	7.30	11.30
tblVehicleTrips	CNW_TL	7.30	11.30
tblVehicleTrips	CW_TL	9.50	11.30
tblVehicleTrips	CW_TL	9.50	11.30
tblVehicleTrips	CW_TL	9.50	11.30
tblVehicleTrips	CW_TL	9.50	11.30
tblVehicleTrips	HO_TL	7.50	11.30
tblVehicleTrips	HO_TL	7.50	11.30
tblVehicleTrips	HO_TL	7.50	11.30
tblVehicleTrips	HO_TTP	39.60	40.00
tblVehicleTrips	HO_TTP	39.60	40.00
tblVehicleTrips	HO_TTP	39.60	40.00
tblVehicleTrips	HS_TL	7.30	11.30
tblVehicleTrips	HS_TL	7.30	11.30
tblVehicleTrips	HS_TL	7.30	11.30
tblVehicleTrips	HS_TTP	18.80	19.00
tblVehicleTrips	HS_TTP	18.80	19.00
tblVehicleTrips	HS_TTP	18.80	19.00
tblVehicleTrips	HW_TL	10.80	11.30
tblVehicleTrips	HW_TL	10.80	11.30
tblVehicleTrips	HW_TL	10.80	11.30
tblVehicleTrips	HW_TTP	41.60	41.00
tblVehicleTrips	HW_TTP	41.60	41.00
tblVehicleTrips	HW_TTP	41.60	41.00
tblVehicleTrips	ST_TR	7.16	6.52
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	5.67	7.81

tblVehicleTrips	ST_TR	5.82	2.00
tblVehicleTrips	ST_TR	8.19	9.02
tblVehicleTrips	ST_TR	94.36	94.41
tblVehicleTrips	ST_TR	49.97	42.13
tblVehicleTrips	ST_TR	9.91	10.41
tblVehicleTrips	SU_TR	6.07	5.53
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	4.84	6.66
tblVehicleTrips	SU_TR	5.88	2.00
tblVehicleTrips	SU_TR	5.95	6.55
tblVehicleTrips	SU_TR	72.16	72.20
tblVehicleTrips	SU_TR	25.24	21.18
tblVehicleTrips	SU_TR	8.62	9.05
tblVehicleTrips	WD_TR	6.59	6.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	5.81	8.00
tblVehicleTrips	WD_TR	5.04	2.00
tblVehicleTrips	WD_TR	8.17	9.00
tblVehicleTrips	WD_TR	89.95	90.00
tblVehicleTrips	WD_TR	42.70	36.00
tblVehicleTrips	WD_TR	9.52	10.00
tblWater	IndoorWaterUseRate	8,470,023.33	10,217,274.66
tblWater	IndoorWaterUseRate	16,288,506.41	10,297,866.67
tblWater	IndoorWaterUseRate	2,536,677.00	1,500,538.16
tblWater	IndoorWaterUseRate	1,517,668.56	897,757.02
tblWater	IndoorWaterUseRate	1,851,813.04	1,095,415.83
tblWater	IndoorWaterUseRate	20,132,593.92	37,448,415.99
tblWater	OutdoorWaterUseRate	5,339,797.32	6,441,325.34
tblWater	OutdoorWaterUseRate	15,441,598.29	12,583,375.00

tblWater	OutdoorWaterUseRate	10,268,840.99	6,492,133.33
tblWater	OutdoorWaterUseRate	35,744,440.49	20,951,000.00
tblWater	OutdoorWaterUseRate	281,853.00	166,726.46
tblWater	OutdoorWaterUseRate	96,872.46	57,303.64
tblWater	OutdoorWaterUseRate	1,134,982.18	671,383.89
tblWater	OutdoorWaterUseRate	12,692,287.47	23,608,784.01
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

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	6.1183	0.4807	5.2963	2.9600e-003		0.0625	0.0625		0.0625	0.0625	0.0000	496.7897	496.7897	0.0174	8.9500e-003	499.8930
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1,317.5686	1,317.5686	0.0816	0.0169	1,324.6386
Mobile	2.0399	8.5180	26.0251	0.1013	10.0709	0.0788	10.1497	2.6963	0.0733	2.7696	0.0000	9,378.0717	9,378.0717	0.4526	0.0000	9,389.3859
Waste						0.0000	0.0000		0.0000	0.0000	132.3115	0.0000	132.3115	7.8194	0.0000	327.7962
Water						0.0000	0.0000		0.0000	0.0000	19.4976	337.4891	356.9866	2.0235	0.0516	422.9533
Total	**8.1582**	**8.9987**	**31.3215**	**0.1043**	**10.0709**	**0.1413**	**10.2122**	**2.6963**	**0.1358**	**2.8321**	**151.8091**	**11,529.9191**	**11,681.7282**	**10.3944**	**0.0774**	**11,964.6670**

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	6.1183	0.4807	5.2963	2.9600e-003		0.0625	0.0625		0.0625	0.0625	0.0000	496.7897	496.7897	0.0174	8.9500e-003	499.8930
Energy	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
Mobile	1.9917	8.2792	24.9746	0.0965	9.5674	0.0753	9.6427	2.5615	0.0700	2.6315	0.0000	8,933.8888	8,933.8888	0.4335	0.0000	8,944.7258
Waste						0.0000	0.0000		0.0000	0.0000	33.0779	0.0000	33.0779	1.9549	0.0000	81.9491
Water						0.0000	0.0000		0.0000	0.0000	15.5980	303.4909	319.0889	1.6209	0.0417	372.0420
Total	**8.1100**	**8.7598**	**30.2709**	**0.0995**	**9.5674**	**0.1378**	**9.7051**	**2.5615**	**0.1325**	**2.6940**	**48.6759**	**9,734.1694**	**9,782.8453**	**4.0266**	**0.0507**	**9,898.6099**

	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	**0.59**	**2.65**	**3.35**	**4.60**	**5.00**	**2.51**	**4.97**	**5.00**	**2.43**	**4.88**	**67.94**	**15.57**	**16.26**	**61.26**	**34.57**	**17.27**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

	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	1.9917	8.2792	24.9746	0.0965	9.5674	0.0753	9.6427	2.5615	0.0700	2.6315	0.0000	8,933.8888	8,933.8888	0.4335	0.0000	8,944.7258
Unmitigated	2.0399	8.5180	26.0251	0.1013	10.0709	0.0788	10.1497	2.6963	0.0733	2.7696	0.0000	9,378.0717	9,378.0717	0.4526	0.0000	9,389.3859

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	780.00	847.60	718.90	2,851,605	2,709,025
City Park	0.00	0.00	0.00		
Condo/Townhouse	2,000.00	1,952.50	1665.00	7,103,582	6,748,403
Golf Course	60.00	60.00	60.00	152,591	144,961
Hotel	900.00	902.00	655.00	2,403,648	2,283,465
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	450.00	472.05	361.00	776,984	738,135
Regional Shopping Center	900.00	1,053.25	529.50	2,246,305	2,133,990
Single Family Housing	3,090.00	3,216.69	2796.45	11,196,268	10,636,455
Total	8,180.00	8,504.09	6,785.85	26,730,983	25,394,434

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-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	11.30	11.30	11.30	41.00	19.00	40.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	11.30	11.30	11.30	41.00	19.00	40.00	86	11	3
Golf Course	11.30	11.30	11.30	33.00	48.00	19.00	52	39	9
Hotel	11.30	11.30	11.30	19.40	61.60	19.00	58	38	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Quality Restaurant	11.30	11.30	11.30	12.00	69.00	19.00	38	18	44
Regional Shopping Center	11.30	11.30	11.30	16.30	64.70	19.00	54	35	11
Single Family Housing	11.30	11.30	11.30	41.00	19.00	40.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
City Park	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Condo/Townhouse	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Golf Course	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Hotel	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Other Asphalt Surfaces	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Parking Lot	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Quality Restaurant	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Regional Shopping Center	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Single Family Housing	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable 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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,317.5686	1,317.5686	0.0816	0.0169	1,324.6386
NaturalGas Mitigated	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
NaturalGas Unmitigated	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

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					
Apartments Low Rise	0	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
City Park	0	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
Condo/Townhouse	0	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
Golf Course	0	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
Hotel	0	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
Other Asphalt Surfaces	0	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
Parking Lot	0	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
Quality Restaurant	0	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
Regional Shopping Center	0	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
Single Family Housing	0	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
Total		**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**

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					
Apartments Low Rise	0	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
City Park	0	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
Condo/Townhouse	0	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
Golf Course	0	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
Hotel	0	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
Other Asphalt Surfaces	0	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
Parking Lot	0	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
Quality Restaurant	0	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
Regional Shopping Center	0	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
Single Family Housing	0	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
Total		**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**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	414744	88.1026	5.4600e-003	1.1300e-003	88.5754
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.15511e+006	245.3764	0.0152	3.1400e-003	246.6931
Golf Course	0	0.0000	0.0000	0.0000	0.0000
Hotel	1.0224e+006	217.1847	0.0135	2.7800e-003	218.3501
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	58940	12.5204	7.8000e-004	1.6000e-004	12.5876
Quality Restaurant	141600	30.0796	1.8600e-003	3.9000e-004	30.2410
Regional Shopping Center	1.94025e+006	412.1603	0.0255	5.2800e-003	414.3719
Single Family Housing	1.46942e+006	312.1446	0.0193	4.0000e-003	313.8196
Total		**1,317.5686**	**0.0816**	**0.0169**	**1,324.6386**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000
Golf Course	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	6.1183	0.4807	5.2963	2.9600e-003		0.0625	0.0625		0.0625	0.0625	0.0000	496.7897	496.7897	0.0174	8.9500e-003	499.8930
Unmitigated	6.1183	0.4807	5.2963	2.9600e-003		0.0625	0.0625		0.0625	0.0625	0.0000	496.7897	496.7897	0.0174	8.9500e-003	499.8930

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	tons/yr										MT/yr					
Architectural Coating	1.7415					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.1734					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0494	0.4217	0.1795	2.6900e-003		0.0341	0.0341		0.0341	0.0341	0.0000	488.4217	488.4217	9.3600e-003	8.9500e-003	491.3241
Landscaping	0.1540	0.0589	5.1169	2.7000e-004		0.0284	0.0284		0.0284	0.0284	0.0000	8.3681	8.3681	8.0300e-003	0.0000	8.5689
Total	**6.1183**	**0.4807**	**5.2963**	**2.9600e-003**		**0.0625**	**0.0625**		**0.0625**	**0.0625**	**0.0000**	**496.7897**	**496.7897**	**0.0174**	**8.9500e-003**	**499.8930**

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	1.7415					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.1734					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0494	0.4217	0.1795	2.6900e-003		0.0341	0.0341		0.0341	0.0341	0.0000	488.4217	488.4217	9.3600e-003	8.9500e-003	491.3241
Landscaping	0.1540	0.0589	5.1169	2.7000e-004		0.0284	0.0284		0.0284	0.0284	0.0000	8.3681	8.3681	8.0300e-003	0.0000	8.5689
Total	**6.1183**	**0.4807**	**5.2963**	**2.9600e-003**		**0.0625**	**0.0625**		**0.0625**	**0.0625**	**0.0000**	**496.7897**	**496.7897**	**0.0174**	**8.9500e-003**	**499.8930**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	319.0889	1.6209	0.0417	372.0420
Unmitigated	356.9866	2.0235	0.0516	422.9533

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	10.2173 / 6.44133	46.7044	0.3356	8.4200e-003	57.6035
City Park	0 / 12.5834	29.6975	1.8400e-003	3.8000e-004	29.8568
Condo/Townhouse	10.2979 / 6.49213	47.0728	0.3383	8.4800e-003	58.0579
Golf Course	0 / 20.951	49.4456	3.0600e-003	6.3000e-004	49.7109
Hotel	1.50054 / 0.166726	5.0200	0.0492	1.2100e-003	6.6108
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0.897757 / 0.0573036	2.9033	0.0294	7.2000e-004	3.8545
Regional Shopping Center	1.09542 / 0.671384	4.9620	0.0360	9.0000e-004	6.1302
Single Family Housing	37.4484 / 23.6088	171.1812	1.2301	0.0309	211.1287
Total		**356.9867**	**2.0235**	**0.0516**	**422.9533**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	8.17382 / 6.44133	40.4039	0.2687	6.7700e-003	49.1395
City Park	0 / 12.5834	29.6975	1.8400e-003	3.8000e-004	29.8568
Condo/Townhouse	8.23829 / 6.49213	40.7226	0.2708	6.8300e-003	49.5271
Golf Course	0 / 20.951	49.4456	3.0600e-003	6.3000e-004	49.7109
Hotel	1.20043 / 0.166726	4.0947	0.0394	9.7000e-004	5.3678
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0.718206 / 0.0573036	2.3497	0.0235	5.8000e-004	3.1108
Regional Shopping Center	0.876333 / 0.671384	4.2865	0.0288	7.3000e-004	5.2228
Single Family Housing	29.9587 / 23.6088	148.0886	0.9848	0.0248	180.1064
Total		**319.0889**	**1.6209**	**0.0417**	**372.0420**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	33.0779	1.9549	0.0000	81.9491
Unmitigated	132.3115	7.8194	0.0000	327.7962

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	59.8	12.1389	0.7174	0.0000	30.0735
City Park	1.11	0.2253	0.0133	0.0000	0.5582
Condo/Townhouse	115	23.3440	1.3796	0.0000	57.8337
Golf Course	27.9	5.6635	0.3347	0.0000	14.0310
Hotel	54.75	11.1138	0.6568	0.0000	27.5339
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	4.56	0.9256	0.0547	0.0000	2.2932
Regional Shopping Center	26.25	5.3285	0.3149	0.0000	13.2012
Single Family Housing	362.44	73.5720	4.3480	0.0000	182.2716
Total		**132.3115**	**7.8194**	**0.0000**	**327.7962**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	14.95	3.0347	0.1794	0.0000	7.5184
City Park	0.2775	0.0563	3.3300e-003	0.0000	0.1396
Condo/Townhouse	28.75	5.8360	0.3449	0.0000	14.4584
Golf Course	6.975	1.4159	0.0837	0.0000	3.5077
Hotel	13.6875	2.7784	0.1642	0.0000	6.8835
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.14	0.2314	0.0137	0.0000	0.5733
Regional Shopping Center	6.5625	1.3321	0.0787	0.0000	3.3003
Single Family Housing	90.61	18.3930	1.0870	0.0000	45.5679
Total		**33.0779**	**1.9549**	**0.0000**	**81.9491**

CalEEMod Version: CalEEMod.2016.3.2

Date: 4/25/2018 9:16 AM

North River Farms - Buildout Operations

San Diego County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	40.40	Acre	40.40	1,759,824.00	0
Parking Lot	421.00	Space	3.79	168,400.00	0
City Park	12.96	Acre	12.96	564,537.60	0
Golf Course	30.00	Acre	30.00	1,306,800.00	0
Hotel	100.00	Room	3.33	145,200.00	0
Quality Restaurant	5.00	1000sqft	0.11	5,000.00	0
Apartments Low Rise	130.00	Dwelling Unit	8.13	130,000.00	372
Condo/Townhouse	250.00	Dwelling Unit	32.67	250,000.00	715
Single Family Housing	309.00	Dwelling Unit	40.38	556,200.00	884
Regional Shopping Center	25.00	1000sqft	6.57	25,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	468.32	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Buildout Operations run. Adjusted CO2 Intensity based on 41.5% RPS by 2025 (interpolation between RPS 2020 and 2030 goals).

Land Use - Project includes 689 du, 30 acres of agirculture (golf course), 12.96 acres in park/open space (2,000 sf), 25 ksf in retail, 5 ksf restaurant, 100 room hotel, 40.4 acres in roadway and 421 parking spaces.

Construction Phase - Modeling operations only.

Off-road Equipment - Default equipment. Added 1 trencher for utlity work.

Off-road Equipment - Modeling operations only.

Trips and VMT - Modeling operations only.

On-road Fugitive Dust - Modeling operations only.

Demolition - Modeling operations only.

Grading - Modeling operations only.

Architectural Coating - Modeling operations only.

Vehicle Trips - Adjusted trip generation rates and trip lengths to match the information provided by LLG. Saturday and Sunday adjusted per weekday rates.

Woodstoves - Fireplaces assumed to be gas fueled rather than wood fueled. Default quantities also assumed.

Area Coating -

Energy Use - Updated T24, NT24, and Lighting for condo/townhouse to match single-family. Updated T24, NT24, and Lighting for all land uses based on PV Loads Report by VCA Green.

Water And Wastewater - Adjusted indoor and outdoor water use to match the information provided by Dexter Wilson Engineering.

Solid Waste -

Sequestration -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Project is located in a suburban setting and would increase diversity which accounts for the 5% mixed used reduction (LLG 2018).

Energy Mitigation - residential and nonresidential energy consumption would be offset.

Water Mitigation - Use of low-flow water fixtures.

