

Draft

CITY OF RANCHO PALOS VERDES
GENERAL PLAN UPDATE
AIR QUALITY TECHNICAL REPORT
Air Quality Technical Report

Prepared for
City of Rancho Palos Verdes

July 17, 2017



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AIR QUALITY TECHNICAL REPORT

Introduction

This technical report addresses the potential local and regional air quality impacts associated with future development in the City of Rancho Palos Verdes (City), California envisioned in the update of the City's 1975 General Plan with a planned build-out year of 2040.¹ This report provides a technical analysis of the existing air quality conditions in the City and analyzes the impact of goals and policies for reducing air pollution in the updated Conservation and Open Space Element of the City's General Plan Update.

Information used to prepare this analysis was obtained from the City's General Plan Update², the Southern California Association of Governments (SCAG) Local Profiles Report 2015 Profile of the City of Rancho Palos Verdes³, the City's Draft General Plan⁴, and other sources identified herein.

This technical report is being prepared to support the environmental review process for the Updated General Plan under the California Environmental Quality Act (CEQA). The City is the proponent and the lead agency for the project.

¹ City of Rancho Palos Verdes. *Draft General Plan*. (2015).

² Atkins. *City of Rancho Palos Verdes Emissions Reduction Action Plan*. (2015).

³ Southern California Association of Governments. *Local Profiles Report 2015 Profile of the City of Rancho Palos Verdes* (2015)

⁴ City of Rancho Palos Verdes. *Draft General Plan*. (2015).

General Plan Update Understanding

The City is located on the Palos Verdes Peninsula at the southwest tip of Los Angeles County. The City encompasses 13.5 square miles of land and 7.5 miles of coastline, bounded by the City of Palos Verdes Estates and the Pacific Ocean to the west, cities of Rolling Hills and Rolling Hills Estates to the north, the City of Los Angeles to the east, and the Pacific Ocean to the south.

The City is located within the South Coast Air Basin (Air Basin). The South Coast Air Quality Management District (SCAQMD) is the air pollution control agency for the Air Basin. The SCAQMD adopts air quality management plans (AQMP) to achieve air quality standards in the Air Basin. The Air Basin consists of the entire Orange and Los Angeles Counties, and the western, non-desert portions of San Bernardino and Riverside Counties, in addition to the San Geronio Pass area in Riverside County.

The Updated General Plan is a comprehensive update of the City's 1975 General Plan, with a planned build out year of 2040. Since its adoption in 1975, the City's General Plan has never been comprehensively updated. While the proposed General Plan Update does include changes to the existing General Plan's goals and policies, text, and graphics, these changes do not result in significant changes to the City's overall vision of its development pattern, including no changes to the existing development envelopes or intensification of existing land uses that would necessitate additional infrastructure facilities.

As of 2013, the City is nearly built out and there remain limited opportunities for new residential and non-residential development of undeveloped land within the City. Much of the new development activity in the City is expected to be limited to the redevelopment of existing developed areas (infill), but would not result in more intensive zoning (i.e., single-family to multifamily). The amended Land Use Element designates approximately 399.48 acres for new residential development primarily as infill lots, with approximately 756 proposed dwelling units by 2040, of which 668 are designated as single family and 88 are designated as multi-family.⁵

Construction and occupancy of the proposed dwelling units would generate air quality emissions, which would add to the existing air quality emissions in the City. Since the City already generates emissions, net emissions will be analyzed to determine impacts from buildout of the Updated General Plan. Net emissions are calculated by taking full buildout emissions from the Updated General Plan minus existing emissions from the current operations.

⁵ City of Rancho Palos Verdes. *Draft General Plan*. (2015).

Environmental Setting

Topography, Climate, and Meteorology

The Air Basin is an approximately 6,745-square-mile area, topographically bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The terrain and geographical location determine the distinctive climate of the Air Basin, as it is a coastal plain with connecting broad valleys and low hills.

The Air Basin lies in the semi-permanent high-pressure zone of the eastern Pacific Ocean, which usually provides a mild climatological pattern, interrupted by periods of hot temperatures, winter storms, or Santa Ana winds. The extent and severity of pollutant concentrations in the Air Basin is a function of the area's natural physical characteristics (weather and topography) and man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of pollutants throughout the Air Basin, making it an area of high pollution potential.

Meteorological conditions, in combination with regional topography, are conducive to the formation and retention of ozone within the Air Basin, which is a secondary pollutant that forms through photochemical reactions in the atmosphere. Thus, the greatest air pollution impacts throughout the Air Basin typically occur from June through September. This condition is generally attributed to the emissions occurring in the Air Basin, light winds, and shallow vertical atmospheric mixing. These factors reduce the potential for pollutant dispersion causing elevated air pollutant levels. Pollutant concentrations in the Air Basin vary with location, season, and time of day. Concentrations of ozone, for example, tend to be lower along the coast, higher in the near inland valleys, and lower in the far inland areas of the Air Basin and adjacent desert.

Criteria Pollutants

Certain air pollutants have been designated as “criteria” air pollutants because they are common and widely distributed, and are known to have adverse human health effects and/or cause adverse impacts to the environment either directly or through reactions with other pollutants. Criteria air pollutants indicators of ambient air quality and include: ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), respirable or breathable particulate matter with an aerodynamic diameter of 10 micrometers or less (PM₁₀), fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less (PM_{2.5}), and lead. The criteria pollutants are regulated by the United States Environmental Protection Agency (USEPA) at the national level and by the California Air Resources Board (CARB) at the state level, and are subject to respective ambient air quality standards adopted by USEPA and CARB. The current National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) for each of the monitored criteria pollutants are summarized in **Table 1, Ambient Air Quality Standards**.

TABLE 1
AMBIENT AIR QUALITY STANDARDS

Pollutant	Average Time	California Standards ^a		National Standards ^b		
		Concentration ^c	Method ^d	Primary ^{c,e}	Secondary ^{c,f}	Method ^g
O ₃ ^h	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
NO ₂ ⁱ	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m ³)	None	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		53 ppb (100 µg/m ³)	Same as Primary Standard	
CO	1 Hour	20 ppm (23 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m ³)	None	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10mg/m ³)		9 ppm (10 mg/m ³)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—	—	
SO ₂ ^j	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method) ⁹
	3 Hour	—		—	0.5 ppm (1300 µg/m ³)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (for certain areas) ^j	—	
	Annual Arithmetic Mean	—	0.030 ppm (for certain areas) ^j	—		
PM10 ^k	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial and Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		—		
PM2.5 ^k	24 Hour	No Separate State Standard		35 µg/m ³	Same as Primary Standard	Inertial and Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ^{3 k}	15 µg/m ³	
Lead ^{l,m}	30 Day Average	1.5 µg/m ³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m ³ (for certain areas) ^m	Same as Primary Standard	
	Rolling 3-Month Average ^m	--		0.15 µg/m ³		

Pollutant	Average Time	California Standards ^a		National Standards ^b		
		Concentration ^c	Method ^d	Primary ^{c,e}	Secondary ^{c,f}	Method ^g
Visibility Reducing Particles ⁿ	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates (SO ₄)	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ^l	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

^a California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equal or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

^b National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

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

^d Any equivalent procedure which can be shown to the satisfaction of CARB to give equivalent results at or near the level of the air quality standard may be used.

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

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

^g Reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the USEPA.

^h On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

ⁱ To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb.

^j On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated non-attainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

^k On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The other PM_{2.5} and PM₁₀ standards were retained.

^l 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.

^m The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated non-attainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

ⁿ In 1989, the California Air Resources Board converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

SOURCE: California Air Resources Board, Ambient Air Quality Standards (5/4/16). Available at: <https://www.arb.ca.gov/research/aaqs/aaqs2.pdf>. Accessed March 2017.

Areas or basins in which air pollutant concentrations exceed NAAQS or CAAQS are classified as non-attainment for that specific pollutant. Additional details of attainment and non-attainment areas are described in further detail below.

The SCAQMD maintains a network of air quality monitoring stations located throughout the Air Basin to measure ambient pollutant concentrations. The City is located at the southwestern boarder

of the Los Angeles Basin. The monitoring station most representative of the City of Rancho Palos Verdes is the Long Beach Hudson Station (South Los Angeles County Coastal Receptor Area). Criteria pollutants monitored at this station include O₃, NO₂, CO, SO₂, and PM₁₀. The nearest station that monitors the remaining criteria pollutant, PM_{2.5}, is the North Long Beach Monitoring Station (South Los Angeles County Coastal Receptor Area). The nearest station that monitors lead is the LAX Hastings Station (Southwest Los Angeles County Coastal Receptor Area). The most recent data available from the SCAQMD for these monitoring stations are from years 2013 to 2016.⁶ The pollutant concentration data for these years are summarized in Table 2, Ambient Air Quality Data. As shown in **Table 2, Air Quality Monitoring Data**, Ozone has exceeded state and national standards once in the 4 years; PM₁₀ has exceeded state standards 12 times; PM_{2.5} has exceeded federal standards 8 times; and all other monitored pollutants are consistently less than the relevant state and national standards.

The following provides a discussion of each criteria pollutant including current attainment status with NAAQS and CAAQS⁷, an overview of pollutant formation and health effects, and annual pollutant concentration trends from Table 2.

Ozone

The City of Rancho Palos Verdes is located in an area of the Air Basin that is currently in non-attainment (extreme) of both the 8-hour and 1-hour NAAQS for ozone and non-attainment for both the 8-hour and 1-hour CAAQS for ozone. O₃ is a secondary pollutant, formed by the chemical reaction of volatile organic compounds and nitrogen oxides (“NO_x”) under certain meteorological conditions such as, high temperature and stagnation episodes. Elevated levels of O₃ can cause irritation to lungs and breathing passages, coughing, and pain in the chest and throat, thereby increasing susceptibility to respiratory infections and reducing the ability to exercise. Effects are more severe in people with asthma and other respiratory ailments. Long-term exposure may lead to scarring of lung tissue and may lower lung efficiency.