Waste Mitigation - 75% waste diversion consistent with AB 341.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	200.00	0.00
tblEnergyUse	LightingElect	810.36	635.80
tblEnergyUse	LightingElect	1,001.10	918.19
tblEnergyUse	LightingElect	4.50	5.92
tblEnergyUse	LightingElect	6.78	4.96
tblEnergyUse	LightingElect	6.22	38.43
tblEnergyUse	LightingElect	1,608.84	945.01
tblEnergyUse	NT24E	3,172.76	2,410.23
tblEnergyUse	NT24E	3,795.01	3,513.31
tblEnergyUse	NT24E	3.67	4.83
tblEnergyUse	NT24E	23.69	17.34
tblEnergyUse	NT24E	3.16	19.53
tblEnergyUse	NT24E	6,155.97	3,615.94
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	11.10	0.00
tblEnergyUse	NT24NG	138.46	0.00
tblEnergyUse	NT24NG	1.09	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	T24E	260.86	144.31
tblEnergyUse	T24E	227.22	188.95
tblEnergyUse	T24E	4.78	6.29
tblEnergyUse	T24E	8.23	6.02
tblEnergyUse	T24E	3.18	19.65
tblEnergyUse	T24E	331.07	194.47
tblEnergyUse	T24NG	7,045.49	0.00
tblEnergyUse	T24NG	10,202.85	0.00

tblEnergyUse	T24NG	47.27	0.00
tblEnergyUse	T24NG	35.92	0.00
tblEnergyUse	T24NG	1.14	0.00
tblEnergyUse	T24NG	19,206.92	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	71.50	117.00
tblFireplaces	NumberGas	137.50	225.00
tblFireplaces	NumberGas	169.95	278.10
tblFireplaces	NumberWood	45.50	0.00
tblFireplaces	NumberWood	87.50	0.00
tblFireplaces	NumberWood	108.15	0.00
tblLandUse	LotAcreage	15.63	32.67
tblLandUse	LotAcreage	100.32	40.38
tblLandUse	LotAcreage	0.57	6.57
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	720.49	468.32
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblVehicleTrips	CC_TL	7.30	11.30
tblVehicleTrips	CC_TL	7.30	11.30
tblVehicleTrips	CC_TL	7.30	11.30
tblVehicleTrips	CC_TL	7.30	11.30
tblVehicleTrips	CNW_TL	7.30	11.30

tblVehicleTrips	CNW_TL	7.30	11.30
tblVehicleTrips	CNW_TL	7.30	11.30
tblVehicleTrips	CNW_TL	7.30	11.30
tblVehicleTrips	CW_TL	9.50	11.30
tblVehicleTrips	CW_TL	9.50	11.30
tblVehicleTrips	CW_TL	9.50	11.30
tblVehicleTrips	CW_TL	9.50	11.30
tblVehicleTrips	HO_TL	7.50	11.30
tblVehicleTrips	HO_TL	7.50	11.30
tblVehicleTrips	HO_TL	7.50	11.30
tblVehicleTrips	HO_TTP	39.60	40.00
tblVehicleTrips	HO_TTP	39.60	40.00
tblVehicleTrips	HO_TTP	39.60	40.00
tblVehicleTrips	HS_TL	7.30	11.30
tblVehicleTrips	HS_TL	7.30	11.30
tblVehicleTrips	HS_TL	7.30	11.30
tblVehicleTrips	HS_TTP	18.80	19.00
tblVehicleTrips	HS_TTP	18.80	19.00
tblVehicleTrips	HS_TTP	18.80	19.00
tblVehicleTrips	HW_TL	10.80	11.30
tblVehicleTrips	HW_TL	10.80	11.30
tblVehicleTrips	HW_TL	10.80	11.30
tblVehicleTrips	HW_TTP	41.60	41.00
tblVehicleTrips	HW_TTP	41.60	41.00
tblVehicleTrips	HW_TTP	41.60	41.00
tblVehicleTrips	ST_TR	7.16	6.52
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	5.67	7.81
tblVehicleTrips	ST_TR	5.82	2.00

tblVehicleTrips	ST_TR	8.19	9.02
tblVehicleTrips	ST_TR	94.36	94.41
tblVehicleTrips	ST_TR	49.97	42.13
tblVehicleTrips	ST_TR	9.91	10.41
tblVehicleTrips	SU_TR	6.07	5.53
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	4.84	6.66
tblVehicleTrips	SU_TR	5.88	2.00
tblVehicleTrips	SU_TR	5.95	6.55
tblVehicleTrips	SU_TR	72.16	72.20
tblVehicleTrips	SU_TR	25.24	21.18
tblVehicleTrips	SU_TR	8.62	9.05
tblVehicleTrips	WD_TR	6.59	6.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	5.81	8.00
tblVehicleTrips	WD_TR	5.04	2.00
tblVehicleTrips	WD_TR	8.17	9.00
tblVehicleTrips	WD_TR	89.95	90.00
tblVehicleTrips	WD_TR	42.70	36.00
tblVehicleTrips	WD_TR	9.52	10.00
tblWater	IndoorWaterUseRate	8,470,023.33	10,217,274.66
tblWater	IndoorWaterUseRate	16,288,506.41	10,297,866.67
tblWater	IndoorWaterUseRate	2,536,677.00	1,500,538.16
tblWater	IndoorWaterUseRate	1,517,668.56	897,757.02
tblWater	IndoorWaterUseRate	1,851,813.04	1,095,415.83
tblWater	IndoorWaterUseRate	20,132,593.92	37,448,415.99
tblWater	OutdoorWaterUseRate	5,339,797.32	6,441,325.34
tblWater	OutdoorWaterUseRate	15,441,598.29	12,583,375.00
tblWater	OutdoorWaterUseRate	10,268,840.99	6,492,133.33

tblWater	OutdoorWaterUseRate	35,744,440.49	20,951,000.00
tblWater	OutdoorWaterUseRate	281,853.00	166,726.46
tblWater	OutdoorWaterUseRate	96,872.46	57,303.64
tblWater	OutdoorWaterUseRate	1,134,982.18	671,383.89
tblWater	OutdoorWaterUseRate	12,692,287.47	23,608,784.01
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

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	37.1487	10.9411	61.2313	0.0687		1.1470	1.1470		1.1470	1.1470	0.0000	13,234.0208	13,234.0208	0.3501	0.2407	13,314.5143
Energy	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
Mobile	12.5883	48.2166	157.7724	0.6168	60.1133	0.4594	60.5728	16.0628	0.4273	16.4902		62,884.6927	62,884.6927	2.9351		62,958.0696
Total	**49.7370**	**59.1577**	**219.0037**	**0.6855**	**60.1133**	**1.6064**	**61.7198**	**16.0628**	**1.5743**	**17.6372**	**0.0000**	**76,118.7135**	**76,118.7135**	**3.2851**	**0.2407**	**76,272.5839**

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	37.1487	10.9411	61.2313	0.0687		1.1470	1.1470		1.1470	1.1470	0.0000	13,234.0208	13,234.0208	0.3501	0.2407	13,314.5143
Energy	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
Mobile	12.3026	46.9050	151.1253	0.5876	57.1076	0.4388	57.5464	15.2597	0.4081	15.6678		59,906.3880	59,906.3880	2.8095		59,976.6250
Total	**49.4513**	**57.8461**	**212.3566**	**0.6562**	**57.1076**	**1.5858**	**58.6934**	**15.2597**	**1.5551**	**16.8148**	**0.0000**	**73,140.4088**	**73,140.4088**	**3.1595**	**0.2407**	**73,291.1393**

	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	**0.57**	**2.22**	**3.04**	**4.27**	**5.00**	**1.29**	**4.90**	**5.00**	**1.22**	**4.66**	**0.00**	**3.91**	**3.91**	**3.82**	**0.00**	**3.91**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

	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	12.3026	46.9050	151.1253	0.5876	57.1076	0.4388	57.5464	15.2597	0.4081	15.6678		59,906.3880	59,906.3880	2.8095		59,976.6250
Unmitigated	12.5883	48.2166	157.7724	0.6168	60.1133	0.4594	60.5728	16.0628	0.4273	16.4902		62,884.6927	62,884.6927	2.9351		62,958.0696

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	780.00	847.60	718.90	2,851,605	2,709,025
City Park	0.00	0.00	0.00		
Condo/Townhouse	2,000.00	1,952.50	1665.00	7,103,582	6,748,403
Golf Course	60.00	60.00	60.00	152,591	144,961
Hotel	900.00	902.00	655.00	2,403,648	2,283,465
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	450.00	472.05	361.00	776,984	738,135
Regional Shopping Center	900.00	1,053.25	529.50	2,246,305	2,133,990
Single Family Housing	3,090.00	3,216.69	2796.45	11,196,268	10,636,455
Total	8,180.00	8,504.09	6,785.85	26,730,983	25,394,434

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
Apartments Low Rise	11.30	11.30	11.30	41.00	19.00	40.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	11.30	11.30	11.30	41.00	19.00	40.00	86	11	3
Golf Course	11.30	11.30	11.30	33.00	48.00	19.00	52	39	9
Hotel	11.30	11.30	11.30	19.40	61.60	19.00	58	38	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Quality Restaurant	11.30	11.30	11.30	12.00	69.00	19.00	38	18	44
Regional Shopping Center	11.30	11.30	11.30	16.30	64.70	19.00	54	35	11
Single Family Housing	11.30	11.30	11.30	41.00	19.00	40.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
City Park	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Condo/Townhouse	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Golf Course	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Hotel	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Other Asphalt Surfaces	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Parking Lot	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Quality Restaurant	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Regional Shopping Center	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Single Family Housing	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable 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	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
NaturalGas Unmitigated	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

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					
Apartments Low Rise	0	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
City Park	0	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
Condo/Townhouse	0	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
Golf Course	0	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
Hotel	0	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
Other Asphalt Surfaces	0	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
Parking Lot	0	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
Quality Restaurant	0	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
Regional Shopping Center	0	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
Single Family Housing	0	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
Total		**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**

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					
Apartments Low Rise	0	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
City Park	0	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
Condo/Townhouse	0	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
Golf Course	0	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
Hotel	0	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
Other Asphalt Surfaces	0	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
Parking Lot	0	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
Quality Restaurant	0	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
Regional Shopping Center	0	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
Single Family Housing	0	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
Total		**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**

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	37.1487	10.9411	61.2313	0.0687		1.1470	1.1470		1.1470	1.1470	0.0000	13,234.0208	13,234.0208	0.3501	0.2407	13,314.5143
Unmitigated	37.1487	10.9411	61.2313	0.0687		1.1470	1.1470		1.1470	1.1470	0.0000	13,234.0208	13,234.0208	0.3501	0.2407	13,314.5143

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	9.5425					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.6914					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.2037	10.2864	4.3772	0.0657		0.8317	0.8317		0.8317	0.8317	0.0000	13,131.5294	13,131.5294	0.2517	0.2407	13,209.5635
Landscaping	1.7110	0.6547	56.8541	3.0100e-003		0.3153	0.3153		0.3153	0.3153		102.4914	102.4914	0.0984		104.9508
Total	**37.1487**	**10.9411**	**61.2313**	**0.0687**		**1.1470**	**1.1470**		**1.1470**	**1.1470**	**0.0000**	**13,234.0208**	**13,234.0208**	**0.3501**	**0.2407**	**13,314.5143**

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	9.5425					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.6914					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.2037	10.2864	4.3772	0.0657		0.8317	0.8317		0.8317	0.8317	0.0000	13,131.5294	13,131.5294	0.2517	0.2407	13,209.5635
Landscaping	1.7110	0.6547	56.8541	3.0100e-003		0.3153	0.3153		0.3153	0.3153		102.4914	102.4914	0.0984		104.9508
Total	**37.1487**	**10.9411**	**61.2313**	**0.0687**		**1.1470**	**1.1470**		**1.1470**	**1.1470**	**0.0000**	**13,234.0208**	**13,234.0208**	**0.3501**	**0.2407**	**13,314.5143**

CalEEMod Version: CalEEMod.2016.3.2

Date: 4/25/2018 9:18 AM

North River Farms - Buildout Operations

San Diego County APCD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	40.40	Acre	40.40	1,759,824.00	0
Parking Lot	421.00	Space	3.79	168,400.00	0
City Park	12.96	Acre	12.96	564,537.60	0
Golf Course	30.00	Acre	30.00	1,306,800.00	0
Hotel	100.00	Room	3.33	145,200.00	0
Quality Restaurant	5.00	1000sqft	0.11	5,000.00	0
Apartments Low Rise	130.00	Dwelling Unit	8.13	130,000.00	372
Condo/Townhouse	250.00	Dwelling Unit	32.67	250,000.00	715
Single Family Housing	309.00	Dwelling Unit	40.38	556,200.00	884
Regional Shopping Center	25.00	1000sqft	6.57	25,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	468.32	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Buildout Operations run. Adjusted CO2 Intensity based on 41.5% RPS by 2025 (interpolation between RPS 2020 and 2030 goals).

Land Use - Project includes 689 du, 30 acres of agirculture (golf course), 12.96 acres in park/open space (2,000 sf), 25 ksf in retail, 5 ksf restaurant, 100 room hotel, 40.4 acres in roadway and 421 parking spaces.

Construction Phase - Modeling operations only.

Off-road Equipment - Default equipment. Added 1 trencher for utlity work.

Off-road Equipment - Modeling operations only.

Trips and VMT - Modeling operations only.

On-road Fugitive Dust - Modeling operations only.

Demolition - Modeling operations only.

Grading - Modeling operations only.

Architectural Coating - Modeling operations only.

Vehicle Trips - Adjusted trip generation rates and trip lengths to match the information provided by LLG. Saturday and Sunday adjusted per weekday rates.

Woodstoves - Fireplaces assumed to be gas fueled rather than wood fueled. Default quantities also assumed.

Area Coating -

Energy Use - Updated T24, NT24, and Lighting for condo/townhouse to match single-family. Updated T24, NT24, and Lighting for all land uses based on PV Loads Report by VCA Green.

Water And Wastewater - Adjusted indoor and outdoor water use to match the information provided by Dexter Wilson Engineering.

Solid Waste -

Sequestration -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Project is located in a suburban setting and would increase diversity which accounts for the 5% mixed used reduction (LLG 2018).

Energy Mitigation - residential and nonresidential energy consumption would be offset.

Water Mitigation - Use of low-flow water fixtures.

Waste Mitigation - 75% waste diversion consistent with AB 341.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	200.00	0.00
tblEnergyUse	LightingElect	810.36	635.80
tblEnergyUse	LightingElect	1,001.10	918.19
tblEnergyUse	LightingElect	4.50	5.92
tblEnergyUse	LightingElect	6.78	4.96
tblEnergyUse	LightingElect	6.22	38.43
tblEnergyUse	LightingElect	1,608.84	945.01
tblEnergyUse	NT24E	3,172.76	2,410.23
tblEnergyUse	NT24E	3,795.01	3,513.31
tblEnergyUse	NT24E	3.67	4.83
tblEnergyUse	NT24E	23.69	17.34
tblEnergyUse	NT24E	3.16	19.53
tblEnergyUse	NT24E	6,155.97	3,615.94
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	11.10	0.00
tblEnergyUse	NT24NG	138.46	0.00
tblEnergyUse	NT24NG	1.09	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	T24E	260.86	144.31
tblEnergyUse	T24E	227.22	188.95
tblEnergyUse	T24E	4.78	6.29
tblEnergyUse	T24E	8.23	6.02
tblEnergyUse	T24E	3.18	19.65
tblEnergyUse	T24E	331.07	194.47
tblEnergyUse	T24NG	7,045.49	0.00
tblEnergyUse	T24NG	10,202.85	0.00

tblEnergyUse	T24NG	47.27	0.00
tblEnergyUse	T24NG	35.92	0.00
tblEnergyUse	T24NG	1.14	0.00
tblEnergyUse	T24NG	19,206.92	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	71.50	117.00
tblFireplaces	NumberGas	137.50	225.00
tblFireplaces	NumberGas	169.95	278.10
tblFireplaces	NumberWood	45.50	0.00
tblFireplaces	NumberWood	87.50	0.00
tblFireplaces	NumberWood	108.15	0.00
tblLandUse	LotAcreage	15.63	32.67
tblLandUse	LotAcreage	100.32	40.38
tblLandUse	LotAcreage	0.57	6.57
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	720.49	468.32
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblVehicleTrips	CC_TL	7.30	11.30
tblVehicleTrips	CC_TL	7.30	11.30
tblVehicleTrips	CC_TL	7.30	11.30
tblVehicleTrips	CC_TL	7.30	11.30
tblVehicleTrips	CNW_TL	7.30	11.30

tblVehicleTrips	CNW_TL	7.30	11.30
tblVehicleTrips	CNW_TL	7.30	11.30
tblVehicleTrips	CNW_TL	7.30	11.30
tblVehicleTrips	CW_TL	9.50	11.30
tblVehicleTrips	CW_TL	9.50	11.30
tblVehicleTrips	CW_TL	9.50	11.30
tblVehicleTrips	CW_TL	9.50	11.30
tblVehicleTrips	HO_TL	7.50	11.30
tblVehicleTrips	HO_TL	7.50	11.30
tblVehicleTrips	HO_TL	7.50	11.30
tblVehicleTrips	HO_TTP	39.60	40.00
tblVehicleTrips	HO_TTP	39.60	40.00
tblVehicleTrips	HO_TTP	39.60	40.00
tblVehicleTrips	HS_TL	7.30	11.30
tblVehicleTrips	HS_TL	7.30	11.30
tblVehicleTrips	HS_TL	7.30	11.30
tblVehicleTrips	HS_TTP	18.80	19.00
tblVehicleTrips	HS_TTP	18.80	19.00
tblVehicleTrips	HS_TTP	18.80	19.00
tblVehicleTrips	HW_TL	10.80	11.30
tblVehicleTrips	HW_TL	10.80	11.30
tblVehicleTrips	HW_TL	10.80	11.30
tblVehicleTrips	HW_TTP	41.60	41.00
tblVehicleTrips	HW_TTP	41.60	41.00
tblVehicleTrips	HW_TTP	41.60	41.00
tblVehicleTrips	ST_TR	7.16	6.52
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	5.67	7.81
tblVehicleTrips	ST_TR	5.82	2.00

tblVehicleTrips	ST_TR	8.19	9.02
tblVehicleTrips	ST_TR	94.36	94.41
tblVehicleTrips	ST_TR	49.97	42.13
tblVehicleTrips	ST_TR	9.91	10.41
tblVehicleTrips	SU_TR	6.07	5.53
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	4.84	6.66
tblVehicleTrips	SU_TR	5.88	2.00
tblVehicleTrips	SU_TR	5.95	6.55
tblVehicleTrips	SU_TR	72.16	72.20
tblVehicleTrips	SU_TR	25.24	21.18
tblVehicleTrips	SU_TR	8.62	9.05
tblVehicleTrips	WD_TR	6.59	6.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	5.81	8.00
tblVehicleTrips	WD_TR	5.04	2.00
tblVehicleTrips	WD_TR	8.17	9.00
tblVehicleTrips	WD_TR	89.95	90.00
tblVehicleTrips	WD_TR	42.70	36.00
tblVehicleTrips	WD_TR	9.52	10.00
tblWater	IndoorWaterUseRate	8,470,023.33	10,217,274.66
tblWater	IndoorWaterUseRate	16,288,506.41	10,297,866.67
tblWater	IndoorWaterUseRate	2,536,677.00	1,500,538.16
tblWater	IndoorWaterUseRate	1,517,668.56	897,757.02
tblWater	IndoorWaterUseRate	1,851,813.04	1,095,415.83
tblWater	IndoorWaterUseRate	20,132,593.92	37,448,415.99
tblWater	OutdoorWaterUseRate	5,339,797.32	6,441,325.34
tblWater	OutdoorWaterUseRate	15,441,598.29	12,583,375.00
tblWater	OutdoorWaterUseRate	10,268,840.99	6,492,133.33

tblWater	OutdoorWaterUseRate	35,744,440.49	20,951,000.00
tblWater	OutdoorWaterUseRate	281,853.00	166,726.46
tblWater	OutdoorWaterUseRate	96,872.46	57,303.64
tblWater	OutdoorWaterUseRate	1,134,982.18	671,383.89
tblWater	OutdoorWaterUseRate	12,692,287.47	23,608,784.01
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

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	37.1487	10.9411	61.2313	0.0687		1.1470	1.1470		1.1470	1.1470	0.0000	13,234.0208	13,234.0208	0.3501	0.2407	13,314.5143
Energy	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
Mobile	12.1785	49.6484	152.8877	0.5856	60.1133	0.4611	60.5744	16.0628	0.4289	16.4917		59,731.7755	59,731.7755	2.9335		59,805.1132
Total	**49.3271**	**60.5895**	**214.1190**	**0.6542**	**60.1133**	**1.6081**	**61.7214**	**16.0628**	**1.5759**	**17.6387**	**0.0000**	**72,965.7963**	**72,965.7963**	**3.2836**	**0.2407**	**73,119.6274**

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	37.1487	10.9411	61.2313	0.0687		1.1470	1.1470		1.1470	1.1470	0.0000	13,234.0208	13,234.0208	0.3501	0.2407	13,314.5143
Energy	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
Mobile	11.8978	48.2500	146.8228	0.5577	57.1076	0.4404	57.5480	15.2597	0.4096	15.6693		56,896.2755	56,896.2755	2.8112		56,966.5545
Total	**49.0465**	**59.1911**	**208.0541**	**0.6264**	**57.1076**	**1.5874**	**58.6950**	**15.2597**	**1.5566**	**16.8163**	**0.0000**	**70,130.2963**	**70,130.2963**	**3.1612**	**0.2407**	**70,281.0687**

	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	**0.57**	**2.31**	**2.83**	**4.25**	**5.00**	**1.29**	**4.90**	**5.00**	**1.22**	**4.66**	**0.00**	**3.89**	**3.89**	**3.73**	**0.00**	**3.88**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

	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	11.8978	48.2500	146.8228	0.5577	57.1076	0.4404	57.5480	15.2597	0.4096	15.6693		56,896.2755	56,896.2755	2.8112		56,966.5545
Unmitigated	12.1785	49.6484	152.8877	0.5856	60.1133	0.4611	60.5744	16.0628	0.4289	16.4917		59,731.7755	59,731.7755	2.9335		59,805.1132

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	780.00	847.60	718.90	2,851,605	2,709,025
City Park	0.00	0.00	0.00		
Condo/Townhouse	2,000.00	1,952.50	1665.00	7,103,582	6,748,403
Golf Course	60.00	60.00	60.00	152,591	144,961
Hotel	900.00	902.00	655.00	2,403,648	2,283,465
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	450.00	472.05	361.00	776,984	738,135
Regional Shopping Center	900.00	1,053.25	529.50	2,246,305	2,133,990
Single Family Housing	3,090.00	3,216.69	2796.45	11,196,268	10,636,455
Total	8,180.00	8,504.09	6,785.85	26,730,983	25,394,434

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-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	11.30	11.30	11.30	41.00	19.00	40.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	11.30	11.30	11.30	41.00	19.00	40.00	86	11	3
Golf Course	11.30	11.30	11.30	33.00	48.00	19.00	52	39	9
Hotel	11.30	11.30	11.30	19.40	61.60	19.00	58	38	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Quality Restaurant	11.30	11.30	11.30	12.00	69.00	19.00	38	18	44
Regional Shopping Center	11.30	11.30	11.30	16.30	64.70	19.00	54	35	11
Single Family Housing	11.30	11.30	11.30	41.00	19.00	40.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
City Park	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Condo/Townhouse	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Golf Course	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Hotel	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Other Asphalt Surfaces	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Parking Lot	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Quality Restaurant	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Regional Shopping Center	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Single Family Housing	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable 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	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
NaturalGas Unmitigated	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

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					
Apartments Low Rise	0	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
City Park	0	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
Condo/Townhouse	0	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
Golf Course	0	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
Hotel	0	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
Other Asphalt Surfaces	0	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
Parking Lot	0	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
Quality Restaurant	0	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
Regional Shopping Center	0	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
Single Family Housing	0	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
Total		**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**

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					
Apartments Low Rise	0	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
City Park	0	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
Condo/Townhouse	0	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
Golf Course	0	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
Hotel	0	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
Other Asphalt Surfaces	0	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
Parking Lot	0	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
Quality Restaurant	0	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
Regional Shopping Center	0	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
Single Family Housing	0	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
Total		**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**

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	37.1487	10.9411	61.2313	0.0687		1.1470	1.1470		1.1470	1.1470	0.0000	13,234.0208	13,234.0208	0.3501	0.2407	13,314.5143
Unmitigated	37.1487	10.9411	61.2313	0.0687		1.1470	1.1470		1.1470	1.1470	0.0000	13,234.0208	13,234.0208	0.3501	0.2407	13,314.5143

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	9.5425					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.6914					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.2037	10.2864	4.3772	0.0657		0.8317	0.8317		0.8317	0.8317	0.0000	13,131.5294	13,131.5294	0.2517	0.2407	13,209.5635
Landscaping	1.7110	0.6547	56.8541	3.0100e-003		0.3153	0.3153		0.3153	0.3153		102.4914	102.4914	0.0984		104.9508
Total	**37.1487**	**10.9411**	**61.2313**	**0.0687**		**1.1470**	**1.1470**		**1.1470**	**1.1470**	**0.0000**	**13,234.0208**	**13,234.0208**	**0.3501**	**0.2407**	**13,314.5143**

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	9.5425					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.6914					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.2037	10.2864	4.3772	0.0657		0.8317	0.8317		0.8317	0.8317	0.0000	13,131.5294	13,131.5294	0.2517	0.2407	13,209.5635
Landscaping	1.7110	0.6547	56.8541	3.0100e-003		0.3153	0.3153		0.3153	0.3153		102.4914	102.4914	0.0984		104.9508
Total	**37.1487**	**10.9411**	**61.2313**	**0.0687**		**1.1470**	**1.1470**		**1.1470**	**1.1470**	**0.0000**	**13,234.0208**	**13,234.0208**	**0.3501**	**0.2407**	**13,314.5143**

Pool Energy Demand - Proctor Valley

Average Pool Size in SCE Study (gallons)	Hours of Operation per Day	Average Heater Size from SCE Study (kBtu/hr)	hour/year	kBtu/year	kBtu/year (efficiency)	kBtu/gal/ year	MMBtu/gal/ year
28,210	12	410	4,380	1,795,800	1,580,304	56.02	0.056

Total Potential CO_2e Emissions from Pool Energy Demand

Facility Name	Pool Volume (gal)	MMBtu/gal/year	MMBtu/year	lb. CO2e/ MMBtu	lb. CO2e/ year	MT/CO2e/ year
Community Swimming Pool	127,908	0.056	7,165	118.35	848,015	385.46
					Total	**385.46**

Total Potential Energy Demand

Facility Name	Pool Volume (gal)	MMBtu/gal/year	MMBtu/year
All pools	127,908	0.056	7,165

Notes: Pool hours of operation assume 12 hours daily.

89-95% efficency (US Department of Energy). Heaters in the Proposed Project were assumed to use 90% efficent heaters.

Polutant Emissions from Pool Heating

Polutant	lb./MMBtu	MMBtu/day	lb./day
ROG	0.010784314	19.63	0.21
SO_2	0.000588235		0.01
NO_X	0.092156863		1.81
PM_{10}	0.00745098		0.15
$PM_{2.5}$	0.00745098		0.15
CO	0.039215686		0.77

APPENDIX B

Construction Health Risk Assessment

HEALTH RISK ASSESSMENT
for the
North River Farms Project
Oceanside, California

Prepared for:

Integral Communities
2235 Encinitas Boulevard, Suite 216
Encinitas, California 92024
Contact: Ninia Hammond

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024
Contact: Adam Poll

JUNE 2018

Printed on 30% post-consumer recycled material.

TABLE OF CONTENTS

Section **Page No.**

FIGURES

TABLE OF CONTENTS (CONTINUED)

Page No.

TABLES

ATTACHMENTS

SUMMARY

The North River Farms Project (proposed project) consists of developing an agriculture-based community, which consists of an approximately 176.6-acre site with 559 single-family residential dwelling units and 130 multi-family residential dwelling units. Of the 176.6-acre site, approximately 31.6 acres would be dedicated for community agriculture, 24.9 acres dedicated to the commercial Village Core, which includes development of a restaurant, boutique hotel, a variety of space dedicated for specialty shops, agriculture, and park areas. The remainder of the project site, approximately 16 acres, would be dedicated for parks and open space.

The purpose of the health risk assessment (HRA) is to determine the potential cancer risk and non-cancer health impacts to the closest sensitive receptors of the proposed project due to diesel particulate matter (DPM) emissions resulting from diesel construction equipment and on-site diesel trucks.

Dispersion modeling was conducted using the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD). The San Diego Air Pollution Control District's (SDAPCD's) *Supplemental Guidelines for Submission of Air Toxics "Hot Spots" Program Health Risk Assessments (SDAPCD 2015)* and the Office of Environmental Health Hazard Assessment's (OEHHA's) *Air Toxics Hot Spots Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments* (2015 Risk Assessment Guidelines Manual; OEHHA 2015) were used to prepare this HRA. The analysis considers a 5-year exposure scenario consistent with guidance from the SDAPCD and the construction schedule.

The HRA finds that the maximally exposed off-site receptor would exceed the SDAPCD's evaluation criterion and therefore would result in a potentially significant impact. Mitigation Measure (MM) AQ-1 was included to reduce the emissions of DPM from the project and thus reduce risk to project receptors. With implementation of MM-AQ-1, the HRA finds that maximally exposed off-site receptor would be exposed to a cancer risk that is less than SDAPCD's evaluation criterion of 10 in 1 million. Also, the chronic hazard index was less than 1.0 prior to mitigation for the proposed project, which is less than the SDAPCD's evaluation criterion. It should be noted that there is no reference exposure level for acute health impacts from DPM and thus acute risk was not evaluated. Therefore, the proposed project would result in a less-than-significant impact with mitigation.

INTENTIALLY LEFT BLANK

1 INTRODUCTION

1.1 Purpose

In support of the air quality technical report preparation, Dudek has prepared a health risk assessment (HRA) modeling analysis to estimate health risk impacts from construction of the North River Farms Project (proposed project).

The analysis presented in this report uses air dispersion modeling methodology to evaluate potential ambient air quality impacts and public health risks associated with construction of the proposed project. Results of the modeling analysis are compared with the most recent California Environmental Quality Act (CEQA) significance thresholds established by the San Diego County Air Pollution Control District (SDAPCD).

Per CEQA Guidelines Appendix G, the HRA directly addresses question (d): Would the project expose sensitive receptors to substantial pollutant concentrations?

1.2 Project Description

The Proposed Project is located within the northeastern portion of the City of Oceanside, California and is situated directly north of State Route (SR-) 76 and is bisected by North River Road. Existing land uses surrounding and within the project area includes agriculture, institutional (church and school), and residential uses. Integral Communities is proposing to develop an agriculture-based community, which consists of an approximately 176.6-acre site with 559 single-family residential dwelling units and 130 multi-family residential dwelling units. Of the 176.6-acre site, approximately 31.6 acres would be dedicated for community agriculture, 24.9 acres dedicated to the commercial Village Core, which includes development of a restaurant, boutique hotel, a variety of space dedicated for specialty shops, agriculture, and park areas. The remainder of the project site, approximately 16 acres, would be dedicated for parks and open space.

Construction of the Proposed Project is expected to commence mid-2019 occurring over a 5-year period with buildout at the end of 2024. Demolition of existing on-site structures would last for 1-month. Site preparation would occur thereafter and would require approximately 1-month. Grading of approximately 155 acres of the project site would be completed over a 7-month period from the end of 2019 through the beginning of 2020 and would be balanced. Site paving would occur over a 6-month period following grading, which would include the paving of roadways and other asphalt surfaces. The development of site infrastructure and building construction including single-family and medium density residential uses, the Village Core, and agriculture facilities, would occur over 4 years beginning in late 2020. For purposes of modeling,

it was assumed that architectural coatings would be applied halfway through the building construction phase, late 2022 and would last approximately 2 years.

1.3 Local Conditions

The proposed project site is located in the City of Oceanside (City), along North River Road and is situated directly north of SR-76. The Proposed Project site consists of approximately 176.6 acres. Regionally, the City is situated within the northeastern portion of San Diego County, about 46 miles north of Downtown San Diego via Interstate 5 (I-5). The project site is generally bisected into northern and southern sections by the existing North River Road alignment. The northern portion of the project site is bordered on the east by Wilshire Road. The Proposed Project is approximately 7.7 miles to the east of I-5, and about 0.32 mile north of SR-76. The Proposed Project is adjacent to the San Luis Rey River. The Proposed Project is located within the San Diego Air Basin (SDAB) and is within the jurisdictional boundaries of the SDAPCD.

1.3.1 Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (California Air Resources Board (CARB) 2005). SDAPCD considers schools (kindergarten through grade 12), daycare centers, nursing homes, retirement homes, health clinics, and hospitals within 2 kilometers of the facility as sensitive receptor land uses (SDAPCD 2015). The closest sensitive receptor to the proposed project is an existing residence to the west, approximately 50 feet from the proposed project boundary.

1.4 Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2),

particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$), and lead (Pb). These pollutants, as well as toxic air contaminants (TACs), are discussed in the following text.[1] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Coarse particulate matter (PM_{10}) is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter ($PM_{2.5}$) is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can form in the atmosphere from gases such as sulfur oxides (SO_x), nitrogen oxides (NO_x), and reactive organic gases (ROGs).