Carbon Monoxide

The City of Rancho Palos Verdes is located in an area currently in attainment for both NAAQS and CAAQS for CO for both 1-hour and 8-hour concentrations. CO is a colorless, odorless gas primarily emitted from combustion processes and motor vehicles due to incomplete combustion of fuel. Motor vehicles operating at slow speeds are the primary source of CO. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections. Elevated concentrations of CO weaken the heart's contractions and lower the amount of oxygen carried by the blood. Inhalation of CO can cause nausea, dizziness, and headaches at moderate concentrations, and can be fatal at high concentrations.

⁶ South Coast Air Quality Management District. *Historical Data by Year*. <http://www.aqmd.gov/home/library/air-quality-data-studies/historical-data-by-year> Accessed May 2017.

⁷ South Coast Air Quality Management District. <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf?sfvrsn=2>. (2016). Accessed May 2017.

TABLE 2
AIR QUALITY MONITORING DATA

Pollutant	Standard	2013	2014	2015	2016
Ozone (O₃)					
Max. 1-hour concentration (ppm)		0.090	0.087	0.087	0.079
No. of days exceeded:	State: > 0.09 ppm	0	0	0	0
Max. 8-hour concentration (ppm)		0.069	0.072	0.066	0.059
No. of days exceeded:	State: > 0.07 ppm	0	1	0	0
	National: > 0.07 ppm	0	1	0	0
Carbon Monoxide (CO)					
Max. 8-hour concentration (ppm)	State/National: > 9 ppm	2.6	2.6	2.2	2.2
Max 1-hour concentration (ppm)	State: > 20 ppm	N/A	4	3.3	3.3
	National: > 35 ppm				
Nitrogen Dioxide (NO₂)					
Max. 1-hour concentration (ppm)	State: > 0.18 ppm	0.081	0.135	0.102	0.076
	National: > 0.10 ppm				
Average Annual (AAM) concentration (ppm)	State: > 0.030 ppm	0.022	0.021	0.020	0.032
	National: > 0.0534 ppm				
Coarse Particulates (PM₁₀)					
Max. 24-hour concentration (µg/m ³)		37	59	62	75
No. of days exceeded:	State: > 50 µg/m ³	0	2	2	8
	National: > 150 µg/m ³	0	0	0	0
Fine Particulates (PM_{2.5})					
Max. 24-hour concentration (µg/m ³)		47.2	52.2	48.3	29.37
No. of days exceeded:	National: > 35 µg/m ³	2	2	4	0
Sulfur Dioxide (SO₂)					
Max. 1-hour concentration (ppm)		0.015	0.015	0.038	0.018
No. of days exceeded:	State: > 0.04 ppm	0	0	0	0
	National: > 0.075 ppm	0	0	0	0
Lead (Pb)					
Max. Monthly Average concentration (µg/m ³)	State: > 1.5 µg/m ³	0.005	0.012	0.010	0.008
Max. 3 Months Rolling Average concentration (µg/m ³)	National: > 0.15 µg/m ³	0.004	0.010	0.010	0.01

NOTES:

ppm = parts per million; µg/m³ = micrograms per cubic meter

SOURCE: South Coast Air Quality Management District. *Historical Data by Year*. <http://www.aqmd.gov/home/library/air-quality-data-studies/historical-data-by-year> Accessed July 2017.

Nitrogen Dioxide

The City of Rancho Palos Verdes is located in a region currently in attainment for both the NAAQS and CAAQS for NO₂ for maximum concentration and annual arithmetic mean.

NO₂ is a reddish-brown, highly reactive gas, formed in the ambient air through the oxidation of nitric oxide (NO), and also as a byproduct of fuel combustion. NO_x is primarily emitted in the form of NO, but quickly reacts in the atmosphere to form NO₂. NO_x is primarily a mixture of NO and NO₂; however, ambient air quality standards apply only to NO₂ and not NO_x. Major sources of NO_x include power plants, large industrial facilities, and motor vehicles. NO₂ acts as an acute irritant and, in equal concentrations, is more injurious than NO.

Sulfur Dioxide

The City of Rancho Palos Verdes is located within a zone of the Air Basin that is currently in attainment for both the 1-hour and 24-hour SO₂ NAAQS and CAAQS. Major sources of SO₂ include power plants, large industrial facilities, diesel vehicles, and oil-burning residential heaters (particularly those sources that use high-sulfur-content fuel oils and coal). Emissions of SO₂ aggravate lung diseases, such as bronchitis. SO₂ constricts the breathing passages in asthmatics and people involved in moderate to heavy exercise. SO₂ can potentially cause wheezing, shortness of breath, and coughing.

Particulate Matter

The City of Rancho Palos Verdes is located in a zone that is currently in attainment for the 24-hour PM₁₀ NAAQS and non-attainment for the 24-hour PM₁₀ CAAQS. The region is in non-attainment for 24-hour and annual PM_{2.5} NAAQS and non-attainment for the annual PM_{2.5} CAAQS. The human body naturally prevents the entry of larger particles into the body. However, small particles, (i.e., PM₁₀) and even smaller particles (i.e., PM_{2.5}), can enter the body through the nose, and get trapped in the nose, throat, and upper respiratory tract. The small particulates could potentially aggravate existing heart and lung diseases, change the body's defenses against inhaled materials, and damage lung tissue. The elderly, children, and those with chronic lung or heart disease are most sensitive to PM₁₀ and PM_{2.5}. Lung impairment can persist for several weeks after exposure to high levels of particulate matter. Some types of particulates could become toxic after inhalation due to the presence of certain chemicals on or mixed with the particulates and the chemicals' reaction with internal body fluids.

Lead

The City of Rancho Palos Verdes is located in an area that is currently in attainment for lead under the NAAQS and CAAQS. Lead is emitted from industrial facilities, from the sanding or removal of old lead-based paint, and from smelting or processing material containing lead, such as certain types of batteries. Lead affects the brain and other parts of the body's nervous system. Exposure to lead in young children impairs the development of the nervous system, kidneys, and blood forming processes in the body. Because the Updated General Plan land uses do not generate lead or lead emissions, lead is not addressed further in this analysis.

Other Pollutants

Volatile Organic Compounds (VOCs)

VOCs are compounds comprised primarily of hydrogen and carbon atoms (e.g., hydrocarbons). Internal combustion associated with motor vehicle usage is the major source of hydrocarbons, as are evaporative emissions from consumer products and paints. VOCs themselves are not criteria pollutants; however, they contribute to O₃ formation.

Visibility Reducing Particles

The Air Basin is currently designated as unclassified with respect to the CAAQS for visibility reducing particles. Continuous monitoring is not currently conducted within the Air Basin for this standard.

Hydrogen Sulfide

The Air Basin is currently in attainment with respect to the CAAQS for hydrogen sulfide. CARB does not conduct or require ambient monitoring of this pollutant.

Vinyl Chloride

The Air Basin is currently in attainment with respect to the CAAQS for vinyl chloride. In 1990, CARB identified vinyl chloride as a toxic air contaminant, and determined that it does not have an identifiable threshold. Therefore, CARB does not conduct or require ambient monitoring for this pollutant.

Inventory and Sources of Criteria Air Pollutant Emissions

The SCAQMD prepares emissions inventories for regulatory and State Implementation Plan (SIP) performance tracking as well as for the AQMP. These estimates include stationary sources (e.g., generators, boilers, industrial sources) and area sources (e.g., landscaping, consumer products, fugitive emissions), and transportation sources. The latest emissions inventory for the Air Basin was prepared in 2012 for the 2016 AQMP. Additional details of sources of criteria pollutant emissions are described in further detail below.

Stationary Sources

Point sources are permitted facilities with one or more emission sources at an identified location (e.g., power plants, refineries). These facilities generally have annual emissions of 4 tons or more of either VOC, NO_x, SO_x, or total PM, or annual emissions of over 100 tons of CO. Facilities are required to report their criteria pollutant emissions pursuant to Rule 301 and selected air toxics to the District on an annual basis. As the City does not contain large manufacturing or industrial uses, most sources of criteria pollutants are considered minor.

Area-wide Sources

Area sources consist of many small emission sources (e.g., residential water heaters, architectural coatings, consumer products and permitted sources that are smaller than the above Stationary

Sources thresholds) which are distributed across the region and are not required to individually report their emissions. Area Sources also include fugitive dust and construction-related sources.

Mobile Sources

Mobile sources are typically the largest contributors to criteria pollutants within Southern California.⁸ Mobile sources consist of two subcategories: on-road sources and off-road sources. Such sources include passenger vehicles, trucks, buses, motorcycles, aircraft, trains and marine vessels (boats). The major freeway that passes close to the City is the 110 freeway. The City also contains high volume arterial roadways such as South Western Avenue, Palos Verdes Drive North, West, and South, Hawthorne Boulevard and Crenshaw Boulevard.

Toxic Air Contaminants

In addition to criteria pollutants, the SCAQMD periodically assesses levels of TACs in the Air Basin. A TAC is defined by California Health and Safety Code Section 39655:

“Toxic air contaminant” means an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal act (42 U.S.C. Sec. 7412(b)) is a toxic air contaminant.

Between July 2012 and June 2013, the SCAQMD conducted the Multiple Air Toxics Exposure Study (MATES IV), which is a follow-up to previous air toxics studies conducted in the Air Basin. The MATES IV Final Report was issued in May 2015. The study, based on actual monitored data throughout the Air Basin, consisted of several elements. These included a monitoring program, an updated emissions inventory of TACs, and a modeling effort to characterize carcinogenic risk across the Air Basin from exposure to TACs. The study concluded that the average of the modeled air toxics concentrations measured at each of the monitoring stations in the Air Basin equates to a background cancer risk of approximately 418 in one million based on the average of 10 fixed monitoring sites and 367 per million based on a population-weighted average risk. The risk is primarily due to diesel exhaust, which is about 65 percent lower for the average of 10 fixed monitoring sites and 57 percent lower for the population-weighted risk than the previous MATES III cancer risks.⁹ Subsequent to the SCAQMD’s risk calculations estimates performed for MATES IV, the California Environmental Protection Agency Office of Environmental Health Hazard Assessment (OEHHHA) updated the methods for estimating cancer risks.¹⁰ The updated method utilizes higher estimates of cancer potency during early life exposures and uses different assumptions for breathing rates and length of residential exposures. When combined together,

⁸ South Coast Air Quality Management District, Air Quality Management Plan 2012, Chapter 3.