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as Pb, sulfates, and nitrates can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. PM_{10} tends to collect in the upper portion of the respiratory system, whereas $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

People with influenza, people with chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing particulate

[1] The descriptions of each of the criteria air pollutants and associated health effects are based on the U.S. Environmental Protection Agency's (EPA's) Criteria Air Pollutants (EPA 2016) and the California Air Resources Board (CARB) Glossary of Air Pollutant Terms (CARB 2016).

matter. Children may experience a decline in lung function due to breathing PM_{10} and $PM_{2.5}$. Other groups considered sensitive are smokers, people who cannot breathe well through their noses, and exercising athletes (because many breathe through their mouths).

1.5 Toxic Air Contaminants

A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute (short term) and/or chronic (long term) non-cancer health effects. A toxic substance released into the air is considered a TAC. Examples include certain aromatic and chlorinated hydrocarbons, diesel particulate matter (DPM), certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ system and may be experienced either on acute or chronic exposure to a given TAC.

California's air toxics control program began in 1983 with the passage of the Toxic Air Contaminant Identification and Control Act, Assembly Bill (AB) 1807, better known as the Tanner Bill. The Tanner Bill established a regulatory process for the scientific and public review of individual toxic compounds. When a compound becomes listed as a TAC under the Tanner process, CARB normally establishes minimum statewide emission-control measures to be adopted by air quality management districts and air pollution control districts. By 1992, 18 of the 189 federal hazardous air pollutants had been listed by the CARB as state TACs. In April 1993, CARB added 171 substances to the state program to make the state TAC list equivalent to the federal list of hazardous air pollutants. In 1998, CARB designated diesel engine exhaust particulate matter (DPM) as a TAC (CARB 1998). The exhaust from diesel engines is a complex mixture of gases, vapors, and particles, many of which are known human carcinogens. DPM has established cancer risk factors and relative exposure values for long term chronic health hazard impacts. No short term, acute relative exposure values are established and regulated and are therefore not addressed in this assessment.

The second major component of California's air toxics program, supplementing the Tanner process, was provided by the passage of AB 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. AB 2588 currently regulates over 600 compounds, including all of the Tanner-designated TACs.

Additionally, Proposition 65, passed by California voters in 1986, required that a list of carcinogenic and reproductive toxicants found in the environment be compiled, the discharge of

these toxicants into drinking water be prohibited, and warnings of public exposure by air, land, or water be posted if a significant adverse public health risk is posed. The emission of any of listed substances by a facility would require a public warning unless health risks could be demonstrated to be less than significant. For carcinogens, Proposition 65 defines the "no significant risk level" as the level of exposure that would result in an increased cancer risk of greater than 10 in 1 million over a 70-year lifetime. The "no significant risk level" is 1/1000 of the No Observable Effect Level for reproductive toxicants.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. The regulation is anticipated to result in an 80% decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, On-Road Heavy Duty (New) Vehicle Program, In-Use Off-Road Diesel Vehicle Regulation, and New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. These regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel powered equipment. Several Airborne Toxic Control Measures reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

1.6 Cancer Risk

Cancer risk is defined as the increase in lifetime probability (chance) of an individual developing cancer due to exposure to a carcinogenic compound, typically expressed as the increased probability in 1 million. The cancer risk from inhalation of a TAC is estimated by calculating the inhalation (and if applicable, ingestion) dose in units of milligrams/kilogram body weight per day based on an ambient concentration in units of micrograms per cubic meter ($\mu g/m^3$), breathing rate, and exposure period, and multiplying the dose by the inhalation cancer potency factor, expressed as (milligrams/kilogram body weight per day).

Cancer risks are typically calculated for all carcinogenic TACs and summed to calculate the overall increase in cancer risk to an individual. The calculation procedure assumes that cancer risk is proportional to concentrations at any level of exposure and that risks due to different carcinogens are additive. This approach is generally considered a conservative assumption at low doses and is consistent with the current Office of Environmental Health Hazard Assessment's (OEHHA) regulatory approach. Exposure to carcinogenic TACs does not imply that the exposed individual would contract cancer; rather, the cancer risk is a probability of developing cancer if other factors (e.g., heredity, exposure to environmental or workplace exposures that comprise the immune system, overall health) would result in an increased susceptibility to developing cancer.

1.7 Non-cancer Health Impacts

The non-cancer health impact of an inhaled TAC is measured by the hazard quotient, which is the ratio of the ambient concentration of a TAC in units of micrograms per cubic meters ($\mu g/m^3$) divided by the reference exposure level (REL), also in units of $\mu g/m^3$. The REL is the concentration at or below which no adverse health effects are anticipated. The REL is typically based on health effects to a particular target organ system, such as the respiratory system, liver, or central nervous system. Hazard quotients of individual TACs are then summed for each target organ system to obtain a hazard index.

2 GUIDANCE AND THRESHOLDS

2.1 OEHHA Guidance

This report includes HRAs associated with construction emissions and emissions from diesel vehicles. All these risk assessments followed the methodologies prescribed in the California Environmental Protection Agency/OEHHA's *Air Toxics Hot Spots Program Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015), which was adopted in 2015 replacing the previous 2003 guidance manual.

The Children's Environmental Health Protection Act of 1999 (Senate Bill 25), which requires explicit consideration of infants and children in assessing risks from air toxics, required revisions of the methods for both non-cancer and cancer risk assessment and of the exposure assumptions in the 2003 OEHHA health risk assessment guidance manual. In response to SB 25, OEHHA released three technical support documents (TSDs) addressing RELs (OEHHA 2008), cancer potency (OEHHA 2009), and exposure assessment and stochastic analysis (OEHHA 2012) and adopted the revised health risk assessment guidance manual (OEHHA 2015). The TSD for RELs and continuing work to reevaluate TACs to ensure adequate protection for infants and children has led to revisions of RELs for approximately 10 chemicals and chemical families. The basic methodology for evaluating acute and chronic health effects using the RELs otherwise remained the same as in the previous guidance manual. Moreover, RELs are designed to protect the most sensitive individuals in the population, including infants and children, by selecting appropriate toxicological data and including margins of safety. Accordingly, the evaluation methods are assumed to protect children as well as other sensitive subpopulations (groups of more highly susceptible individuals) from adverse health effects in the event of exposure (OEHHA 2008).

The cancer risk methodology described in exposure assessment and stochastic analysis TSD and the OEHHA guidance manual accounts for the higher sensitivity of infants and children by applying age-specific breathing rates and age-sensitivity factors. According to the TSD, "Accounting for effects of early-in life exposure requires accounting for both the increased potency of early in life exposure to carcinogens and the greater exposure on a per [kilogram] body weight that occurs early in life due to behavioral and physiological differences between infants and children, and adults" (OEHHA 2012). As compared to the previous guidance, which relied on a single breathing rate for all ages, the revised guidance also includes age-specific breathing rates that reflect the differences between those for infants, children, and adults. The health risk assessments in this report use the Hotspots Analysis and Reporting Program, Version 2 (HARP 2), which incorporates RELs and cancer potency factors, which are periodically updated, and health risk calculations based on the 2015 OEHHA Risk Assessment Guidelines Manual. Accordingly,

these risk assessments evaluate and reflect conservative, health-protective methodologies to assess health impacts to adults as well as infants, children, and other sensitive subpopulations.

2.2 SDAPCD Guidance

SDAPCD's *Supplemental Guidelines for Submission of Air Toxics "Hot Spots" Program Health Risk Assessments* (SDAPCD 2015) provides guidance to perform HRAs within SDAB. Although the SDAPCD Guidance is specifically targeted towards health risk from air toxic emissions from stationary source operations, the thresholds were adapted here for informational purposes. SDAPCD's current thresholds of significance for TAC emissions from the operations of permitted and non-permitted sources are presented in Table 1. These stationary source thresholds were adapted to be used in this assessment.

Table 1
SDAPCD CEQA TAC Emissions Thresholds

Carcinogens	Non-Carcinogens
	Chronic[1]
Maximally exposed individual risk equals or exceeds 10 in 1 million	Hazard Index equals or exceeds 1.0 for the maximally exposed individual

Source: SDAPCD 2015.
Notes: CEQA = California Environmental Quality Act; SDAPCD = San Diego Air Pollution Control District; TAC = toxic air contaminant
1 DPM does not have a reference exposure level for acute toxicity and thus acute non-carcinogenic risk does not apply.

3 EMISSION CALCULATIONS

3.1 Methodology and Assumptions

Construction of the proposed project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and ROG off-gassing) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). Emissions from the construction phase of the proposed project were estimated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2.

Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on information provided by the Applicant. For purposes of estimating proposed project emissions, and based on information provided by the Applicant, it is assumed that construction of the proposed project would commence in June 2019 and would last approximately 5 years, ending in August 2024. The analysis contained herein is based on the following assumptions (duration of phases is approximate) are shown in Table 2.

Table 2
Construction Phasing Assumptions

Proposed Project Construction Phase	Construction Start Month/Year	Construction End Month/Year
Demolition	06/2019	07/2019
Site Preparation	07/2019	08/2019
Grading	08/2019	03/2020
Paving	03/2020	09/2020
Building Construction	08/2020	08/2024
Architectural Coating	08/2022	08/2024

Source: Integral Communities 2017.

For the analysis, it was generally assumed that heavy construction equipment would be operating at the site for approximately 8 hours per day, 5 days per week (22 days per month), during construction. For the HRA and dispersion modeling, only on-site emissions were accounted for from haul and vendor diesel trucks.

3.2 Estimated Emissions

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

Construction emissions were calculated for the estimated worst-case day over the construction period associated with each phase and reported as the maximum daily emissions estimated during each year of construction. Construction schedule assumptions, including phase type, duration, and sequencing, were based on information provided by the Applicant and are intended to represent a reasonable scenario based on the best information available.

Construction would generate air pollutant emissions from entrained dust, off-road equipment, and vehicle emissions. Internal combustion engines used by construction equipment, vendor trucks (i.e., delivery trucks), and worker vehicles would result in emissions of ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$. For the HRA, we are concerned with DPM emitted from exhaust from on-site construction equipment and diesel vehicles. To include on-site emissions from diesel haul and vendor trucks, they were conservatively assumed to operate for 0.19-miles on site (1,000 feet).

Table 3 presents the estimated unmitigated annual construction exhaust PM_{10} emissions generated during construction of the proposed project. Details of the emission calculations are provided in Attachment A.

Table 3
Estimated Proposed Project Annual On-Site Construction Emissions – Exhaust Only

Year	PM_{10}
	Tons per year
2019	0.18
2020	0.18
2021	0.16
2022	0.14
2023	0.13
2024	0.07
Total	**0.86**

Notes: PM_{10} = coarse particulate matter
See Attachment A for complete results.

As shown in Section 5, HRA Results, the results of the HRA using the default construction emission factors in CalEEMod result in a potentially significance impact. As such, the following mitigation is included to reduce DPM emissions from construction equipment.

Mitigation Measure

AQ-1: To reduce the potential for health risks as a result of construction of the proposed project the Applicant shall:

A. Prior to the start of construction activities, the project applicant, or its designee, shall ensure that all diesel-powered cranes, generator sets, trenchers, forklifts, rubber tired dozers, and tractors/loaders/backhoes are powered with CARB certified Tier 4 Interim engines, except where the project applicant establishes to the satisfaction of the City that Tier 4 Interim equipment is not available.

- All other diesel-powered construction equipment will be classified as Tier 3 or higher, at a minimum, except where the project applicant establishes to the satisfaction of the City that Tier 3 equipment is not available.

In the case where the applicant is unable to secure a piece of equipment that meets the Tier 4 Interim requirement, the applicant may upgrade another piece of equipment to compensate (from Tier 4 Interim to Tier 4 Final). Engine Tier requirements in accordance with this measure shall be incorporated on all construction plans.

Mitigated Emissions

The proposed project emissions incorporating the tiered equipment as outlined in mitigation measure (MM) AQ-1 are shown in Table 4.

Table 4
Estimated Proposed Project Annual On-Site Mitigated Construction Emissions – Exhaust Only

Year	PM_{10}
	Tons per year
2019	0.06
2020	0.07
2021	0.02
2022	0.03
2023	0.03
2024	0.02
Total	**0.23**

Notes: PM_{10} = coarse particulate matter
See Attachment A for complete results.

INTENTIONALLY LEFT BLANK

4 MODELING METHODOLOGY

4.1 Dispersion Model

Dudek conducted a dispersion modeling analysis of DPM emitted from diesel vehicles and equipment on the proposed project site for the HRA. The dispersion modeling was performed using the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) version 18081 using the Lakes AERMOD View Version 9.6.1, which is the model SDAPCD recommends for atmospheric dispersion of emissions. AERMOD is a steady-state Gaussian plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of surface and elevated sources, building downwash, and simple and complex terrain (EPA 2017).

Dispersion of DPM was modeled using AERMOD, and then cancer risk and non-cancer health impacts subsequently using HARP 2, which implements the 2015 OEHHA age-weighting methodology for assessing TAC risks. Dudek evaluated the potential cancer and non-cancer health impacts from diesel exhaust on nearby residents using exposure periods appropriate to evaluate these emission increases. The health risk results were then compared to SDAPCD thresholds to assess significance. Although SDAPCD Guidance is specifically targeted towards health risk from air toxic emissions from stationary source operations, the thresholds were adapted here for informational purposes.

The HRA was performed as a precautionary measure to evaluate any risk to nearby sensitive receptors. Principal parameters of AERMOD for proposed project construction included the following:

- **Meteorological Data:** The latest 3-year meteorological data (2010–2012) for the Camp Pendleton station (Station ID 3177) were provided by SDAPCD, and then input to AERMOD. A wind rose is provided for this station on Figure 1.
- **Urban and Rural Options:** Typically, urban areas have more surface roughness and structures and low-albedo surfaces that absorb more sunlight, and thus, more heat, relative to rural areas. However, according to SDAPCD guidelines, the rural dispersion option was selected due to the proposed project's proximity to the ocean.
- **Terrain Characteristics:** The terrain in the vicinity of the modeled proposed project site is generally flat. The elevation of the modeled site is approximately 200 feet above sea level. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate (National Elevation Dataset 1/3 – 10 meter resolution).

- **Discrete Receptors:** A uniform Cartesian grid was placed over the proposed project site with 20-meter spacing (2,700 meters by 2,700 meters) and converted into discrete Cartesian receptors to represent existing sensitive receptors adjacent to the site.
- **Source Equipment Operating Scenarios:** Air dispersion modeling of DPM emissions was conducted assuming the equipment would operate in accordance with the modeling scenario estimated in CalEEMod (Attachment A). The DPM emissions were modeled as a series of volume sources.
- **Source Release Characterizations:** For modeling construction emissions dispersion using AERMOD, it was assumed that the total project area would operate in accordance with the respective construction schedules. A unit emission rate of 1.0 gram per second was normalized over the number of volume sources for each AERMOD run.

Table 5 shows the release characteristics used in the AERMOD model.

Table 5
Volume Source Parameters for Health Risk Assessment

Parameter	Units	Value
Emission Rate	grams per second	1.0
Release Height[1]	meters	5.0
Length of Side[2]	meters	25.0
Initial Lateral Dimension[1]	meters	5.81
Initial Vertical Dimension[1]	meters	5.81
Volume Sources	number	505

Notes:
1 Release height, initial lateral dimension, and initial vertical dimensions based off the Sacramento Metropolitan Air Quality Management District's (SMAQMD's) Dispersion Modeling of Construction Generated PM_{10} Emissions guidance (SMAQMD 2013)
2 Length of side based on discussion with SDAPCD staff (Pers. Comm. Reeves, B. 2018).

4.2 HRA Methodology

In March 2015, the OEHHA approved the new *Air Toxics Hot Spots Program Risk Guidance Manual for Preparation of Health Risk Assessments*. SDAPCD requires that all HRAs prepared for CEQA documents follow District policies in conjunction with the OEHHA guidance document. In order to implement the OEHHA guidance based on project information, the District has developed a 3-tiered approach where each successive tier is progressively more refined with each progressive level being less conservative.

SDAPCD's HRA Tier 1 approach is a screening assessment methodology that incorporates very conservative assumption methodologies when specific information about a project and its impact locations to actual or assumed receptor locations are unknown. The Tier 2 option implements the

AERMOD dispersion model and HARP 2 Air Dispersion Modeling and Risk Assessment Tool (ADMRT, Version 17320). The Tier 2 approach provides a more accurate analysis. Tier 2 requires specific information modeling input for sources and receptors that refine the Tier 1, screening assessment approach. Tier 3 (refined project specific exposure parameters) is used when specific exposure parameters information about the project and affected receptors is known.

Tier 3 cancer and non-cancer health risk calculations were performed using ground-level unity emission concentration (X/Q) input from AERMOD. This modeling established the emissions dispersion field to surrounding receptors from atmospheric influence of the proposed project emissions. The ground level concentrations (GLC) were then determined by multiplication of annual average emission rates and annually averaged X/Q values determined by AERMOD for the raised area source of emissions from construction activity. HARP 2 then assessed the health risk impacts from exposure to DPM from construction emissions.

The HRA results presented in Section 5 reflect the latest OEHHA guidance. This assessment utilized the Tier 3 approach with project-specific information used for exposure. All receptors were assumed to be residential and began exposure during the 3rd trimester of pregnancy, in accordance with the OEHHA Guidelines. The emissions from the proposed project were portioned out equally between each of the volume sources.

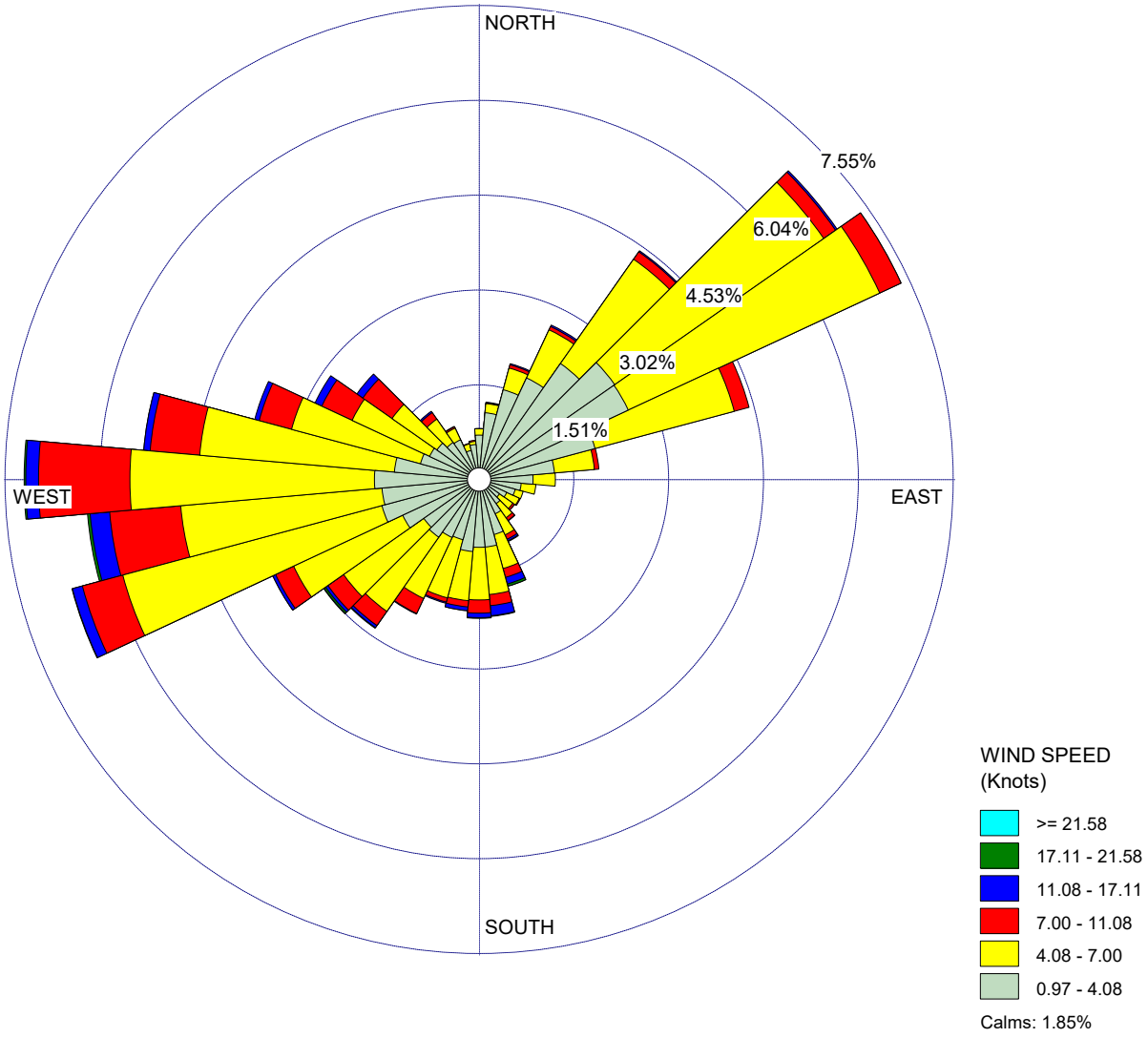
INTENTIONALLY LEFT BLANK

WIND ROSE PLOT:

Station #3177

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **Start Date: 1/1/2010 - 00:00** **End Date: 12/31/2012 - 23:59**	COMPANY NAME:	
		MODELER:	
	CALM WINDS: **1.85%**	TOTAL COUNT: **26284 hrs.**	
	AVG. WIND SPEED: **4.65 Knots**	DATE: **6/19/2018**	PROJECT NO.:

INTENTIONALLY LEFT BLANK

5 HRA RESULTS

The cancer risk and non-cancer impact calculations were performed by multiplying the AERMOD-predicted DPM concentrations in $\mu g/m^3$ due to DPM emissions from trucks and construction equipment by the appropriate risk values.

The potential exposure pathway for DPM includes inhalation only. The potential exposure through other pathways (e.g., ingestion) requires substance and site-specific data, and the specific parameters for DPM are not known for these pathways (CARB 1998). Cancer risks were evaluated using the inhalation cancer potency factor published by OEHHA and CARB (CARB 2013). The cancer potency factor for DPM is 1.1 milligram per kilogram of body weight per day (mg/kg-day). In accordance with OEHHA Guidance (OEHHA 2015), the breathing rates for each age bin were used for the cancer risk calculations. The chronic hazard quotient is calculated by dividing the annual average concentration by the chronic reference exposure level. As there is no acute reference exposure level for DPM, it was not evaluated herein. Table 6 below summarizes the construction HRA results of the HRA methodology described above and contained in Attachment B.

Table 6
Construction Activity Health Risk Assessment Results - Unmitigated

Impact Parameter	Units	Impact	CEQA Threshold	Level of Significance
MICR – Residential Off Site	Per Million	28.28	10.0	**Potentially Significant**
HIC – Off Site	Not Applicable	0.01	1.0	Less than Significant

Sources: Attachment B
Notes: MICR – Maximum Individual Cancer Risk; HIC – Chronic Hazard Index

As shown in Table 6, the HRA results from the unmitigated scenario show a cancer risk exceeding the 10 in 1 million threshold and thus a potentially significant impact. As such, mitigation is required. The HRA results including MM-AQ-1 are presented in Table 7.

Table 7
Construction Activity Health Risk Assessment Results - Mitigated

Impact Parameter	Units	Impact	CEQA Threshold	Level of Significance
MICR – Residential Off Site	Per Million	7.40	10.0	Less than Significant
HIC – Off Site	Not Applicable	0.003	1.0	Less than Significant

Sources: Attachment B
Notes: MICR – Maximum Individual Cancer Risk; HIC – Chronic Hazard Index

The mitigated results shown in Table 7 demonstrate that the construction sources exhibit maximum individual cancer risks (MICR) below the 10 in 1 million threshold and chronic hazard indices (HIC) less than 1.0. AERMOD and HARP 2 outputs are contained in Attachment B.

Therefore, with respect to CEQA Appendix G, Air Quality question (d), TAC emissions from construction of the proposed project would not expose sensitive receptors to substantial pollutant concentrations and would result in a less-than-significant impact with mitigation.

6 CONCLUSIONS

Based on this analysis, the closest offsite sensitive receptors to the proposed project would not be exposed to TACs at levels above significance thresholds established by the SDAPCD with mitigation.

The results determined in this analysis reflect reasonable estimates of exhaust emissions and exhaust characteristics, available meteorological data near the proposed project site, and the use of currently approved air quality models. Given the limits of available tools for such an analysis, the actual impacts may vary from the estimates in this assessment. However, the combined use of the AERMOD dispersion model and the health impact calculations required by OEHHA and SDAPCD tend to overpredict impacts, such that they produce conservative (i.e., health-protective) results. Accordingly, the health impacts are not expected to be higher than those estimated in this assessment.

INTENTIONALLY LEFT BLANK

7 REFERENCES

CARB (California Air Resources Board). 1998. *Report to the Air Resources Board on the Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant*. "Part A Exposure Assessment (as approved by the Scientific Review Panel)." April 1998.

CARB. 2013. "Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values." August 1. Accessed August 2017. http://www.arb.ca.gov/toxics/healthval/healthval.htm.

CARB. 2014. Area Designations Maps / State and National. Website: http://www.arb.ca.gov/desig/adm/adm.htm. Accessed August 2017.

CARB. 2015a. Hotspots Analysis and Reporting Program Version 2 (HARP2) Risk Assessment Standalone Tool (RAST), version 15197. Website: http://www.arb.ca.gov/toxics/harp/rast.htm. Accessed August 2017.

CARB. 2015b. *Risk Management Guidance for Stationary Sources of Air Toxics*. May 27. Accessed August 2017. https://www.arb.ca.gov/toxics/rma/rma_guidancedraft052715.pdf.

CARB. 2016. "Glossary of Air Pollution Terms." CARB website. Accessed August 2017. http://www.arb.ca.gov/html/gloss.htm.

CAPCOA (California Air Pollution Control Officers Association). 2009. "Health Risk Assessment for Proposed Land Use Projects." June 2009. Accessed August 2017. http://www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf.

EPA (United States Environmental Protection Agency). 1992. *Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised, EPA-454/R-92-019*. Accessed August 2017. http://www.epa.gov/oppt/exposure/presentations/efast/usepa_1992b_sp_for_estim_aqi_of_ss .pdf.

EPA. 2015. AERMOD Version 16216r & Implementation Guide. Accessed August 2017. http://www3.epa.gov/ttn/scram/dispersion_prefrec.htm.

EPA. 2016. "Criteria Air Pollutants." July 21, 2016. Accessed August 2017. https://www.epa.gov/criteria-air-pollutants.

Integral Communities. 2017. North River Farms Project Construction Assumptions.

OEHHA (California Office of Environmental Health Hazard Assessment). 2008. *Air Toxics Hot Spots Risk Assessment Guidelines – Technical Support Document for the Derivation of Noncancer Reference Exposure Levels.* Accessed August 2017. http://www.oehha.ca.gov/air/hot_spots/2008/NoncancerTSD_final.pdf.

OEHHA. 2009. *Technical Support Document for Cancer Potency Factors: Methodologies for Derivation, Listing of Available Values, and Adjustments to Allow for Early Life Stage Exposures.* Accessed August 2017. http://www.oehha.ca.gov/air/hot_spots/2009/TSDCancerPotency.pdf.

OEHHA. 2012. *Air Toxics Hot Spots Program Risk Assessment Guidelines – Technical Support Document Exposure Assessment and Stochastic Analysis*. Accessed August 2017. http://www.oehha.ca.gov/air/hot_spots/pdf/2012tsd/TSDportfolio2012.pdf.

OEHHA. 2015. *Air Toxics Hot Spots Program, Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments*. Accessed August 2017. http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf.

Reeves, B. 2018. Personal communication re: AERMOD dispersion recommendations for modeling construction equipment. May 30.

SMAQMD (Sacramento Metropolitan Air Quality Management District). 2013. *Dispersion Modeling of Construction-Generated PM_{10} Emissions*. July. Accessed June 2018. http://www.airquality.org/LandUseTransportation/Documents/Ch3PMDispersionModelingGuidanceFINAL7-2013.pdf.

SDAPCD (San Diego Air Pollution Control District). 2015. *Supplemental Guidelines for Submission of Air Toxics "Hot Spots" Program Health Risk Assessments (HRAs).* June 2015. Accessed October 2017. http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Misc/APCD_HRA_Guidelines.pdf.

ATTACHMENT A

Emissions Outputs

North River Farms - Construction

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	30.00	4,000.00	0
Other Asphalt Surfaces	40.40	Acre	40.40	1,759,824.00	0
Parking Lot	421.00	Space	3.79	168,400.00	0
City Park	12.96	Acre	12.96	564,537.60	0
Hotel	100.00	Room	3.33	60,000.00	0
Quality Restaurant	5.00	1000sqft	0.11	5,000.00	0
Condo/Townhouse	130.00	Dwelling Unit	8.13	130,000.00	372
Single Family Housing	559.00	Dwelling Unit	73.05	1,006,200.00	1599
Regional Shopping Center	25.00	1000sqft	6.57	25,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction run.

Land Use - 559 SF residences, 130 MF residences, 30 acres of agriculture, 12.96 acres in park/open space, 25 ksf in retail, 10 ksf restaurant, 100 room hotel, 40.4 acres in roadway, and 421 parking spaces. Service population based on 2.81 persons per du.

Construction Phase - Construction would begin June 2019 and woould be completed in August 2024.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment. Added 1 trencher for utlity work.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Trips and VMT - Construction HRA run - no worker trips, 0.19-mile assumed for vendor and haul trucks.

On-road Fugitive Dust -

Demolition - 1,464 tons of debris removed.

Grading - Assumed soil balanced onsite.

Architectural Coating - Assume low VOC architectural coatings per SDAPCD Rule 67.0.1 (150g/L).

Construction Off-road Equipment Mitigation - Water three times per day. On-site speed limit of 15 mph. Tractors/loaders/bachoes, cranes, forklifts, generators, and trenchers all Tier 4 Interim. All others are Tier 3.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	220.00	525.00

tblConstructionPhase	NumDays	3,100.00	1,045.00
tblConstructionPhase	NumDays	200.00	21.00
tblConstructionPhase	NumDays	310.00	155.00
tblConstructionPhase	NumDays	220.00	135.00
tblConstructionPhase	NumDays	120.00	24.00
tblLandUse	LandUseSquareFeet	0.00	4,000.00
tblLandUse	LandUseSquareFeet	145,200.00	60,000.00
tblLandUse	LotAcreage	0.00	30.00
tblLandUse	LotAcreage	181.49	73.05
tblLandUse	LotAcreage	0.57	6.57
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripNumber	498.00	183.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	1,379.00	0.00
tblTripsAndVMT	WorkerTripNumber	276.00	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					
2019	0.3426	3.8467	2.2832	4.1900e-003	0.7603	0.1750	0.9353	0.3209	0.1612	0.4821	0.0000	376.1220	376.1220	0.1175	0.0000	379.0601
2020	0.4102	4.0315	2.9791	5.2700e-003	0.3532	0.1799	0.5331	0.1025	0.1668	0.2693	0.0000	466.3533	466.3533	0.1325	0.0000	469.6664
2021	0.3318	4.1732	2.8588	5.3500e-003	7.6500e-003	0.1592	0.1668	2.1500e-003	0.1490	0.1512	0.0000	478.5748	478.5748	0.1091	0.0000	481.3025
2022	2.8261	3.9427	2.8928	5.4800e-003	7.6200e-003	0.1415	0.1491	2.1400e-003	0.1327	0.1349	0.0000	489.7251	489.7251	0.1077	0.0000	492.4170
2023	6.2430	3.6915	2.9774	5.6600e-003	7.6200e-003	0.1297	0.1374	2.1400e-003	0.1220	0.1242	0.0000	504.4477	504.4477	0.1046	0.0000	507.0632
2024	3.7118	2.1091	1.7590	3.3600e-003	4.5500e-003	0.0694	0.0740	1.2800e-003	0.0652	0.0665	0.0000	299.8110	299.8110	0.0616	0.0000	301.3501
Maximum	**6.2430**	**4.1732**	**2.9791**	**5.6600e-003**	**0.7603**	**0.1799**	**0.9353**	**0.3209**	**0.1668**	**0.4821**	**0.0000**	**504.4477**	**504.4477**	**0.1325**	**0.0000**	**507.0632**

2.1 Overall Construction

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					
2019	0.0938	1.7750	2.5004	4.1900e-003	0.2965	0.0565	0.3530	0.1251	0.0565	0.1816	0.0000	376.1216	376.1216	0.1175	0.0000	379.0597
2020	0.1824	2.7219	3.3228	5.2700e-003	0.1397	0.0719	0.2115	0.0405	0.0718	0.1124	0.0000	466.3528	466.3528	0.1325	0.0000	469.6659
2021	0.1214	3.0599	3.0202	5.3500e-003	7.6500e-003	0.0198	0.0275	2.1500e-003	0.0198	0.0219	0.0000	478.5744	478.5744	0.1091	0.0000	481.3021
2022	2.6363	3.0842	3.0832	5.4800e-003	7.6200e-003	0.0249	0.0325	2.1400e-003	0.0248	0.0270	0.0000	489.7247	489.7247	0.1077	0.0000	492.4166
2023	6.0635	3.0220	3.1859	5.6600e-003	7.6200e-003	0.0317	0.0393	2.1400e-003	0.0317	0.0338	0.0000	504.4473	504.4473	0.1046	0.0000	507.0627
2024	3.6140	1.7950	1.8893	3.3600e-003	4.5500e-003	0.0189	0.0234	1.2800e-003	0.0189	0.0201	0.0000	299.8107	299.8107	0.0616	0.0000	301.3498
Maximum	**6.0635**	**3.0842**	**3.3228**	**5.6600e-003**	**0.2965**	**0.0719**	**0.3530**	**0.1251**	**0.0718**	**0.1816**	**0.0000**	**504.4473**	**504.4473**	**0.1325**	**0.0000**	**507.0627**