⁹ South Coast Air Quality Management District, Final Report – Multiple Air Toxics Exposure Study in the South Coast Air Basin, (2015) ES-2-3. Available at: <http://www.aqmd.gov/home/library/air-quality-data-studies/health-studies/mates-iv>. Accessed March 2017.

¹⁰ California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, (2015). Available at: <http://oehha.ca.gov/air/crn/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0>. Accessed March 2017.

SCAQMD staff estimates that risks for the same inhalation exposure level will be about 2.5 to 2.7 times higher using the updated methods. This would be reflected in the average lifetime air toxics risk estimated from the monitoring sites data going from 418 per million to 1,023 per million for the average of 10 fixed monitoring sites and from 367 per million to 897 per million for the population-weighted risk.¹¹ Under the updated OEHHA methodology, adopted in March of 2015, the relative reduction in risk from the MATES IV results compared to MATES III would be the same (about 65 percent reduction in risk).

Approximately 68 percent of the airborne carcinogenic risk is attributed to diesel particulate emissions matter (DPM), approximately 22 percent to other toxics associated with mobile sources (including benzene, butadiene, and formaldehyde), and approximately 10 percent is attributed to stationary sources (which include industries and other certain businesses, such as dry cleaners and chrome plating operations).¹² The study also found lower ambient concentrations of most of the measured air toxics compared to the levels measured in the previous study conducted during 2004 and 2006. Specifically, benzene and 1,3-butadiene, pollutants generated mainly from vehicles, were down 35 percent and 11 percent, respectively.¹³ The reductions were attributed to air quality control regulations and improved emission control technologies. In addition to air toxics, MATES IV included continuous measurements of black carbon and ultrafine particles (particles smaller than 0.1 microns in size), which are emitted by the combustion of diesel fuels. Sampling sites located near heavily-trafficked freeways or near industrial areas were characterized by increased levels of black carbon and ultrafine particles compared to more rural sites.

Citywide Emissions

Criteria pollutant emissions from existing land uses and development in the City of Rancho Palos Verdes were estimated using the CalEEMod (Version 2016.3.1) software, an emissions inventory software program recommended by the SCAQMD. **Table 3, Current Citywide Regional Operational Emissions**, shows the maximum emissions of pounds per day for City as of 2015.

TABLE 3
CURRENT CITYWIDE REGIONAL OPERATIONAL EMISSIONS (POUNDS PER DAY) ^A

Source	VOC	NO _x	CO	SO _x	PM10	PM2.5
City Regional Operational Emissions						
Area (Consumer Products, Landscaping)	1,631	256	1,469	2	27	27
Energy (Natural Gas)	24	205	111	1	16	16
Motor Vehicles	2,600	10,040	31,611	66	4,556	1,296

¹¹ South Coast Air Quality Management District, Final Report – Multiple Air Toxics Exposure Study in the South Coast Air Basin, (2015) 2-11. Available at: <http://www.aqmd.gov/home/library/air-quality-data-studies/health-studies/mates-iv>. Accessed March 2017.

¹² South Coast Air Quality Management District, Final Report – Multiple Air Toxics Exposure Study in the South Coast Air Basin, (2015) ES-2. Available at: <http://www.aqmd.gov/home/library/air-quality-data-studies/health-studies/mates-iv>. Accessed March 2017.

¹³ South Coast Air Quality Management District, Final Report – Multiple Air Toxics Exposure Study in the South Coast Air Basin, (2015) 6-1. Available at: <http://www.aqmd.gov/home/library/air-quality-data-studies/health-studies/mates-iv>. Accessed March 2017.

Total Operational Emissions	4,254	10,501	33,191	68	4,599	1,339
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^a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix A and C.

SOURCE: ESA 2017

Sensitive Land Uses

Certain population groups, such as children, elderly, and acutely and chronically ill persons (especially those with cardio-respiratory diseases), are considered more sensitive to the potential effects of air pollution than others. Sensitive land uses would include areas where these populations tend to spend a majority of their time, such as residential, recreational, and educational areas. The majority of City of Rancho Palos Verdes consists of residential and open space recreational zoning, which are considered sensitive land uses for the purposes of air quality. Within the City of Rancho Palos Verdes, the Palos Verdes Peninsula Unified School District is responsible for operating public schools within the City. These schools are considered sensitive uses in addition to the number of private schools and day care centers. Additionally, there are a variety of senior care and assisted living establishment within the City that are also considered sensitive uses.

Odors

According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The City does not contain any large sources of odors. Minor sources such as paint booths, auto body repair and other light industrial sources may exist within the City. Other temporary sources of odors may include construction activities such as painting and asphalt paving.

Regulatory Setting

A number of statutes, regulations, plans, and policies have been adopted that address air quality issues. The proposed General Plan Update is subject to air quality regulations developed and implemented at the federal, state, regional, and local levels. This section provides a summary of pertinent air quality regulations affecting the Updated General Plan at the federal, state, and local levels.

Criteria Air Pollutants

Federal

The federal Clean Air Act (CAA) governs air quality in the United States. The USEPA is responsible for implementation and enforcement of the CAA. The CAA establishes federal NAAQS and specifies future dates for achieving compliance. It also requires the USEPA to designate areas as attainment, nonattainment, or maintenance. The CAA also mandates that the state submit and implement a SIP for each criteria pollutant if the NAAQS for the pollutant has not been achieved. The SIP includes pollution control measures that demonstrate how the standards will be met. The sections of the CAA which are most applicable to the proposed General Plan

Update include Title I (Non-attainment Provisions) and Title II (Mobile Source Provisions). Title I requirements are implemented for the purpose of attaining NAAQS for the following criteria pollutants: O₃; NO₂; CO; SO₂; PM₁₀; and Pb. The NAAQS were amended in July 1997 to include an 8-hour standard for O₃ and to adopt a NAAQS for PM_{2.5}. The NAAQS were also amended in September 2006 to include an established methodology for calculating PM_{2.5} as well as revoking the annual PM₁₀ threshold.

Table 1 shows the NAAQS currently in effect for each criteria pollutant. **Table 4, *South Coast Air Basin Attainment Status (Los Angeles County)***, shows the attainment status of the Air Basin for each criteria pollutant. As shown in Table 3, the Air Basin is currently in nonattainment for O₃, PM_{2.5} and one area of the Air Basin for Pb under the NAAQS.

In addition to criteria pollutants, Title I also includes air toxics provisions which require the USEPA to develop and enforce regulations to protect the public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112, the USEPA establishes National Emission Standards for Hazardous Air Pollutants (NESHAPs). The list of hazardous air pollutants (HAPs), or air toxics, includes specific compounds that are known or suspected to cause cancer or other serious health effects.

Title II requirements pertain to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline, automobile pollution control devices, and vapor recovery nozzles on gas pumps are a few of the mechanisms the USEPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles which have strengthened in recent years to improve air quality. For example, the standards for NO_x emissions have been lowered substantially, and the specification requirements for cleaner burning gasoline are more stringent.

State

California Air Resources Board

CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets the CAAQS, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California's SIP, for which it works closely with the federal government and the local air districts. The SIP is required for the State to take over implementation of the federal CAA from the USEPA.

TABLE 4
SOUTH COAST AIR BASIN ATTAINMENT STATUS (LOS ANGELES COUNTY)

Pollutant	National Standards	California Standards
O ₃ (1-hour standard)	Non-attainment – Extreme	Non-attainment

O ₃ (8-hour standard)	Non-attainment – Extreme	Non-attainment
CO	Attainment	Attainment
NO ₂	Attainment	Attainment
SO ₂	Attainment	Attainment
PM10	Attainment	Non-attainment
PM2.5	Non-attainment – Serious	Non-attainment
Lead	Non-attainment (Partial) ^b	Attainment
Sulfates	N/A	Attainment
Hydrogen Sulfide	N/A	Attainment
Vinyl Chloride ^c	N/A	Attainment

NOTES: N/A = not applicable

^a The NAAQS for 1-hour ozone was revoked on June 15, 2005, for all areas except Early Action Compact areas.

^b Partial Nonattainment designation – Los Angeles County portion of the Air Basin only for near-source monitors.

^c In 1990, the California Air Resources Board identified vinyl chloride as a toxic air contaminant and determined that it does not have an identifiable threshold. Therefore, the California Air Resources Board does not monitor or make status designations for this pollutant.

SOURCE: South Coast Air Quality Management District.

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwjH_Pm574zUAhXM7YMKHX6QDPcQFggoMAA&url=http%3A%2F%2Fwww.aqmd.gov%2Fdocs%2Fdefault-source%2Fclean-air-plans%2Fair-quality-management-plans%2Fnaaqs-caaqs-feb2016.pdf%3Fsfvrsn%3D2&usg=AFQjCNFXcDLV_6mYhvfkB9ezbUoQeMokNg&sig2=deBIWgEKIS3VvMjLdqs-aw. Accessed May 2017.

California Clean Air Act

The California CAA requires all areas of the State to achieve and maintain the CAAQS by the earliest practical date. The CAAQS regulate the same criteria pollutants as the NAAQS but also regulate State-identified criteria pollutants, including sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride. In general, the CAAQS are more stringent than the NAAQS. CARB has primary responsibility for ensuring implementation of the California CAA,¹⁴ responding to the federal CAA planning requirements applicable to the state, and regulating emissions from motor vehicles and consumer products within the state. Table 1 shows the CAAQS currently in effect for each of the federally recognized criteria pollutants as well as the additional pollutants recognized by the state.