	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	**8.32**	**29.07**	**-7.95**	**0.00**	**59.36**	**73.84**	**65.56**	**59.78**	**71.96**	**67.69**	**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	**6-1-2019**	**8-31-2019**	1.6272	0.6256
2	**9-1-2019**	**11-30-2019**	1.9259	0.9381
3	**12-1-2019**	**2-29-2020**	1.8271	0.9381
4	**3-1-2020**	**5-31-2020**	0.6171	0.4523
5	**6-1-2020**	**8-31-2020**	0.9488	0.6939

6	**9-1-2020**	**11-30-2020**	1.2723	0.8540
7	**12-1-2020**	**2-28-2021**	1.1341	0.7827
8	**3-1-2021**	**5-31-2021**	1.1346	0.8013
9	**6-1-2021**	**8-31-2021**	1.1378	0.8045
10	**9-1-2021**	**11-30-2021**	1.1191	0.7895
11	**12-1-2021**	**2-28-2022**	1.0517	0.7713
12	**3-1-2022**	**5-31-2022**	1.0531	0.7909
13	**6-1-2022**	**8-31-2022**	1.5803	1.3158
14	**9-1-2022**	**11-30-2022**	2.5771	2.3113
15	**12-1-2022**	**2-28-2023**	2.4845	2.2564
16	**3-1-2023**	**5-31-2023**	2.5112	2.2966
17	**6-1-2023**	**8-31-2023**	2.5134	2.2988
18	**9-1-2023**	**11-30-2023**	2.4817	2.2695
19	**12-1-2023**	**2-29-2024**	2.4515	2.2654
20	**3-1-2024**	**5-31-2024**	2.4681	2.2935
21	**6-1-2024**	**8-31-2024**	1.6916	1.5720
		Highest	2.5771	2.3113

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	50.2840	0.9032	58.4820	0.0970		7.5107	7.5107		7.5107	7.5107	711.7079	306.8475	1,018.5553	0.6648	0.0560	1,051.8582
Energy	0.1045	0.9057	0.4754	5.7000e-003		0.0722	0.0722		0.0722	0.0722	0.0000	3,165.2818	3,165.2818	0.1056	0.0367	3,178.8596
Mobile	1.8852	7.6848	21.8818	0.0816	7.9843	0.0645	8.0487	2.1377	0.0599	2.1976	0.0000	7,558.1066	7,558.1066	0.3764	0.0000	7,567.5177
Waste						0.0000	0.0000		0.0000	0.0000	162.8109	0.0000	162.8109	9.6219	0.0000	403.3572
Water						0.0000	0.0000		0.0000	0.0000	16.1156	380.4800	396.5956	1.6705	0.0423	450.9503
Total	**52.2737**	**9.4937**	**80.8392**	**0.1843**	**7.9843**	**7.6473**	**15.6316**	**2.1377**	**7.6428**	**9.7805**	**890.6344**	**11,410.7158**	**12,301.3502**	**12.4393**	**0.1349**	**12,652.5429**

2.2 Overall Operational

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	50.2840	0.9032	58.4820	0.0970		7.5107	7.5107		7.5107	7.5107	711.7079	306.8475	1,018.5553	0.6648	0.0560	1,051.8582
Energy	0.1045	0.9057	0.4754	5.7000e-003		0.0722	0.0722		0.0722	0.0722	0.0000	3,165.2818	3,165.2818	0.1056	0.0367	3,178.8596
Mobile	1.8852	7.6848	21.8818	0.0816	7.9843	0.0645	8.0487	2.1377	0.0599	2.1976	0.0000	7,558.1066	7,558.1066	0.3764	0.0000	7,567.5177
Waste						0.0000	0.0000		0.0000	0.0000	162.8109	0.0000	162.8109	9.6219	0.0000	403.3572
Water						0.0000	0.0000		0.0000	0.0000	16.1156	380.4800	396.5956	1.6705	0.0423	450.9503
Total	**52.2737**	**9.4937**	**80.8392**	**0.1843**	**7.9843**	**7.6473**	**15.6316**	**2.1377**	**7.6428**	**9.7805**	**890.6344**	**11,410.7158**	**12,301.3502**	**12.4393**	**0.1349**	**12,652.5429**

	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

North River Farms - Construction - San Diego County APCD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2019	7/1/2019	5	21	
2	Site Preparation	Site Preparation	7/2/2019	8/2/2019	5	24	
3	Grading	Grading	8/3/2019	3/6/2020	5	155	
4	Paving	Paving	3/7/2020	9/11/2020	5	135	
5	Building Construction	Building Construction	8/1/2020	8/2/2024	5	1045	
6	Architectural Coating	Architectural Coating	8/1/2022	8/2/2024	5	525	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 44.19

Residential Indoor: 2,300,805; Residential Outdoor: 766,935; Non-Residential Indoor: 144,000; Non-Residential Outdoor: 48,000; Striped Parking Area: 115,693 (Architectural Coating – sqft)

OffRoad Equipment

North River Farms - Construction - San Diego County APCD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	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
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Demolition	6	0.00	0.00	145.00	10.80	7.30	0.19	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	0.00	183.00	0.00	10.80	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

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					0.0159	0.0000	0.0159	2.4000e-003	0.0000	2.4000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0369	0.3757	0.2316	4.1000e-004		0.0189	0.0189		0.0175	0.0175	0.0000	36.3577	36.3577	0.0101	0.0000	36.6105
Total	**0.0369**	**0.3757**	**0.2316**	**4.1000e-004**	**0.0159**	**0.0189**	**0.0347**	**2.4000e-003**	**0.0175**	**0.0199**	**0.0000**	**36.3577**	**36.3577**	**0.0101**	**0.0000**	**36.6105**

3.2 Demolition - 2019

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	1.5000e-004	7.2900e-003	1.1700e-003	1.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	1.0000e-005	1.0000e-005	0.0000	0.7599	0.7599	1.5000e-004	0.0000	0.7637
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	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
Total	**1.5000e-004**	**7.2900e-003**	**1.1700e-003**	**1.0000e-005**	**1.0000e-005**	**1.0000e-005**	**2.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.7599**	**0.7599**	**1.5000e-004**	**0.0000**	**0.7637**

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					6.1900e-003	0.0000	6.1900e-003	9.4000e-004	0.0000	9.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.2400e-003	0.1546	0.2591	4.1000e-004		6.1300e-003	6.1300e-003		6.1300e-003	6.1300e-003	0.0000	36.3576	36.3576	0.0101	0.0000	36.6105
Total	**8.2400e-003**	**0.1546**	**0.2591**	**4.1000e-004**	**6.1900e-003**	**6.1300e-003**	**0.0123**	**9.4000e-004**	**6.1300e-003**	**7.0700e-003**	**0.0000**	**36.3576**	**36.3576**	**0.0101**	**0.0000**	**36.6105**

3.2 Demolition - 2019

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	1.5000e-004	7.2900e-003	1.1700e-003	1.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	1.0000e-005	1.0000e-005	0.0000	0.7599	0.7599	1.5000e-004	0.0000	0.7637
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	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
Total	**1.5000e-004**	**7.2900e-003**	**1.1700e-003**	**1.0000e-005**	**1.0000e-005**	**1.0000e-005**	**2.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.7599**	**0.7599**	**1.5000e-004**	**0.0000**	**0.7637**

3.3 Site Preparation - 2019

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					0.2168	0.0000	0.2168	0.1192	0.0000	0.1192	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0520	0.5469	0.2648	4.6000e-004		0.0287	0.0287		0.0264	0.0264	0.0000	41.0024	41.0024	0.0130	0.0000	41.3267
Total	**0.0520**	**0.5469**	**0.2648**	**4.6000e-004**	**0.2168**	**0.0287**	**0.2455**	**0.1192**	**0.0264**	**0.1456**	**0.0000**	**41.0024**	**41.0024**	**0.0130**	**0.0000**	**41.3267**

3.3 Site Preparation - 2019

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	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
Total	**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**

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					0.0846	0.0000	0.0846	0.0465	0.0000	0.0465	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3600e-003	0.1459	0.2755	4.6000e-004		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	41.0024	41.0024	0.0130	0.0000	41.3267
Total	**8.3600e-003**	**0.1459**	**0.2755**	**4.6000e-004**	**0.0846**	**7.4000e-004**	**0.0853**	**0.0465**	**7.4000e-004**	**0.0472**	**0.0000**	**41.0024**	**41.0024**	**0.0130**	**0.0000**	**41.3267**

3.3 Site Preparation - 2019

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	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
Total	**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**

3.4 Grading - 2019

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					0.5277	0.0000	0.5277	0.1993	0.0000	0.1993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2535	2.9168	1.7857	3.3200e-003		0.1275	0.1275		0.1173	0.1173	0.0000	298.0021	298.0021	0.0943	0.0000	300.3592
Total	**0.2535**	**2.9168**	**1.7857**	**3.3200e-003**	**0.5277**	**0.1275**	**0.6551**	**0.1993**	**0.1173**	**0.3166**	**0.0000**	**298.0021**	**298.0021**	**0.0943**	**0.0000**	**300.3592**

3.4 Grading - 2019

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	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
Total	**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**

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					0.2058	0.0000	0.2058	0.0777	0.0000	0.0777	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0771	1.4672	1.9647	3.3200e-003		0.0496	0.0496		0.0496	0.0496	0.0000	298.0017	298.0017	0.0943	0.0000	300.3588
Total	**0.0771**	**1.4672**	**1.9647**	**3.3200e-003**	**0.2058**	**0.0496**	**0.2554**	**0.0777**	**0.0496**	**0.1273**	**0.0000**	**298.0017**	**298.0017**	**0.0943**	**0.0000**	**300.3588**

3.4 Grading - 2019

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	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
Total	**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**

3.4 Grading - 2020

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					0.3500	0.0000	0.3500	0.1016	0.0000	0.1016	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1068	1.2047	0.7670	1.4900e-003		0.0522	0.0522		0.0480	0.0480	0.0000	130.7623	130.7623	0.0423	0.0000	131.8196
Total	**0.1068**	**1.2047**	**0.7670**	**1.4900e-003**	**0.3500**	**0.0522**	**0.4022**	**0.1016**	**0.0480**	**0.1496**	**0.0000**	**130.7623**	**130.7623**	**0.0423**	**0.0000**	**131.8196**

3.4 Grading - 2020

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	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
Total	**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**

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					0.1365	0.0000	0.1365	0.0396	0.0000	0.0396	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0346	0.6582	0.8813	1.4900e-003		0.0223	0.0223		0.0223	0.0223	0.0000	130.7622	130.7622	0.0423	0.0000	131.8194
Total	**0.0346**	**0.6582**	**0.8813**	**1.4900e-003**	**0.1365**	**0.0223**	**0.1588**	**0.0396**	**0.0223**	**0.0619**	**0.0000**	**130.7622**	**130.7622**	**0.0423**	**0.0000**	**131.8194**

3.4 Grading - 2020

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	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
Total	**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**

3.5 Paving - 2020

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	0.0916	0.9494	0.9890	1.5400e-003		0.0508	0.0508		0.0468	0.0468	0.0000	135.1905	135.1905	0.0437	0.0000	136.2836
Paving	0.0579					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1495**	**0.9494**	**0.9890**	**1.5400e-003**		**0.0508**	**0.0508**		**0.0468**	**0.0468**	**0.0000**	**135.1905**	**135.1905**	**0.0437**	**0.0000**	**136.2836**

3.5 Paving - 2020

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	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
Total	**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**

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	0.0379	0.7624	1.1675	1.5400e-003		0.0411	0.0411		0.0411	0.0411	0.0000	135.1903	135.1903	0.0437	0.0000	136.2834
Paving	0.0579					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0958**	**0.7624**	**1.1675**	**1.5400e-003**		**0.0411**	**0.0411**		**0.0411**	**0.0411**	**0.0000**	**135.1903**	**135.1903**	**0.0437**	**0.0000**	**136.2834**

3.5 Paving - 2020

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	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
Total	**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**

3.6 Building Construction - 2020

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	0.1384	1.2526	1.0619	1.6500e-003		0.0764	0.0764		0.0715	0.0715	0.0000	142.3855	142.3855	0.0360	0.0000	143.2861
Total	**0.1384**	**1.2526**	**1.0619**	**1.6500e-003**		**0.0764**	**0.0764**		**0.0715**	**0.0715**	**0.0000**	**142.3855**	**142.3855**	**0.0360**	**0.0000**	**143.2861**

3.6 Building Construction - 2020

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	0.0155	0.6248	0.1612	5.9000e-004	3.2000e-003	5.3000e-004	3.7300e-003	9.0000e-004	5.1000e-004	1.4000e-003	0.0000	58.0149	58.0149	0.0105	0.0000	58.2772
Worker	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
Total	**0.0155**	**0.6248**	**0.1612**	**5.9000e-004**	**3.2000e-003**	**5.3000e-004**	**3.7300e-003**	**9.0000e-004**	**5.1000e-004**	**1.4000e-003**	**0.0000**	**58.0149**	**58.0149**	**0.0105**	**0.0000**	**58.2772**

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	0.0366	0.6765	1.1128	1.6500e-003		7.9300e-003	7.9300e-003		7.9300e-003	7.9300e-003	0.0000	142.3854	142.3854	0.0360	0.0000	143.2859
Total	**0.0366**	**0.6765**	**1.1128**	**1.6500e-003**		**7.9300e-003**	**7.9300e-003**		**7.9300e-003**	**7.9300e-003**	**0.0000**	**142.3854**	**142.3854**	**0.0360**	**0.0000**	**143.2859**

3.6 Building Construction - 2020

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	0.0155	0.6248	0.1612	5.9000e-004	3.2000e-003	5.3000e-004	3.7300e-003	9.0000e-004	5.1000e-004	1.4000e-003	0.0000	58.0149	58.0149	0.0105	0.0000	58.2772
Worker	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
Total	**0.0155**	**0.6248**	**0.1612**	**5.9000e-004**	**3.2000e-003**	**5.3000e-004**	**3.7300e-003**	**9.0000e-004**	**5.1000e-004**	**1.4000e-003**	**0.0000**	**58.0149**	**58.0149**	**0.0105**	**0.0000**	**58.2772**

3.6 Building Construction - 2021

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	0.2980	2.7332	2.5032	3.9500e-003		0.1584	0.1584		0.1482	0.1482	0.0000	340.9902	340.9902	0.0855	0.0000	343.1264
Total	**0.2980**	**2.7332**	**2.5032**	**3.9500e-003**		**0.1584**	**0.1584**		**0.1482**	**0.1482**	**0.0000**	**340.9902**	**340.9902**	**0.0855**	**0.0000**	**343.1264**

3.6 Building Construction - 2021

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	0.0338	1.4399	0.3556	1.4000e-003	7.6500e-003	8.1000e-004	8.4600e-003	2.1500e-003	7.7000e-004	2.9200e-003	0.0000	137.5846	137.5846	0.0237	0.0000	138.1762
Worker	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
Total	**0.0338**	**1.4399**	**0.3556**	**1.4000e-003**	**7.6500e-003**	**8.1000e-004**	**8.4600e-003**	**2.1500e-003**	**7.7000e-004**	**2.9200e-003**	**0.0000**	**137.5846**	**137.5846**	**0.0237**	**0.0000**	**138.1762**

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	0.0876	1.6199	2.6647	3.9500e-003		0.0190	0.0190		0.0190	0.0190	0.0000	340.9898	340.9898	0.0855	0.0000	343.1260
Total	**0.0876**	**1.6199**	**2.6647**	**3.9500e-003**		**0.0190**	**0.0190**		**0.0190**	**0.0190**	**0.0000**	**340.9898**	**340.9898**	**0.0855**	**0.0000**	**343.1260**

3.6 Building Construction - 2021

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	0.0338	1.4399	0.3556	1.4000e-003	7.6500e-003	8.1000e-004	8.4600e-003	2.1500e-003	7.7000e-004	2.9200e-003	0.0000	137.5846	137.5846	0.0237	0.0000	138.1762
Worker	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
Total	**0.0338**	**1.4399**	**0.3556**	**1.4000e-003**	**7.6500e-003**	**8.1000e-004**	**8.4600e-003**	**2.1500e-003**	**7.7000e-004**	**2.9200e-003**	**0.0000**	**137.5846**	**137.5846**	**0.0237**	**0.0000**	**138.1762**

3.6 Building Construction - 2022

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	0.2691	2.4694	2.4651	3.9400e-003		0.1363	0.1363		0.1276	0.1276	0.0000	339.8013	339.8013	0.0846	0.0000	341.9173
Total	**0.2691**	**2.4694**	**2.4651**	**3.9400e-003**		**0.1363**	**0.1363**		**0.1276**	**0.1276**	**0.0000**	**339.8013**	**339.8013**	**0.0846**	**0.0000**	**341.9173**

3.6 Building Construction - 2022

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	0.0310	1.3958	0.3280	1.3800e-003	7.6200e-003	6.9000e-004	8.3100e-003	2.1400e-003	6.6000e-004	2.8000e-003	0.0000	135.8810	135.8810	0.0221	0.0000	136.4340
Worker	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
Total	**0.0310**	**1.3958**	**0.3280**	**1.3800e-003**	**7.6200e-003**	**6.9000e-004**	**8.3100e-003**	**2.1400e-003**	**6.6000e-004**	**2.8000e-003**	**0.0000**	**135.8810**	**135.8810**	**0.0221**	**0.0000**	**136.4340**

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	0.0873	1.6137	2.6544	3.9400e-003		0.0189	0.0189		0.0189	0.0189	0.0000	339.8009	339.8009	0.0846	0.0000	341.9169
Total	**0.0873**	**1.6137**	**2.6544**	**3.9400e-003**		**0.0189**	**0.0189**		**0.0189**	**0.0189**	**0.0000**	**339.8009**	**339.8009**	**0.0846**	**0.0000**	**341.9169**

3.6 Building Construction - 2022

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	0.0310	1.3958	0.3280	1.3800e-003	7.6200e-003	6.9000e-004	8.3100e-003	2.1400e-003	6.6000e-004	2.8000e-003	0.0000	135.8810	135.8810	0.0221	0.0000	136.4340
Worker	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
Total	**0.0310**	**1.3958**	**0.3280**	**1.3800e-003**	**7.6200e-003**	**6.9000e-004**	**8.3100e-003**	**2.1400e-003**	**6.6000e-004**	**2.8000e-003**	**0.0000**	**135.8810**	**135.8810**	**0.0221**	**0.0000**	**136.4340**

3.6 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	0.2495	2.2904	2.4487	3.9400e-003		0.1201	0.1201		0.1124	0.1124	0.0000	339.9342	339.9342	0.0842	0.0000	342.0383
Total	**0.2495**	**2.2904**	**2.4487**	**3.9400e-003**		**0.1201**	**0.1201**		**0.1124**	**0.1124**	**0.0000**	**339.9342**	**339.9342**	**0.0842**	**0.0000**	**342.0383**

3.6 Building Construction - 2023

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	0.0247	1.2318	0.2932	1.3300e-003	7.6200e-003	4.1000e-004	8.0400e-003	2.1400e-003	4.0000e-004	2.5300e-003	0.0000	131.3212	131.3212	0.0185	0.0000	131.7829
Worker	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
Total	**0.0247**	**1.2318**	**0.2932**	**1.3300e-003**	**7.6200e-003**	**4.1000e-004**	**8.0400e-003**	**2.1400e-003**	**4.0000e-004**	**2.5300e-003**	**0.0000**	**131.3212**	**131.3212**	**0.0185**	**0.0000**	**131.7829**

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	0.0873	1.6137	2.6544	3.9400e-003		0.0189	0.0189		0.0189	0.0189	0.0000	339.9338	339.9338	0.0842	0.0000	342.0379
Total	**0.0873**	**1.6137**	**2.6544**	**3.9400e-003**		**0.0189**	**0.0189**		**0.0189**	**0.0189**	**0.0000**	**339.9338**	**339.9338**	**0.0842**	**0.0000**	**342.0379**

3.6 Building Construction - 2023

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	0.0247	1.2318	0.2932	1.3300e-003	7.6200e-003	4.1000e-004	8.0400e-003	2.1400e-003	4.0000e-004	2.5300e-003	0.0000	131.3212	131.3212	0.0185	0.0000	131.7829
Worker	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
Total	**0.0247**	**1.2318**	**0.2932**	**1.3300e-003**	**7.6200e-003**	**4.1000e-004**	**8.0400e-003**	**2.1400e-003**	**4.0000e-004**	**2.5300e-003**	**0.0000**	**131.3212**	**131.3212**	**0.0185**	**0.0000**	**131.7829**

3.6 Building Construction - 2024

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	0.1404	1.2868	1.4538	2.3500e-003		0.0645	0.0645		0.0603	0.0603	0.0000	202.6846	202.6846	0.0499	0.0000	203.9329
Total	**0.1404**	**1.2868**	**1.4538**	**2.3500e-003**		**0.0645**	**0.0645**		**0.0603**	**0.0603**	**0.0000**	**202.6846**	**202.6846**	**0.0499**	**0.0000**	**203.9329**

3.6 Building Construction - 2024

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	0.0139	0.7278	0.1649	7.8000e-004	4.5500e-003	2.2000e-004	4.7700e-003	1.2800e-003	2.1000e-004	1.4900e-003	0.0000	77.3386	77.3386	0.0105	0.0000	77.6017
Worker	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
Total	**0.0139**	**0.7278**	**0.1649**	**7.8000e-004**	**4.5500e-003**	**2.2000e-004**	**4.7700e-003**	**1.2800e-003**	**2.1000e-004**	**1.4900e-003**	**0.0000**	**77.3386**	**77.3386**	**0.0105**	**0.0000**	**77.6017**

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	0.0520	0.9620	1.5825	2.3500e-003		0.0113	0.0113		0.0113	0.0113	0.0000	202.6844	202.6844	0.0499	0.0000	203.9326
Total	**0.0520**	**0.9620**	**1.5825**	**2.3500e-003**		**0.0113**	**0.0113**		**0.0113**	**0.0113**	**0.0000**	**202.6844**	**202.6844**	**0.0499**	**0.0000**	**203.9326**

3.6 Building Construction - 2024

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	0.0139	0.7278	0.1649	7.8000e-004	4.5500e-003	2.2000e-004	4.7700e-003	1.2800e-003	2.1000e-004	1.4900e-003	0.0000	77.3386	77.3386	0.0105	0.0000	77.6017
Worker	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
Total	**0.0139**	**0.7278**	**0.1649**	**7.8000e-004**	**4.5500e-003**	**2.2000e-004**	**4.7700e-003**	**1.2800e-003**	**2.1000e-004**	**1.4900e-003**	**0.0000**	**77.3386**	**77.3386**	**0.0105**	**0.0000**	**77.6017**

3.7 Architectural Coating - 2022

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	2.5147					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0113	0.0775	0.0998	1.6000e-004		4.4900e-003	4.4900e-003		4.4900e-003	4.4900e-003	0.0000	14.0429	14.0429	9.1000e-004	0.0000	14.0658
Total	**2.5260**	**0.0775**	**0.0998**	**1.6000e-004**		**4.4900e-003**	**4.4900e-003**		**4.4900e-003**	**4.4900e-003**	**0.0000**	**14.0429**	**14.0429**	**9.1000e-004**	**0.0000**	**14.0658**

3.7 Architectural Coating - 2022

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	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
Total	**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**

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	2.5147					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2700e-003	0.0746	0.1008	1.6000e-004		5.2300e-003	5.2300e-003		5.2300e-003	5.2300e-003	0.0000	14.0429	14.0429	9.1000e-004	0.0000	14.0657
Total	**2.5180**	**0.0746**	**0.1008**	**1.6000e-004**		**5.2300e-003**	**5.2300e-003**		**5.2300e-003**	**5.2300e-003**	**0.0000**	**14.0429**	**14.0429**	**9.1000e-004**	**0.0000**	**14.0657**

3.7 Architectural Coating - 2022

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	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
Total	**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**

3.7 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	5.9438					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0249	0.1694	0.2355	3.9000e-004		9.2100e-003	9.2100e-003		9.2100e-003	9.2100e-003	0.0000	33.1923	33.1923	1.9900e-003	0.0000	33.2419
Total	**5.9688**	**0.1694**	**0.2355**	**3.9000e-004**		**9.2100e-003**	**9.2100e-003**		**9.2100e-003**	**9.2100e-003**	**0.0000**	**33.1923**	**33.1923**	**1.9900e-003**	**0.0000**	**33.2419**

3.7 Architectural Coating - 2023

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	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
Total	**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**

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	5.9438					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7300e-003	0.1764	0.2382	3.9000e-004		0.0124	0.0124		0.0124	0.0124	0.0000	33.1923	33.1923	1.9900e-003	0.0000	33.2419
Total	**5.9516**	**0.1764**	**0.2382**	**3.9000e-004**		**0.0124**	**0.0124**		**0.0124**	**0.0124**	**0.0000**	**33.1923**	**33.1923**	**1.9900e-003**	**0.0000**	**33.2419**

3.7 Architectural Coating - 2023

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	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
Total	**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**

3.7 Architectural Coating - 2024

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	3.5434					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0140	0.0945	0.1403	2.3000e-004		4.7200e-003	4.7200e-003		4.7200e-003	4.7200e-003	0.0000	19.7877	19.7877	1.1100e-003	0.0000	19.8156
Total	**3.5575**	**0.0945**	**0.1403**	**2.3000e-004**		**4.7200e-003**	**4.7200e-003**		**4.7200e-003**	**4.7200e-003**	**0.0000**	**19.7877**	**19.7877**	**1.1100e-003**	**0.0000**	**19.8156**

3.7 Architectural Coating - 2024

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	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
Total	**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**

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	3.5434					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6100e-003	0.1052	0.1420	2.3000e-004		7.3700e-003	7.3700e-003		7.3700e-003	7.3700e-003	0.0000	19.7877	19.7877	1.1100e-003	0.0000	19.8156
Total	**3.5481**	**0.1052**	**0.1420**	**2.3000e-004**		**7.3700e-003**	**7.3700e-003**		**7.3700e-003**	**7.3700e-003**	**0.0000**	**19.7877**	**19.7877**	**1.1100e-003**	**0.0000**	**19.8156**

3.7 Architectural Coating - 2024

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	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
Total	**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**

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	1.8852	7.6848	21.8818	0.0816	7.9843	0.0645	8.0487	2.1377	0.0599	2.1976	0.0000	7,558.1066	7,558.1066	0.3764	0.0000	7,567.5177
Unmitigated	1.8852	7.6848	21.8818	0.0816	7.9843	0.0645	8.0487	2.1377	0.0599	2.1976	0.0000	7,558.1066	7,558.1066	0.3764	0.0000	7,567.5177

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	24.49	294.84	216.95	193,437	193,437
Condo/Townhouse	755.30	737.10	629.20	2,097,751	2,097,751
Hotel	817.00	819.00	595.00	1,492,531	1,492,531
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	449.75	471.80	360.80	522,142	522,142
Regional Shopping Center	1,067.50	1,249.25	631.00	1,807,845	1,807,845
Single Family Housing	5,321.68	5,539.69	4818.58	15,078,722	15,078,722
User Defined Industrial	0.00	0.00	0.00		
Total	8,435.72	9,111.68	7,251.53	21,192,428	21,192,428

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-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Quality Restaurant	9.50	7.30	7.30	12.00	69.00	19.00	38	18	44
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Single Family Housing	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Condo/Townhouse	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Hotel	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Other Asphalt Surfaces	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Parking Lot	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Quality Restaurant	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Regional Shopping Center	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Single Family Housing	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
User Defined Industrial	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950

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	2,131.4696	2,131.4696	0.0858	0.0178	2,138.9040
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,131.4696	2,131.4696	0.0858	0.0178	2,138.9040
NaturalGas Mitigated	0.1045	0.9057	0.4754	5.7000e-003		0.0722	0.0722		0.0722	0.0722	0.0000	1,033.8122	1,033.8122	0.0198	0.0190	1,039.9556
NaturalGas Unmitigated	0.1045	0.9057	0.4754	5.7000e-003		0.0722	0.0722		0.0722	0.0722	0.0000	1,033.8122	1,033.8122	0.0198	0.0190	1,039.9556

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					
City Park	0	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
Condo/Townhouse	1.86977e+006	0.0101	0.0862	0.0367	5.5000e-004		6.9700e-003	6.9700e-003		6.9700e-003	6.9700e-003	0.0000	99.7781	99.7781	1.9100e-003	1.8300e-003	100.3710
Hotel	3.5022e+006	0.0189	0.1717	0.1442	1.0300e-003		0.0131	0.0131		0.0131	0.0131	0.0000	186.8907	186.8907	3.5800e-003	3.4300e-003	188.0013
Other Asphalt Surfaces	0	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
Parking Lot	0	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
Quality Restaurant	871900	4.7000e-003	0.0427	0.0359	2.6000e-004		3.2500e-003	3.2500e-003		3.2500e-003	3.2500e-003	0.0000	46.5279	46.5279	8.9000e-004	8.5000e-004	46.8044
Regional Shopping Center	55750	3.0000e-004	2.7300e-003	2.3000e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	2.9750	2.9750	6.0000e-005	5.0000e-005	2.9927
Single Family Housing	1.30733e+007	0.0705	0.6024	0.2563	3.8500e-003		0.0487	0.0487		0.0487	0.0487	0.0000	697.6405	697.6405	0.0134	0.0128	701.7862
User Defined Industrial	0	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
Total		**0.1045**	**0.9057**	**0.4754**	**5.7100e-003**		**0.0722**	**0.0722**		**0.0722**	**0.0722**	**0.0000**	**1,033.8122**	**1,033.8122**	**0.0198**	**0.0190**	**1,039.9556**

5.2 Energy by Land Use - NaturalGas

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					
City Park	0	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
Condo/Townhouse	1.86977e+006	0.0101	0.0862	0.0367	5.5000e-004		6.9700e-003	6.9700e-003		6.9700e-003	6.9700e-003	0.0000	99.7781	99.7781	1.9100e-003	1.8300e-003	100.3710
Hotel	3.5022e+006	0.0189	0.1717	0.1442	1.0300e-003		0.0131	0.0131		0.0131	0.0131	0.0000	186.8907	186.8907	3.5800e-003	3.4300e-003	188.0013
Other Asphalt Surfaces	0	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
Parking Lot	0	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
Quality Restaurant	871900	4.7000e-003	0.0427	0.0359	2.6000e-004		3.2500e-003	3.2500e-003		3.2500e-003	3.2500e-003	0.0000	46.5279	46.5279	8.9000e-004	8.5000e-004	46.8044
Regional Shopping Center	55750	3.0000e-004	2.7300e-003	2.3000e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	2.9750	2.9750	6.0000e-005	5.0000e-005	2.9927
Single Family Housing	1.30733e+007	0.0705	0.6024	0.2563	3.8500e-003		0.0487	0.0487		0.0487	0.0487	0.0000	697.6405	697.6405	0.0134	0.0128	701.7862
User Defined Industrial	0	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
Total		**0.1045**	**0.9057**	**0.4754**	**5.7100e-003**		**0.0722**	**0.0722**		**0.0722**	**0.0722**	**0.0000**	**1,033.8122**	**1,033.8122**	**0.0198**	**0.0190**	**1,039.9556**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	653033	213.4169	8.5900e-003	1.7800e-003	214.1613
Hotel	777000	253.9304	0.0102	2.1100e-003	254.8161
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	58940	19.2621	7.8000e-004	1.6000e-004	19.3293
Quality Restaurant	193500	63.2375	2.5500e-003	5.3000e-004	63.4581
Regional Shopping Center	314000	102.6180	4.1300e-003	8.5000e-004	102.9759
Single Family Housing	4.5256e+006	1,479.0048	0.0595	0.0123	1,484.1634
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**2,131.4696**	**0.0858**	**0.0178**	**2,138.9039**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	653033	213.4169	8.5900e-003	1.7800e-003	214.1613
Hotel	777000	253.9304	0.0102	2.1100e-003	254.8161
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	58940	19.2621	7.8000e-004	1.6000e-004	19.3293
Quality Restaurant	193500	63.2375	2.5500e-003	5.3000e-004	63.4581
Regional Shopping Center	314000	102.6180	4.1300e-003	8.5000e-004	102.9759
Single Family Housing	4.5256e+006	1,479.0048	0.0595	0.0123	1,484.1634
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**2,131.4696**	**0.0858**	**0.0178**	**2,138.9039**

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	50.2840	0.9032	58.4820	0.0970		7.5107	7.5107		7.5107	7.5107	711.7079	306.8475	1,018.5553	0.6648	0.0560	1,051.8582
Unmitigated	50.2840	0.9032	58.4820	0.0970		7.5107	7.5107		7.5107	7.5107	711.7079	306.8475	1,018.5553	0.6648	0.0560	1,051.8582

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	tons/yr										MT/yr					
Architectural Coating	1.9556					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.9423					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	43.2321	0.8443	53.3654	0.0967		7.4823	7.4823		7.4823	7.4823	711.7079	298.4799	1,010.1878	0.6568	0.0560	1,043.2899
Landscaping	0.1540	0.0589	5.1166	2.7000e-004		0.0284	0.0284		0.0284	0.0284	0.0000	8.3676	8.3676	8.0300e-003	0.0000	8.5683
Total	**50.2840**	**0.9032**	**58.4820**	**0.0970**		**7.5107**	**7.5107**		**7.5107**	**7.5107**	**711.7079**	**306.8475**	**1,018.5553**	**0.6648**	**0.0560**	**1,051.8582**