Health and Safety Code Section 39607(e) requires CARB to establish and periodically review area designation criteria. Table 3 provides a summary of the attainment status of the Los Angeles County portion of the Air Basin with respect to the CAAQS. The Air Basin is designated as attainment for the California standards for sulfates, hydrogen sulfide, and visibility reducing particles. Because vinyl chloride is a TAC, CARB does not classify attainment status for this pollutant.

Regional

South Coast Air Quality Management District

As indicated previously, the City of Rancho Palos Verdes is located within the South Coast Air Basin. SCAQMD has jurisdiction over an area of approximately 10,743 square miles including all of Orange County, the portion of Los Angeles County without Antelope Valley, the non-desert

¹⁴ Chapter 1568 of the Statutes of 1988.

portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County. The Air Basin is a sub-region of the SCAQMD jurisdiction. While air quality in this area has improved, the Air Basin requires continued diligence to meet air quality standards.

Air Quality Management Plan

SCAQMD has adopted a series of Air Quality Management Plans to meet the CAAQS and NAAQS. SCAQMD and CARB have adopted the 2016 AQMP which incorporates the latest scientific and technological information and planning assumptions, including the SCAG 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), and updated emission inventory methodologies for various source categories.¹⁵ The Final 2016 AQMP was adopted by the AQMD Governing Board on March 3, 2016.

The AQMP builds upon other agencies' plans to achieve federal standards for air quality in the Air Basin. The AQMP incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, and on-road and off-road mobile sources. The 2016 AQMP builds upon improvements in previous plans, and includes new and changing federal requirements, implementation of new technology measures, and the continued development of economically sound, flexible compliance approaches. In addition, it highlights the significant amount of emission reductions needed and the urgent need to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria pollutant standards within the time frames allowed under the federal CAA.

The 2016 AQMP's key undertaking is to bring the Air Basin into attainment with NAAQS for 24-hour PM_{2.5}. SCAQMD has since determined that this deadline was impractical due to drought conditions in the region.¹⁶ In 2016, USEPA approved reclassification of the Air Basin from "moderate" to "serious" non-attainment for the 24-hour PM_{2.5} standard, which has a new attainment deadline of December 31, 2019. The 2016 AQMP demonstrates that the 24-hour standard will be met by 2019 with no additional reductions beyond already adopted and implemented measures. The 2016 AQMP also intensifies the scope and pace of continued air quality improvement efforts toward meeting the 2024 and 2032 8-hour ozone standard deadline with new measures designed to reduce reliance on the CAA Section 182(e)(5) long-term measures for NO_x and VOC reductions. SCAQMD expects exposure reductions to be achieved through implementation of new and advanced control technologies as well as improvement of existing technologies.

The control measures in the 2016 AQMP consist of 8-hour ozone control measures and PM_{2.5} control measures designed to achieve the O₃ and PM_{2.5} NAAQS by statutory deadlines. The AQMP includes ten PM_{2.5} control measures, 15 stationary source 8-hour ozone measures and 15 early action measures for mobile sources. In general, the SCAQMD's control strategy for stationary and mobile sources is based on the following approaches: 1) available cleaner technologies; (2)

¹⁵ South Coast Air Quality Management District, 2016 Air Quality Management Plan, <http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp>. Accessed May 2017.

¹⁶ South Coast Air Quality Management District, Revised Draft 2016 Air Quality Management Plan, <http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/reviseddraft2016AQMP>. Accessed January 2017.

best management practices; (3) incentive programs; (4) development and implementation of zero-near-zero technologies and vehicles and control methods; and (5) emission reductions from mobile sources. Control strategies in the AQMP with potential applicability to short-term emissions from construction activities associated with the buildout of the General Plan Update include strategies denoted in the AQMP as MOB-08 and MOB-10, which are intended to reduce emissions from on-road and off-road heavy-duty vehicles and equipment. Descriptions of measures MOB-08 and MOB-10 are provided below:

MOB-08 – Accelerated Retirement of Older On-Road Heavy-Duty Vehicles: This proposed measure seeks to replace heavy-duty vehicles with newer or new vehicles that at a minimum, meet the 2010 on-road heavy-duty NO_x exhaust emissions standard of 0.2 grams per brake horsepower-hour (g/bhp-hr). Given that exceedances of the 24-hour PM_{2.5} air quality standard occur in the state, priority will be placed on replacing older diesel trucks that operate primarily at the warehouse and distribution centers. Funding assistance of up to \$50,000 per vehicle is proposed and the level of funding will depend upon the NO_x emissions certification level of the replacement vehicle. In addition, a provision similar to the Surplus Off-Road Option for NO_x (SOON) provision of the statewide In-Use Off-Road Fleet Vehicle Regulation will be sought to ensure that additional NO_x emission reduction benefits are achieved.

MOB-10 – Extension of the SOON Provision for Construction/Industrial Equipment: This measure seeks to continue the (SOON) provision of the statewide In-Use Off-Road Fleet Vehicle Regulation beyond 2023 through the 2031 timeframe. To implement the SOON program in this timeframe, funding of at least \$10 million per year would be sought to help fund the repower or replacement of older Tier 0 and Tier 1 equipment, with reductions that are considered surplus to the statewide regulation with Tier 4 or cleaner engines.

Air Quality Guidance Documents

The SCAQMD published the California Environmental Quality Act (CEQA) Air Quality Handbook to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts.¹⁷ The CEQA Air Quality Handbook provides standards, methodologies, and procedures for conducting air quality analyses in EIRs and was used extensively in the preparation of this analysis. However, the SCAQMD is currently in the process of replacing the CEQA Air Quality Handbook with the Air Quality Analysis Guidance Handbook. While this process is underway, the SCAQMD recommends that lead agencies avoid using the screening tables in Chapter 6 (Determining the Air Quality Significance of a Project) and the on-road mobile source emission factors in Table A9-5-J1 through A9-5-L as they are outdated. The SCAQMD instead recommends using other approved models to calculate emissions from land use

¹⁷ South Coast Air Quality Management District, CEQA Air Quality Handbook (1993). Available at: [http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-\(1993\)](http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993)). Accessed March 2017.

projects, such as the California Emissions Estimator Model (CalEEMod) software, initially released in 2011 and updated in 2016.

The SCAQMD has published a guidance document called the *Final Localized Significance Threshold Methodology* that is intended to provide guidance in evaluating localized effects from mass emissions during construction.¹⁸ The SCAQMD adopted additional guidance regarding PM_{2.5} in a document called *Final Methodology to Calculate Particulate Matter (PM)_{2.5} and PM_{2.5} Significance Thresholds*.¹⁹ This latter document has been incorporated by the SCAQMD into its CEQA significance thresholds and Localized Significance Threshold Methodology.

Rules and Regulations

The SCAQMD has developed many rules and regulations to regulate sources of air pollution in the Air Basin and to help achieve air quality standards. Projects under the General Plan Update may be subject to the following SCAQMD rules and regulations:

Regulation IV – Prohibitions: This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air emissions, fuel contaminants, start-up/shutdown exemptions and breakdown events. The following is a list of rules which may apply to projects under the General Plan Update:

Rule 401 – Visible Emissions: This rule states that a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart or of such opacity as to obscure an observer's view.

Rule 402 – Nuisance: This rule states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Rule 403 – Fugitive Dust: This rule requires projects to prevent, reduce or mitigate fugitive dust emissions from a site. Rule 403 restricts visible fugitive dust to the project property line, restricts the net PM₁₀ emissions to less than 50 µg/m³ and restricts the tracking out of bulk materials onto public roads. Additionally, projects must utilize one or more of the best available control measures (identified in the tables within the rule). Mitigation measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, watering, using chemical stabilizers and/or ceasing all activities. Finally, a contingency plan may be required if so determined by the USEPA.

¹⁸ South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, (2008). Available at: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds>. Accessed March 2017.

¹⁹ South Coast Air Quality Management District, Final Methodology to Calculate Particulate Matter (PM)_{2.5} and PM_{2.5} Significance Thresholds, (2006). Available at: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/pm-2-5-significance-thresholds-and-calculation-methodology>. Accessed March 2017.

Regulation XI – Source Specific Standards: Regulation XI sets emissions standards for specific sources. The following is a list of rules which may apply to projects under the General Plan Update:

Rule 1113 – Architectural 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.

Rule 1138 – Control of Emissions from Restaurant Operations: This rule specifies emissions and odor control requirements for commercial cooking operations that use chain-driven charbroilers to cook meat.

Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters: This rule requires manufacturers, distributors, retailers, refurbishers, installers, and operators of new and existing units to reduce NO_x emissions from natural gas-fired water heaters, boilers, and process heaters as defined in this rule.

Rule 1186 – PM₁₀ Emissions from Paved and Unpaved Roads, and Livestock Operations: This rule applies to owners and operators of paved and unpaved roads and livestock operations. The rule is intended to reduce PM₁₀ emissions by requiring the cleanup of material deposited onto paved roads, use of certified street sweeping equipment, and treatment of high-use unpaved roads (see also Rule 403).

Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities: This rule requires owners and operators of any demolition or renovation activity and the associated disturbance of asbestos-containing materials, any asbestos storage facility, or any active waste disposal site to implement work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials.

Regulation XIII – New Source Review (NSR): Regulation XIII sets requirements for preconstruction review required under both federal and state statutes for new and modified sources located in areas that do not meet the CAA standards ("non-attainment" areas). NSR applies to both individual permits and entire facilities. Any permit that has a net increase in emissions is required to apply BACT. Facilities with a net increase in emissions are required to offset the emission increase by use of Emission Reduction Credits (ERCs). The regulation provides for the application, eligibility, registration, use and transfer of ERCs. For low emitting facilities, the SCAQMD maintains an internal bank that can be used to provide the required offsets. In addition, certain facilities are subject to provisions that require public notice and modeling analysis to determine the downwind impact prior to permit issuance.