6.2 Area by SubCategory

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	1.9556					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.9423					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	43.2321	0.8443	53.3654	0.0967		7.4823	7.4823		7.4823	7.4823	711.7079	298.4799	1,010.1878	0.6568	0.0560	1,043.2899
Landscaping	0.1540	0.0589	5.1166	2.7000e-004		0.0284	0.0284		0.0284	0.0284	0.0000	8.3676	8.3676	8.0300e-003	0.0000	8.5683
Total	**50.2840**	**0.9032**	**58.4820**	**0.0970**		**7.5107**	**7.5107**		**7.5107**	**7.5107**	**711.7079**	**306.8475**	**1,018.5553**	**0.6648**	**0.0560**	**1,051.8582**

7.0 Water Detail

7.1 Mitigation Measures Water

North River Farms - Construction - San Diego County APCD Air District, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	396.5956	1.6705	0.0423	450.9503
Unmitigated	396.5956	1.6705	0.0423	450.9503

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 15.4416	56.0661	2.2600e-003	4.7000e-004	56.2616
Condo/Townhouse	8.47002 / 5.3398	58.1183	0.2782	6.9800e-003	67.1535
Hotel	2.53668 / 0.281853	12.6227	0.0831	2.0500e-003	15.3119
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.51767 / 0.0968725	7.2915	0.0497	1.2200e-003	8.8995
Regional Shopping Center	1.85181 / 1.13498	12.5886	0.0608	1.5200e-003	14.5636
Single Family Housing	36.4211 / 22.9611	249.9086	1.1964	0.0300	288.7602
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**396.5956**	**1.6706**	**0.0423**	**450.9503**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 15.4416	56.0661	2.2600e-003	4.7000e-004	56.2616
Condo/Townhouse	8.47002 / 5.3398	58.1183	0.2782	6.9800e-003	67.1535
Hotel	2.53668 / 0.281853	12.6227	0.0831	2.0500e-003	15.3119
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.51767 / 0.0968725	7.2915	0.0497	1.2200e-003	8.8995
Regional Shopping Center	1.85181 / 1.13498	12.5886	0.0608	1.5200e-003	14.5636
Single Family Housing	36.4211 / 22.9611	249.9086	1.1964	0.0300	288.7602
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**396.5956**	**1.6706**	**0.0423**	**450.9503**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	162.8109	9.6219	0.0000	403.3572
Unmitigated	162.8109	9.6219	0.0000	403.3572

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	1.11	0.2253	0.0133	0.0000	0.5582
Condo/Townhouse	59.8	12.1389	0.7174	0.0000	30.0735
Hotel	54.75	11.1138	0.6568	0.0000	27.5339
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	4.56	0.9256	0.0547	0.0000	2.2932
Regional Shopping Center	26.25	5.3285	0.3149	0.0000	13.2012
Single Family Housing	655.59	133.0789	7.8647	0.0000	329.6972
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**162.8109**	**9.6219**	**0.0000**	**403.3572**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	1.11	0.2253	0.0133	0.0000	0.5582
Condo/Townhouse	59.8	12.1389	0.7174	0.0000	30.0735
Hotel	54.75	11.1138	0.6568	0.0000	27.5339
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	4.56	0.9256	0.0547	0.0000	2.2932
Regional Shopping Center	26.25	5.3285	0.3149	0.0000	13.2012
Single Family Housing	655.59	133.0789	7.8647	0.0000	329.6972
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**162.8109**	**9.6219**	**0.0000**	**403.3572**

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

ATTACHMENT B

AERMOD Input and HARP 2 Output Files

*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** 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 RURAL Dispersion Only.

**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.

**Other Options Specified:
ADJ_U* - Use ADJ_U* option for SBL in AERMET
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: PM_10

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

**This Run Includes: 505 Source(s); 1 Source Group(s); and 1025 Receptor(s)

with: 0 POINT(s), including
0 POINTCAP(s) and 0 POINTHOR(s)
and: 505 VOLUME source(s)
and: 0 AREA type source(s)
and: 0 LINE 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: 16216

**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) = 27.00 ; 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 = 3.8 MB of RAM.

**Input Runstream File: aermod.inp
**Output Print File: aermod.out

**Detailed Error/Message File: North River Farms.err
**File for Summary of Results: North River Farms.sum

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1
```

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,

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: Met\CMP_2010_2012_v16126.SFC Met Version: 16216
Profile file: Met\CMP_2010_2012_v16126.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 3177 Upper air station no.: 3190
Name: UNKNOWN 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	-28.6	0.283	-9.000	-9.000	-999.	362.	88.3	0.25	0.41	1.00	2.68	47.	10.0	283.1	10.0
10	01	01	1	02	-28.6	0.283	-9.000	-9.000	-999.	362.	88.3	0.25	0.41	1.00	2.68	46.	10.0	283.1	10.0
10	01	01	1	03	-24.2	0.240	-9.000	-9.000	-999.	282.	63.1	0.26	0.41	1.00	2.24	28.	10.0	283.1	10.0
10	01	01	1	04	-24.2	0.240	-9.000	-9.000	-999.	281.	63.1	0.26	0.41	1.00	2.24	26.	10.0	283.1	10.0
10	01	01	1	05	-17.4	0.189	-9.000	-9.000	-999.	198.	39.2	0.26	0.41	1.00	1.79	28.	10.0	283.8	10.0
10	01	01	1	06	-23.7	0.235	-9.000	-9.000	-999.	273.	60.7	0.25	0.41	1.00	2.24	50.	10.0	282.5	10.0
10	01	01	1	07	-23.8	0.235	-9.000	-9.000	-999.	273.	60.6	0.25	0.41	1.00	2.24	41.	10.0	282.0	10.0
10	01	01	1	08	-26.3	0.386	-9.000	-9.000	-999.	576.	199.1	0.25	0.41	0.48	3.58	55.	10.0	283.1	10.0
10	01	01	1	09	19.7	0.268	0.296	0.008	48.	341.	-89.0	0.26	0.41	0.26	2.24	25.	10.0	284.9	10.0
10	01	01	1	10	49.7	0.237	0.513	0.008	98.	278.	-24.4	0.25	0.41	0.19	1.79	344.	10.0	288.8	10.0
10	01	01	1	11	69.8	0.170	0.752	0.009	222.	169.	-6.4	0.04	0.41	0.17	1.79	274.	10.0	288.1	10.0
10	01	01	1	12	79.5	0.135	0.919	0.008	355.	119.	-2.8	0.01	0.41	0.16	1.79	252.	10.0	288.8	10.0
10	01	01	1	13	78.2	0.202	0.989	0.008	449.	218.	-9.6	0.04	0.41	0.16	2.24	277.	10.0	288.8	10.0
10	01	01	1	14	66.1	0.229	0.979	0.008	515.	263.	-16.5	0.04	0.41	0.17	2.68	286.	10.0	288.8	10.0
10	01	01	1	15	43.7	0.193	0.875	0.008	555.	204.	-15.0	0.04	0.41	0.20	2.24	289.	10.0	289.2	10.0
10	01	01	1	16	12.7	0.118	0.582	0.008	565.	99.	-11.9	0.04	0.41	0.30	1.34	292.	10.0	288.8	10.0
10	01	01	1	17	-2.0	0.064	-9.000	-9.000	-999.	40.	11.8	0.04	0.41	0.57	0.89	294.	10.0	288.1	10.0
10	01	01	1	18	-2.2	0.066	-9.000	-9.000	-999.	41.	11.9	0.04	0.41	1.00	0.89	287.	10.0	287.5	10.0
10	01	01	1	19	-4.1	0.091	-9.000	-9.000	-999.	66.	16.9	0.25	0.41	1.00	0.89	338.	10.0	287.5	10.0
10	01	01	1	20	-21.4	0.216	-9.000	-9.000	-999.	240.	51.1	0.19	0.41	1.00	2.24	85.	10.0	286.4	10.0
10	01	01	1	21	-1.6	0.070	-9.000	-9.000	-999.	68.	19.1	0.28	0.41	1.00	0.45	95.	10.0	286.4	10.0
10	01	01	1	22	-9.4	0.138	-9.000	-9.000	-999.	123.	25.2	0.26	0.41	1.00	1.34	29.	10.0	285.4	10.0
10	01	01	1	23	-23.4	0.235	-9.000	-9.000	-999.	273.	60.7	0.25	0.41	1.00	2.24	58.	10.0	284.9	10.0
10	01	01	1	24	-23.5	0.235	-9.000	-9.000	-999.	273.	60.7	0.25	0.41	1.00	2.24	33.	10.0	284.2	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	47.	2.68	283.2	99.0	-99.00	-99.00

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

*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD (26304 HRS) RESULTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	NETWORK RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
ALL	1ST HIGHEST VALUE IS	12.77758 AT (474003.37, 3680193.14, 48.08, 48.08, 0.00) DC
	2ND HIGHEST VALUE IS	11.60568 AT (474023.37, 3680193.14, 47.52, 47.91, 0.00) DC
	3RD HIGHEST VALUE IS	10.08312 AT (473383.37, 3679933.14, 43.33, 43.80, 0.00) DC
	4TH HIGHEST VALUE IS	10.03213 AT (474063.37, 3680173.14, 43.53, 55.72, 0.00) DC
	5TH HIGHEST VALUE IS	9.86908 AT (474083.37, 3680113.14, 40.41, 40.41, 0.00) DC
	6TH HIGHEST VALUE IS	9.85562 AT (474023.37, 3680293.14, 55.72, 55.72, 0.00) DC
	7TH HIGHEST VALUE IS	9.71993 AT (474083.37, 3680133.14, 40.75, 40.75, 0.00) DC
	8TH HIGHEST VALUE IS	9.62046 AT (473383.37, 3679953.14, 42.63, 43.88, 0.00) DC
	9TH HIGHEST VALUE IS	9.56929 AT (474083.37, 3680153.14, 42.04, 42.04, 0.00) DC
	10TH HIGHEST VALUE IS	9.53859 AT (474123.37, 3680053.14, 37.48, 37.48, 0.00) DC

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

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

** CONC OF PM_10 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	NETWORK RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	115.30628 ON 12071206:	AT (474123.37, 3680053.14, 37.48, 37.48, 0.00) DC

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

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

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

A Total of 0 Fatal Error Message(s)
A Total of 38 Warning Message(s)
A Total of 70569050 Informational Message(s)

A Total of 26304 Hours Were Processed

A Total of 57 Calm Hours Identified

A Total of 402 Missing Hours Identified (1.53 Percent)

******** FATAL ERROR MESSAGES ********
*** NONE ***

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

ME W186	1209	MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used	0.50
ME W187	1209	MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET	
MX W441	14167	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081407
MX W441	14168	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081408
MX W441	14169	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081409
MX W441	14170	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081410
MX W441	14171	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081411
MX W441	14172	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081412
MX W441	14173	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081413
MX W441	14174	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081414
MX W441	14175	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081415
MX W441	14176	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081416
MX W441	14177	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081417
MX W441	14178	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081418
MX W441	14191	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081507
MX W441	14192	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081508
MX W441	14193	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081509
MX W441	14194	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081510
MX W441	14195	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081511
MX W441	14196	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081512
MX W441	14197	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081513
MX W441	14198	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081514
MX W441	14199	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081515
MX W441	14200	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081516
MX W441	14201	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081517
MX W441	14202	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081518
MX W441	14215	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081607
MX W441	14216	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081608
MX W441	14217	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081609
MX W441	14218	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081610
MX W441	14219	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081611
MX W441	14220	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081612
MX W441	14221	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081613
MX W441	14222	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081614
MX W441	14223	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081615

MX W441 14224 METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT= 11081616
MX W441 14225 METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT= 11081617
MX W441 14226 METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT= 11081618

HARP2 - HRACalc (dated 17023) 6/20/2018 8:09:21 AM - Output Log

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

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 5.17

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 3.17
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

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

****
SOIL & DERMAL PATHWAY SETTINGS

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

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: C:\Users\apoll\Desktop\HARP2\North River Farms\NORTH RIVER FARMS\hra\Default-DCancerRisk.csv
Cancer risk total by receptor saved to: C:\Users\apoll\Desktop\HARP2\North River Farms\NORTH RIVER FARMS\hra\Default-DCancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: C:\Users\apoll\Desktop\HARP2\North River Farms\NORTH RIVER FARMS\hra\Default-DNCChronicRisk.csv
Chronic risk total by receptor saved to: C:\Users\apoll\Desktop\HARP2\North River Farms\NORTH RIVER FARMS\hra\Default-DNCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: C:\Users\apoll\Desktop\HARP2\North River Farms\NORTH RIVER FARMS\hra\Default-DNCAcuteRisk.csv
Acute risk total by receptor saved to: C:\Users\apoll\Desktop\HARP2\North River Farms\NORTH RIVER FARMS\hra\Default-DNCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 17023) 6/20/2018 4:40:40 PM - Output Log

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

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 5.17

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 3.17
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

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

****
SOIL & DERMAL PATHWAY SETTINGS

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

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: C:\Users\apoll\Desktop\HARP2\North River Farms\NORTH RIVER FARMS\hra\T4i-GCancerRisk.csv
Cancer risk total by receptor saved to: C:\Users\apoll\Desktop\HARP2\North River Farms\NORTH RIVER FARMS\hra\T4i-GCancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: C:\Users\apoll\Desktop\HARP2\North River Farms\NORTH RIVER FARMS\hra\T4i-GNCChronicRisk.csv
Chronic risk total by receptor saved to: C:\Users\apoll\Desktop\HARP2\North River Farms\NORTH RIVER FARMS\hra\T4i-GNCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: C:\Users\apoll\Desktop\HARP2\North River Farms\NORTH RIVER FARMS\hra\T4i-GNCAcuteRisk.csv
Acute risk total by receptor saved to: C:\Users\apoll\Desktop\HARP2\North River Farms\NORTH RIVER FARMS\hra\T4i-GNCAcuteRiskSumByRec.csv
HRA ran successfully

APPENDIX C

Carbon Monoxide Hotspot Analysis

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB:
RUN: Hour 1
POLLUTANT:

I. SITE VARIABLES

U= 1.0 M/S Z0= 100. CM ALT= 27. (M)
BRG= 0.0 DEGREES VD= 0.0 CM/S
CLAS= 7 (G) VS= 0.0 CM/S
MIXH= 1000. M AMB= 0.0 PPM
SIGTH= 10. DEGREES TEMP= 12.1 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. College WBRA	*	500	0	-12	0	* AG	1240	2.7	0.0	33.0
B. College WBTA	*	500	12	0	12	* AG	25	2.7	0.0	33.0
C. College WBLA	*	500	24	12	24	* AG	255	2.7	0.0	33.0
D. College WBD	*	0	12	-500	12	* AG	74	2.7	0.0	33.0
E. College EBLA	*	-500	0	12	0	* AG	19	2.7	0.0	33.0
F. College EBTA	*	-500	-12	0	-12	* AG	33	2.7	0.0	33.0
G. College EBRA	*	-500	-24	-12	-24	* AG	3	2.7	0.0	33.0
H. College EBD	*	0	-12	500	12	* AG	1470	2.7	0.0	33.0
I. NR NBLA	*	0	-500	0	12	* AG	18	2.7	0.0	33.0
J. NR NBTA	*	12	-500	12	0	* AG	203	2.7	0.0	33.0
K. NR NBRA	*	24	-500	24	-12	* AG	380	2.7	0.0	33.0
L. NR NBD	*	12	0	12	500	* AG	1462	2.7	0.0	33.0
M. NR SBLA	*	0	500	0	-12	* AG	1057	2.7	0.0	33.0

```
  N. NR SBTA      *   -12   500   -12     0 *  AG    388   2.7    0.0
33.0
  O. NR SBRA      *   -24   500   -24    12 *  AG     31   2.7    0.0
33.0
  P. NR SBD       *   -12     0   -12  -500 *  AG    646   2.7    0.0
33.0
```

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. SR1	*	-60	60	5.9
2. SR2	*	60	60	5.9
3. SR3	*	-60	-60	5.9
4. SR4	*	60	-60	5.9

JOB:
RUN: Hour 1
POLLUTANT:

IV. MODEL RESULTS (PRED. CONC. INCLUDES AMB.)

RECEPTOR	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H	I	J
1. SR1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. SR2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. SR3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. SR4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RECEPTOR	CONC/LINK (PPM) K	L	M	N	O	P
1. SR1	0.0	0.0	0.0	0.0	0.0	0.0
2. SR2	0.0	0.0	0.0	0.0	0.0	0.0
3. SR3	0.0	0.0	0.0	0.0	0.0	0.0
4. SR4	0.0	0.0	0.0	0.0	0.0	0.0