Regulation XIV – Toxics and Other Non-Criteria Pollutants: Regulation XIV sets requirements for new permit units, relocations, or modifications to existing permit units which emit toxic air contaminants or other non-criteria pollutants. The following is a list of rules which may apply to projects under the General Plan Update:

Rule 1470 – Requirements For Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines: This rule applies to stationary compression ignition (CI)

engine greater than 50 brake horsepower and sets limits on emissions and operating hours. In general, new stationary emergency standby diesel-fueled engines greater than 50 brake horsepower are not permitted to operate more than 50 hours per year for maintenance and testing.

Southern California Association of Governments

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG is the federally designated Metropolitan Planning Organization (MPO) for the majority of the Southern California region and is the largest MPO in the nation. With regard to air quality planning, SCAG adopted the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) in April 2016, which addresses regional development and growth forecasts and forms the basis for the land use and transportation control portions of the AQMP. The growth forecasts are utilized in the preparation of the air quality forecasts and consistency analysis included in the AQMP. The RTP/SCS and AQMP are based on projections originating within local jurisdictions.

SCAG is required to adopt an SCS pursuant to Senate Bill (SB) 375 (Chapter 728, Statutes of 2008), which establishes mechanisms for the development of regional targets for reducing passenger vehicle greenhouse gas emissions. Under SB 375, CARB is required, in consultation with the state's MPOs, to set regional greenhouse gas (GHG) reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. In February 2011, CARB adopted the final GHG emissions reduction targets for SCAG, which is the MPO for the region in which the City of Rancho Palos Verdes is located. The target is a per capita reduction of 8 percent for 2020 and 13 percent for 2035 compared to the 2005 baseline. The 2016-2040 RTP/SCS meets or exceeds these targets, lowering greenhouse gas lowering greenhouse gas emissions (below 2005 levels) by eight percent by 2020; 18 percent by 2035; and 21 percent by 2040. Of note, the proposed reduction targets explicitly exclude emission reductions expected from the AB 1493 and the low carbon fuel standard regulations. Compliance with and implementation of 2016-2040 RTP/SCS policies and strategies would have co-benefits of reducing per capita criteria air pollutant emissions associated with reduced per capita VMT.

SCAG's SCS provides specific strategies for successful implementation. These strategies include supporting projects that encourage diverse job opportunities for a variety of skills and education, recreation, cultures, and a full-range of shopping, entertainment and services all within a relatively short distance; encouraging employment development around current and planned transit stations and neighborhood commercial centers; encouraging the implementation of a "Complete Streets" policy that meets the needs of all users of the streets, roads and highways including bicyclists, children, persons with disabilities, motorists, electric vehicles, movers of commercial goods, pedestrians, users of public transportation, and seniors; and supporting alternative fueled vehicles.

In 2008, SCAG released the Regional Comprehensive Plan (RCP) which addresses regional issues such as housing, traffic/transportation, water, and air quality. The RCP serves as an advisory document to local agencies in the Southern California region for their information and voluntary use for preparing local plans and handling local issues of regional significance. The RCP presents

a vision of how Southern California can balance air quality with growth and development by including goals such as: reducing emissions of criteria pollutants to attain federal air quality standards by prescribed dates and stated ambient air quality standards as soon as practicable; reverse current trends in greenhouse gas emissions to support sustainability goals for energy, water supply, agriculture, and other resource areas; and to minimize land uses that increase the risk of adverse air pollution-related health impacts from exposure to TACs, particulates (PM10 and PM2.5) and CO.

Local

Local jurisdictions, such as the City of Rancho Palos Verdes, have the authority and responsibility to reduce air pollution through their land use decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The City's Updated General Plan Conservation and Open Space Element includes City-wide goals, objectives, and policies related to air quality resources. A number of these goals, objectives, and policies are relevant to projects implemented under the Updated General Plan and are related to traffic mobility, minimizing particulate emissions from construction activities, discouraging single-occupancy vehicle trips, managing traffic congestion during peak hours, and increasing energy efficiency in City facilities and private developments.

The City of Rancho Palos Verdes is also responsible for the implementation of transportation control measures as outlined in the AQMP. Through capital improvement programs, local governments can fund infrastructure that contributes to improved air quality by requiring such improvements as bus turnouts as appropriate, installation of energy-efficient streetlights, and synchronization of traffic signals. In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits and monitors and enforces implementation of such mitigation measures.

City of Ranch Palos Verdes Emissions Reduction Action Plan

The City of Rancho Palos Verdes adopted an Emissions Reduction Action Plan (ERAP) in 2016²⁰. The ERAP establishes goals and policies that incorporate environmental leadership and responsibilities into its community and municipal operations. The ERAP presents the City's community and municipal inventories, forecasts, and recommended reduction targets for emissions to mitigate the City's impacts on climate change. While the focus of the ERAP is on reducing GHG emissions, these strategies also have the benefit of reducing criteria pollutants. For example, the increase in building energy efficiencies will reduce natural gas consumption which in turn reduces criteria pollutants from the burning of natural gas. The ERAP recommends the following Community and Municipal Energy Efficiency Strategies applicable to projects under the Updated General Plan which could also reduce criteria pollutants:

Community GHG Reduction Strategies

- Goal 1: Increase Energy Efficiency in Existing Residential Units

²⁰ Atkins; *City of Rancho Palos Verdes Emissions Reduction Action Plan*. December 2015.

- Goal 2: Increase Energy Efficiency in New Residential Development
- Goal 3: Increase Energy Efficiency in Existing Commercial Units
- Goal 5: Increase Energy Efficiency through Water Efficiency (WE)
- Goal 6: Decrease Energy Demand through Reducing Urban Heat Island Effect

Municipal GHG Reduction Strategies

- Goal 1: Participate in Education, Outreach, and Planning for Energy Efficiency

Toxic Air Contaminants

Federal

Title III of the CAA Amendments (CAAA) directed EPA to promulgate national emissions standards for Hazardous Air Pollutants (NESHAP). The NESHAP for major sources of hazardous air pollutants (HAPs) may differ from those for area sources. Major sources are defined as stationary sources with potential to emit more than 10 tons per year (tpy) of any HAP or more than 25 tpy of any combination of HAPs; all other sources are considered area sources. The CAAA also required USEPA to promulgate vehicle or fuel standards containing reasonable requirements to control toxic vehicular emissions. These performance criteria limit mobile-source emissions of benzene, formaldehyde, and 1,3-butadiene. In addition, Section 219 of the CAAA required the use of reformulated gasoline in selected areas with the most severe ozone nonattainment conditions to further reduce mobile-source emissions.

State

Air Quality and Land Use Handbook

CARB published the *Air Quality and Land Use Handbook*²¹ in April 2005 to serve as a general guide for considering impacts to sensitive receptors from facilities that emit TAC emissions. The recommendations provided therein are voluntary and do not constitute a requirement or mandate for either land use agencies or local air districts. The goal of the guidance document is to protect sensitive receptors, such as children, the elderly, acutely ill, and chronically ill persons, from exposure to TAC emissions. Some examples of CARB's siting recommendations include the following: (1) avoid siting sensitive receptors within 500 feet of a freeway, urban road with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day; (2) avoid siting sensitive receptors within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units per day, or where transport refrigeration unit operations exceed 300 hours per week); (3) avoid siting sensitive receptors within 300 feet of any dry cleaning operation using perchloroethylene and within 500 feet of operations with two or more machines; and (4) avoid siting sensitive receptors within 300 feet of a large

²¹ California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, (2005). Available at: <https://www.arb.ca.gov/ch/landuse.htm>. Accessed March 2017.

gasoline dispensing facility (3.6 million gallons per year or more) or 50 feet of a typical gasoline dispensing facility (less than 3.6 million gallons per year).²²

On-Road and Off-Road Vehicle Rules

In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to DPM and other TACs (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given time.

In 2008, CARB also approved the Truck and Bus regulation to reduce PM and NO_x emissions from existing diesel vehicles operating in California (13 CCR, Section 2025). The requirements were amended to apply to nearly all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. For the largest trucks in the fleet, those with a GVWR greater than 26,000 pounds, there are two methods to comply with the requirements. The first way is for the fleet owner to retrofit or replace engines, starting with the oldest engine model year, to meet 2010 engine standards, or better. This is phased over 8 years, starting in 2015 and would be fully implemented by 2023, meaning that all trucks operating in the State subject to this option would meet or exceed the 2010 engine emission standards for NO_x and PM by 2023. The second option, if chosen, requires fleet owners, starting in 2012, to retrofit a portion of their fleet with diesel particulate filters (DPFs) achieving at least 85 percent removal efficiency, so that by January 1, 2016 their entire fleet is equipped with DPFs. However, DPFs do not lower NO_x emissions. Thus, fleet owners choosing the second option must still comply with the 2010 engine emission standards for their trucks and busses by 2020.

In addition to limiting exhaust from idling trucks, CARB also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower (hp) such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation adopted by CARB on July 26, 2007 aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission controlled models (13 CCR, Section 2449). Implementation is staggered based on fleet size (which is the total of all off-road horsepower under common ownership or control), with large fleets beginning compliance in 2014, medium fleets in 2017, and small fleets in 2019. Each fleet must demonstrate compliance through one of two methods. The first option is to calculate and maintain fleet average emissions targets, which encourages the retirement or repowering of older equipment and rewards the introduction of newer cleaner units into the fleet. The second option is to meet the Best Available Control Technology (BACT) requirements by turning over or installing Verified Diesel Emission Control Strategies (VDECS) on a certain percentage of its total fleet horsepower. The compliance schedule requires that BACT turn overs or retrofits (VDECS installation) be fully implemented by 2023 in all equipment for large and medium fleets and by 2028 for small fleets.

²² California Air Resources Board, Air Quality and Land Use Handbook: A Community Health Perspective, (2005). Available at <https://www.arb.ca.gov/ch/landuse.htm>. Accessed March 2017.

CalGreen Building Code

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). The purpose of the CALGreen Code is to “improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality.”

As of January 1, 2011, the CALGreen code is mandatory for all new buildings constructed in the state. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design and overall environmental quality. CALGreen was most recently updated in 2016 to include new mandatory measures for residential as well as nonresidential uses; the new measures take effect on January 1, 2017.

Although not originally intended to reduce pollutant emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer criteria pollutant emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

Regional and Local

South Coast Air Quality Management District

The SCAQMD has adopted land use planning guidelines in the Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning, which considers impacts to sensitive receptors from facilities that emit TACs.²³ The SCAQMD’s distance recommendations are the same as those provided by CARB (e.g., a 500-foot siting distance for sensitive land uses proposed in proximity of freeways and high-traffic roads, and the same siting criteria for distribution centers and dry cleaning facilities). The guidance document introduces land use related policies that rely on design and distance parameters to minimize emissions and lower potential health risk. The SCAQMD’s guidelines are voluntary initiatives recommended for consideration by local planning agencies.

The SCAQMD also regulates sources of toxic air contaminants through Rule 1401 – New Source Review of Air Toxic Contaminants. This rule provides methodology and guidance for preparing health risk assessments for sources of TACs. This methodology may also be used for analyzing projects which do not require a permit from the SCAQMD. SCAQMD Rule 1470 regulates emergency diesel engines commonly found at commercial and industrial uses. This regulation specifies emissions control requirements and requires locating emergency generator away from schools and other sensitive uses.

²³ South Coast Air Quality Management District, Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning, (2005).

Odors

Regional and Local

SCAQMD Rules and Regulations

Several SCAQMD rules adopted to implement portions of the Air Quality Management Plan may apply to entities or projects within the City. Some of these rules are related to controlling or limiting odors. Properties within the City may be subject to the following SCAQMD rules and regulations regarding odors:

Regulation IV – Prohibitions: The following may apply to the entity or property:

Rule 402 – Nuisance: This rule states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Rule 410 – Odors from Transfer Stations and Material Recovery Facilities: This rule establishes odor management practices and requirements to reduce odors from municipal solid waste transfer stations and material recovery facilities. Facilities subject to this rule and with throughputs greater than 250 tons per day (TPD) and less than or equal to 1,000 TPD are required to implement a Level 1 odor control strategy for the tipping floor. Facilities subject to this rule and with throughputs greater than 1,000 TPD are required to implement a Level 2 odor control strategy for the tipping floor, transfer tunnel, and material recovery facility. Currently, no trash transfer stations or recycling facilities are located within the City. If such uses are proposed in the future, these facilities would be subject to this rule.

Impacts

Methodology

The evaluation of potential impacts to regional and local air quality that may result from the construction and long-term operations of build-out related to the Updated General Plan is discussed below. Note that the use of “Project” within the remainder of this analysis indicates a project that could be implemented under the Updated General Plan.

Construction

Construction activities associated with the proposed land use plan would occur over the buildout horizon of the proposed general plan update, which would cause short-term emissions of criteria air pollutants. Construction has the potential to generate temporary criteria pollutant emissions through the use of heavy-duty construction equipment, such as excavators and forklifts, through vehicle trips generated by workers and haul trucks traveling to and from the Project site, and through building activities, such as the application of paint and other surface coatings. In addition, fugitive dust emissions would result from various soil-handling activities.

The primary source of NO_x, CO, and SO_x emissions is the operation of construction equipment. The primary sources of particulate matter (PM₁₀ and PM_{2.5}) emissions include activities that disturb the soil, such as grading and excavation, road construction, and building demolition and construction. The primary sources of VOC emissions are the application of architectural coating and off-gas emissions associated with asphalt paving. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity, and prevailing weather conditions.

Construction emissions were analyzed using CalEEMod. Regional emissions were estimated based on an assumed growth of up to 10 percent of the total anticipated growth within one year. This is a conservative analysis because the General Plan buildout horizon covers 20 years. However, as Regional emissions are based on max daily emissions, and there is the potential for peak and low growth years, this conservatively represents a potential worst case scenario for growth. Because the exact start date of construction is unknown, it was conservatively assumed that construction would begin in 2018. The maximum daily net emissions from construction of the Updated General Plan buildout are compared to the SCAQMD daily regional numeric indicators.

Localized emissions were analyzed using CalEEMod however, because localized emissions analysis is only focused on impacts to surrounding sensitive receptors, localized receptors, localized emissions were conservatively analyzed using emissions from the development of a one acre parcel. Because it is unknown exactly where the development would occur, it was assumed that the closest sensitive receptor would be at 25 meters from a Project site. This is consistent with the closest receptor distance provided in the screening tables by SCAQMD. The maximum daily net emissions from construction of the Updated General Plan buildout are compared to the SCAQMD daily localized numeric indicators.

Because few details are known at this time regarding the construction resulting from implementation of the General Plan Update, CalEEMod defaults were predominantly used for construction schedule and equipment. Detailed assumptions are provided in Appendix A.

Operational

Operation of the build-out of the General Plan Update has the potential to generate criteria pollutant emissions through vehicle trips traveling to and from the City. In addition, emissions would result from area sources on-site such as natural gas combustion from water heaters, boilers, and cooking stoves, landscaping equipment, and use of consumer products. Operational impacts were assessed for the build-out year of the General Plan Update, 2040.²⁴ Detailed assumptions for existing and General Plan buildout scenarios are included in Appendix A.

²⁴ Operational emissions from a proposed project tend to decline in future years due to improvements in energy efficiency and stricter emission standards for vehicles. Therefore, the use of a 2040 operational year for the Project provides a conservative (i.e., health-protective) analysis for total operational emissions at buildout. See: California Building Standards Commission, CALGreen. Available at <http://www.bsc.ca.gov/Home/CALGreen.aspx>. Accessed March 2017; United States Environmental Protection Agency, “EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks.” Available at <https://www3.epa.gov/otaq/climate/documents/420f12051.pdf>. Accessed March 2017.

The operational emissions were estimated using the CalEEMod software. CalEEMod was used to forecast the daily regional emissions from area, stationary, and mobile sources that would occur during long-term operations of Projects implemented under the Updated General Plan. Area source emissions are based on natural gas (building heating, water heaters, and fireplaces if applicable), landscaping equipment, and consumer product usage (including paints) rates provided in CalEEMod. Natural gas usage factors in CalEEMod are based on the California Energy Commission (CEC) California Commercial End Use Survey (CEUS) data set, which provides energy demand by building type and climate zone.²⁵ However, since the data from the CEUS is from 2002, correction factors are incorporated into CalEEMod to account for the appropriate version of the Title 24 Building Energy Efficiency Standards currently in effect.

Operational air quality impacts are assessed based on the incremental increase in emissions compared to existing conditions. Under CEQA, the baseline environmental setting for an EIR is generally established at or around the time that the Notice of Preparation for the EIR is published. As discussed previously, Projects under the Updated General Plan would primarily be infill development, where there are currently emissions. Net operational emissions would be those calculated under the Updated General Plan buildout minus the current citywide existing operational emissions. The maximum daily net emissions from operation of the Updated General Plan buildout are compared to the SCAQMD daily regional numeric indicators.

The localized effects from the on-site portion of daily emissions from the Updated General Plan buildout operation are evaluated at nearby sensitive receptor locations potentially impacted by a Project according to the SCAQMD's Localized Significance Threshold Methodology (June 2003, revised July 2008). The localized impacts from operation of a Project are assessed similar to construction, as discussed previously.

Localized areas where ambient concentrations exceed state and/or federal standards are termed CO hotspots. The potential for the Updated General Plan buildout to cause or contribute to the formation of off-site CO hotspots are evaluated based on prior dispersion modeling of the four busiest intersections in the Air Basin that has been conducted by the SCAQMD for its CO Attainment Demonstration Plan in the AQMP. The analysis compares the intersections with the greatest peak-hour traffic volumes that would be impacted by the Updated General Plan buildout to the intersections modeled by the SCAQMD. Project-impacted intersections with peak-hour traffic volumes that are lower than the intersections modeled by the SCAQMD, in conjunction with lower background CO levels, would result in lower overall CO concentrations compared to the SCAQMD modeled values in its AQMP. Updated General Plan intersection volumes for the CO hotspot analysis were obtained from the Traffic Impact Analysis.²⁶

Toxic Air Contaminants Impacts (Construction and Operation)

The greatest potential for TAC emissions during construction would be related to DPM emissions associated with heavy-duty equipment during excavation and grading activities. Construction

²⁵ California Energy Commission, California Commercial End-Use Survey. Available at <http://capabilities.itron.com/CeusWeb/Chart.aspx>. Accessed March 2017.

²⁶ Translutions, Inc. *City of Rancho Palos Verdes General Plan Update, Traffic Impact Analysis*, (April, 2017).

activities associated with the Projects under the Updated General Plan buildout would be sporadic, transitory, and short-term in nature. The OEHHA is responsible for developing and revising guidelines for performing health risk assessments (HRAs) under the State's the Air Toxics Hot Spots Program Risk Assessment (AB 2588) regulation. In March 2015, OEHHA adopted revised guidelines that update the previous guidance by incorporating advances in risk assessment with consideration of infants and children using Age Sensitivity Factors (ASF). Because of the short-term and transitory nature of construction activities, TAC emissions were analyzed qualitatively in this report.

During long-term operations, TACs could be emitted as part of periodic maintenance operations, period testing and maintenance of the emergency generator, and from periodic visits from delivery trucks and service vehicles. However, these uses are expected to be occasional and result in minimal exposure to off-site sensitive receptors. As the Updated General Plan buildout Projects consists of residential uses, they would not include sources of substantial TAC emissions identified by the SCAQMD or CARB siting recommendations.^{27, 28} Thus, a qualitative analysis is appropriate for operational emissions.

Odors

Potential odor impacts are evaluated by conducting a screening-level analysis followed by a more detailed analysis as necessary. The screening-level analysis consists of reviewing a Project's site plan and description to identify new or modified odor sources. If it is determined that a Project would introduce a potentially significant new odor source, or modify an existing odor source, then downwind sensitive receptor locations are identified and a site-specific analysis is conducted to determine potential impacts. As the Projects implemented under the Updated General Plan buildout consist of residential uses, they would not include sources of substantial odor emissions and therefore, a qualitative analysis is appropriate for operational emissions

Consistency with Air Quality Management Plan

The SCAQMD is required, pursuant to the CAA, to reduce emissions of criteria pollutants for which the Air Basin is in non-attainment of the NAAQS (e.g., ozone and PM_{2.5}). The SCAQMD's AQMP contains a comprehensive list of pollution control strategies directed at reducing emissions and achieving the NAAQS. These strategies were developed, in part, based on regional growth projections prepared by the SCAG. Projects that are consistent with the assumptions used in the AQMP do not interfere with attainment because their growth was included in the projections utilized in the formulation of the AQMP. Thus, projects, uses, and activities that are consistent with the applicable growth projections and control strategies used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if they were to exceed the SCAQMD's numeric indicators.

²⁷ South Coast Air Quality Management District, Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning, Table 2-3, (2005). Available at <http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf?sfvrsn=4>. Accessed March 2017.

²⁸ California Air Resources Board, Air Quality and Land Use Handbook: A Community Health Perspective, Table 1-1, (2005). Available at <https://www.arb.ca.gov/ch/landuse.htm>. Accessed March 2017.

Thresholds of Significance

Appendix G of the State *CEQA Guidelines* contains screening questions to assist lead agencies in assessing project impacts. Appendix G's screening questions for air quality ask would a project:

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

The CEQA Guidelines Section 15064.7 provides the significance criteria established by the applicable air quality management district or air pollution control district, when available, may be relied upon to make determinations of significance. The potential air quality impacts of the General Plan Update are, therefore, evaluated according to thresholds developed by SCAQMD in their CEQA Air Quality Handbook, Air Quality Analysis Guidance Handbook, and subsequent guidance, which are listed below.²⁹ Therefore, the General Plan Update would result in a potentially significant impact to air quality if it would:

AIR-1: Conflict with or obstruct the implementation of the applicable air quality;

AIR-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation as a result of:

- Criteria pollutant emissions during construction (direct and indirect) in excess of the SCAQMD's regional significance thresholds:³⁰,
 - 75 pounds a day for VOC;
 - 100 pounds per day for NO_x;
 - 550 pounds per day for CO;
 - 150 pounds per day for SO_x;
 - 150 pounds per day for PM₁₀; or
 - 55 pounds per day for PM_{2.5}.

²⁹ While the SCAQMD CEQA Air Quality Handbook contains significance thresholds for lead, construction and operation would not include sources of lead emissions and would not exceed the established thresholds for lead. Unleaded fuel and unleaded paints have virtually eliminated lead emissions from residential land use projects such as the Projects implemented Updated General Plan. As a result, lead emissions are not further evaluated herein.

³⁰ South Coast Air Quality Management District, Air Quality Significance Thresholds, (March 2015). Available at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>. Accessed March 2017.

- Criteria pollutant emissions during operation (direct and indirect) in excess of the SCAQMD's regional significance thresholds³¹
 - 55 pounds a day for VOC;
 - 55 pounds per day for NOX;
 - 550 pounds per day for CO;
 - 150 pounds per day for SOX;
 - 150 pounds per day for PM10; or
 - 55 pounds per day for PM2.5.

AIR-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);

- The SCAQMD has established numeric indicators of significance in part based on Section 182(e) of the CAA which identifies 10 tons per year of VOC as a significance level for stationary source emissions in extreme non-attainment areas for ozone.³² As shown previously in Table 4, the Air Basin is designated as extreme non-attainment for ozone. The SCAQMD converted this significance level to pounds per day for ozone precursor emissions (10 tons per year × 2,000 pounds per ton ÷ 365 days per year = 55 pounds per day).

AIR-4: Expose sensitive receptors to substantial pollutant concentrations that would:

- Exceed SCAQMD's localized significance thresholds for construction and operational emissions³³,
 - Localized pollutant emissions during construction of a 1 acre site with receptors at 25 meters within source receptor area 3.
 - 50 pounds per day for NO_x;³⁴
 - 664 pounds per day for CO;
 - 3 pounds per day for PM10; or
 - 2 pounds per day for PM2.5.

³¹ South Coast Air Quality Management District, SCAQMD Air Quality Significance Thresholds, (March 2015). Available at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>. Accessed March 2017. The L.A. CEQA Thresholds Guide also includes a threshold of 10 tons per year of VOCs; however, this is equivalent to the SCAQMD daily threshold of 55 pounds per day.

³² South Coast Air Quality Management District, CEQA Air Quality Handbook (1993) 6-1.

³³ South Coast Air Quality Management District, Air Quality Significance Thresholds, (March 2015). Available at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>. Accessed March 2017

³⁴ The screening criteria for NO_x were developed based on the 1-hour NO₂ CAAQS of 0.18 ppm. However, since the publication of the SCAQMD's guidance, the USEPA has promulgated a 1-hour NO₂ NAAQS of 0.100 ppm based on a 98th percentile value, which is more stringent than the CAAQS. In order to determine if Project emissions would result in an exceedance of the 1 hour NO₂ NAAQS, an approximated LST was estimated to evaluate the federal 1-hour NO₂ standard, as the SCAQMD significance threshold has not been updated to reflect this standard. Calculated by scaling the NO₂ LST for by the ratio of 1-hour NO₂ standards (federal/state)(i.e., 91 lb/day * (0.10/0.18) = 50.56 lb/day).

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- Localized pollutant emissions during operational activities of a 1 acre site with receptors at 25 meters within source receptor area 3.
 - 50 pounds per day for NO_x;
 - 664 pounds per day for CO;
 - 1 pounds per day for PM₁₀; or
 - 1 pounds per day for PM_{2.5}.
 - Cause or contribute to the formation of CO hotspots,
 - This is evaluated based on a comparison of daily intersection volumes to 100,000 vehicles per day as determined in the 2003 AQMP as the level at which as potential CO hotspot could occur. For intersections where 100,000 vehicles per day is exceeded, the intersections would be considered significant if it would cause or contribute to an exceedance of the CAAQS one-hour or eight-hour CO standards of 20 or 9.0 parts per million (ppm), respectively.³⁵
 - The Project implemented under the Updated General Plan emits carcinogenic materials or TACs that exceed the maximum incremental cancer risk of ten in one million or a cancer burden greater than 0.5 excess cancer cases (in areas greater than or equal to 1 in 1 million) or an acute or chronic hazard index of 1.0.

AIR-5: Create objectionable odors affecting a substantial number of people.

General Plan Goals, Policies and Implementation Actions

A number of goals, policies, and implementation actions in the proposed City of Rancho Palos Verdes General Plan Update address air quality in the City. Specifically, the City will continue active participation in cooperative regional efforts to reduce pollutant emissions as well as focus more attention on improvements at the local level. Although the focus of these goals, policies, and programs is to reduce impacts to global warming, they will also reduce criteria pollutants. Implementation of these goals, policies, and programs would reduce impacts related to criteria pollutants. While these goals and policies are anticipated to be implemented with the new development within the City, the extent to which these policies will apply to the individual projects developed under the General Plan and the extent to which they will be implemented is unknown, and therefore the incorporation of these goals are not quantified as part of this analysis unless otherwise specified. These include:

Goal 1: Conservation and Open Space Element

To conserve, protect, and enhance the City's natural resources; beauty; and open space for the benefit and enjoyment of its residents and the residents of the entire region. Future development shall recognize the sensitivity of the natural environment and be accomplished in such a manner as to maximize the protection of it.

³⁵ The CAAQS is more conservative than the NAAQS (35 ppm for one-hour CO and 9.0 ppm for eight-hour CO).

Climate Change Policies for Public Facilities and Developments

1. Continue to work with SBCCOG to develop an Energy Efficient Climate Action Plan and a Climate Action Plan that would include strategies that consider the unique characteristics and conditions of the City.
2. Promote new energy efficient buildings and retrofit existing public facilities to be as energy efficient as feasible.
3. Continue to manage the City transportation fleet's fueling standards to achieve the greatest number of hybrid and alternative fuel vehicles.
4. Support development of publicly accessible alternative fuel infrastructure.
5. Encourage utility companies to provide informational literature about energy conservation for the public at City facilities.
6. Improve pedestrian, bicycle, and public transportation routes and amenities to serve the travel needs of residents and visitors. Where feasible, connect major destinations such as parks, open spaces, civic facilities, retail, and recreation areas with pedestrian, bicycle, and public transportation infrastructure; promote shared roadways; and require new development and redevelopment projects to provide pedestrian, bicycle, and public transportation amenities and streetscape improvements.
7. Continue to support the preservation of open spaces throughout the City.

Climate Change Policies for Private Developments

8. Continue to review development proposals for potential regional and local air quality impacts per the California Environmental Quality Act (CEQA), and if potential impacts are identified, require mitigation to reduce the impact to a level that is less than significant, where technically and economically feasible.
9. Continue to enforce State Title 24 building construction requirements and apply standards that promote energy conservation (included in the analysis assuming compliance with 2016 Title 24 Building standards).
10. Continue to promote and encourage participation in the City's Voluntary Green Building Construction Program and award participating developers with a faster entitlement process and up to 50% rebate on permitting fees.
11. Continue to implement the required components of the Congestion Management Plan (CMP) and continue to work with Los Angeles County on annual updates to the CMP.2
12. Provide information to educate residents and businesses on topics such as waste reduction, recycling, sustainable buildings and landscaping, and renewable energy generation. Use a range of tools, including fact sheets, websites, newsletters, advertising, and workshops, to reach potential audiences.

13. Continue to provide subsidies in application fees for solar panels, skylights, high-efficiency pool/spa pumps, tankless water heaters, and Energy Star3 units to promote efficient use of energy and conservation.

Conservation Policies Specific to the Natural Communities Conservation Plan

19. Collect baseline data for air and water quality to develop standards for evaluation of the impacts of current or proposed development in and adjacent to Rancho Palos Verdes.

Goal 2: Land Use Element

Carefully control and direct future growth towards making a positive contribution to all elements of the community. Growth in Rancho Palos Verdes should be a cautious, evolutionary process that considers the capacity limitations for the City, and the environmental factors and quality of life on the Peninsula.

Land Use Policies for Residential Development

8. Encourage energy and water conservation in housing design.

Land Use Policies for Institutional (Public, Educational, and Religious)

25. Encourage implementation of plans for pedestrian and bicycling networks linking residential areas with schools for the safety of children.

Goal 5: Circulation Element

Where appropriate, use complete street concepts to integrate the needs of all users of the roadway system consistent with the California Complete Streets Act of 2008 (AB 1358).

Circulation Policies for Transportation Systems

1. Balance traffic impacts to residential neighborhoods with efficient traffic flow and public safety by implementing appropriate traffic-calming measures.

2. Require any new developments or redevelopment to provide streets wide enough to support the City's future traffic needs and to address potential impacts to nearby intersections resulting from such developments.

3. Encourage synchronization and coordination of traffic signals along arterials.

4. Ensure that future residential developments provide direct access to roadways other than arterials.

5. Work with other Peninsula cities and/or regional agencies to improve public transportation on the Peninsula and to provide access to other destinations in the region.

6. Implement the Trails Network Plan to meet the recreational needs of the community while maintaining the unique character of the Peninsula.

26. Include the bikeways in the Conceptual Bikeways Plan or alternate approaches to provide access, prior to approval of proposals for land development through a subdivision of land application and/or conditional use permit application.

27. Require consideration of the inclusion of bikeways in the Conceptual Bikeways Plan or alternate approaches to provide access during project design for all City Department of Public Works or Department of Recreation and Parks projects.

Circulation Policies for Resource Systems

32. Encourage the use of alternative water and energy generation sources.

33. Promote, practice, and encourage workable energy and water conservation techniques.

35. Encourage the use of recycled/reclaimed water in the irrigation of large open space areas, including golf courses, open space areas owned by homeowners' associations, and City parks and ballfields.

36. Encourage Cal Water to complete a conservation plan that provides for the availability of a recycled water system in the City.

Circulation Policies for Disposal/Recovery Systems

40. Encourage waste reduction and recycling programs (included in the analysis based on current diversion achievements).

Impact Analysis

Threshold AIR-1: Would the proposed 2015 General Plan Update conflict with or obstruct the implementation of the applicable air quality plan?

Construction

Under this criterion, the SCAQMD recommends that lead agencies demonstrate that a project would not directly obstruct implementation of an applicable air quality plan and that a project be consistent with the assumptions (typically land-use related, such as resultant employment or residential units) upon which the air quality plan is based.

The Updated General Plan would result in an increase in short-term employment compared to existing conditions. Being relatively small in number and temporary in nature, construction jobs generated by the Project implemented under the Updated General Plan would not conflict with the long-term employment projections upon which the AQMP is based. Control strategies in the AQMP with potential applicability to short-term emissions from construction activities include strategies denoted in the AQMP as MOB-08 and MOB-10, which are intended to reduce emissions from on-road and off-road heavy-duty vehicles and equipment by accelerating replacement of older, emissions-prone engines with newer engines meeting more stringent emission standards. The Updated General Plan would not conflict with implementation of these strategies. Additionally, the Updated General Plan would comply with CARB requirements to minimize short-term emissions from on-road and off-road diesel equipment as well as with SCAQMD regulations for controlling fugitive dust pursuant to SCAQMD Rule 403.

Compliance with these requirements is consistent with and meets or exceeds the AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities. Because buildout of the Updated General Plan would not conflict with the control

strategies intended to reduce emissions from construction equipment, the buildout would not conflict with or obstruct implementation of the AQMP.

As shown in Table 5 under Threshold AIR-2, regional thresholds are less than significant for all criteria pollutants. Therefore, the Plan would not have the potential to exceed estimates in the AQMP and is considered less than significant

Operation

The 2016 AQMP was prepared to accommodate growth, reduce the levels of pollutants within the areas under the jurisdiction of SCAQMD, return clean air to the region, and minimize the impact on the economy. Projects that are considered consistent with the AQMP would not interfere with attainment because this growth is included in the projections used in the formulation of the AQMP.

The AQMP was adopted by the SCAQMD as a program to lead the Air Basin into compliance with several criteria pollutant standards and other federal requirements. It relies on emissions forecasts based on demographic and economic growth projections provided by SCAGS 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).³⁶ SCAG is charged by California law to prepare and approve “the portions of each AQMP relating to demographic projections and integrated regional land use, housing, employment, and transportation programs, measures and strategies.”³⁷ Projects whose growth is included in the projections used in the formulation of the AQMP are considered to be consistent with the plan and not to interfere with its attainment. The SCAQMD recommends that, when determining whether a project is consistent with the current AQMP, a lead agency must assess whether the project would directly obstruct implementation of the plan and whether it is consistent with the demographic and economic assumptions (typically land use related, such as resultant employment or residential units) upon which the plan is based.³⁸

Buildout of the Updated General Plan would not obstruct implementation of the AQMP as the combined operational emissions at buildout would be less than applicable significance thresholds as detailed in Table 6 (under Threshold Air-2). These emissions may be further reduced with implementation of AQMP measures. Several Goals and Policies within the Updated General Plan focus on promoting energy efficiency of buildings, reduction in vehicle miles traveled, and the introduction of alternative fueled vehicles. These policies as implemented will further reduce emissions beyond what is identified presented within this technical report. Additionally, the City of Rancho Palos Verdes has implemented an Emissions Reduction Action Plan to help meet GHG emission reduction goals as outlined in AB 32, which would also reduce criteria pollutants. The Updated General Plan has incorporated into its goals and policies appropriate control strategies set forth in the AQMP for achieving its emission reduction goals. Thus, the Updated General Plan

³⁶ South Coast Air Quality Management District, 2016 Air Quality Management Plan, (2017), pp. 3-1 Available at: <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15> Accessed May 2017.

³⁷ South Coast Air Quality Management District, 2016 Air Quality Management Plan, (2017), p. 4-42. Available at: <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15> Accessed May 2017.

³⁸ South Coast Air Quality Management District, Air Quality Analysis Handbook, (1993). Available at: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook>. Accessed May 2017.

would support the SCAQMD's efforts to achieve attainment with respect to any criteria pollutant for which it is currently not in attainment.

The Updated General Plan is anticipated to be built out by 2040 and would increase the population in Rancho Palos Verdes by 1,927 people, and 756 dwelling units. According to the Updated General Plan, the existing population of Rancho Palos Verdes was 35,351 people; therefore, buildout of the Updated General Plan would increase the population to 37,278 people which is approximately a 5.2 percent increase. The SCAG 2040 growth projection for Rancho Palos Verdes is 42,300 people³⁹. Buildout of the Updated General Plan would not exceed the population or employment growth assumed by SCAG, and therefore would be consistent with SCAG's RTP/SCS goals. As a result, the Updated General Plan would not conflict with the assumptions in the AQMP. Therefore, impacts with respect to compliance with the AQMP would be less than significant.

Threshold AIR-2: Would the proposed 2015 General Plan Update violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction

During construction, emissions of CO, VOCs, NO_x, SO_x, PM₁₀, and PM_{2.5} will result from the burning of fossil fuel in construction equipment, grading, fugitive dust, asphalt paving, and the application of architectural coatings during painting activity. The rate at which projects are implemented under the Updated General Plan is unknown, and likely to fluctuate in any given year from a "straight line" average of 4% to 5% each year for 23 to 20 years, respectively. Thus, to provide a conservative estimate, construction activities were modeled assuming a potential maximum buildout of 8 percent of the total growth under the Update General Plan in any year (or approximately 61 dwelling units). Given the variability in development rates throughout the last 20 years, it is reasonable to assume that a peak year would be 1.5 to 2 times the average rate. Results in **Table 5**, *Maximum Unmitigated Regional Construction Emissions* demonstrate that the resultant emissions do not exceed the applicable threshold for any criteria pollutant.

In future years, as the ATCMs are more fully implemented, construction fleets will become more efficient and NO_x emissions will be reduced. For example, in 2021 and beyond 10 percent of the total anticipated growth could be built without exceeding applicable thresholds, and in 2025 and beyond 15 percent of the total growth could be built without exceeding thresholds. Therefore, as 8 percent of the total growth is a conservative growth estimate before 2021, and the percentage of growth that would not exceed thresholds increases beyond 2021, the Updated General Plan would result in less than significant impacts with respect to regional construction emissions.

³⁹ Southern California Association of Governments, 2016-2040 RTP/SCS Final Growth Forecast by Jurisdiction (2017) http://www.scag.ca.gov/Documents/2016_2040RTPSCS_FinalGrowthForecastbyJurisdiction.pdf Accessed May 2017.

TABLE 5
MAXIMUM UNMITIGATED REGIONAL CONSTRUCTION EMISSIONS (POUNDS PER DAY) ^A

Scenario	VOC	NO _x	CO	SO _x	PM10	PM2.5
2018						
5 percent of all implementing projects	13.03	59.61	36.17	0.06	9.47	6.11
8 percent of all implementing projects	20.84	95.38	57.87	0.10	15.16	9.77
Maximum Emissions	20.84	95.38	57.87	0.10	15.16	9.77
SCAQMD Thresholds of Significance	75	100	550	150	150	55
Exceeds Thresholds?	No	No	No	No	No	No
2021	24.27	92.93	64.89	0.13	17.88	11.23
2025	34.60	83.96	94.68	0.19	23.95	14.20

^a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix A and B.

SOURCE: ESA 2017

Operations

Operational emissions for buildout of the Updated General Plan were assessed for mobile, area, and stationary sources and are provided in **Table 6, Maximum Unmitigated Regional Operational Emissions**. Operational criteria pollutant emissions were calculated for the Project for the full buildout year 2040. Because of the general increase in efficiencies with respect to vehicle emissions and the limited growth anticipated in the Updated General Plan, there is an overall decrease in criteria pollutant emissions at buildout year 2040 compared to the existing emissions in 2015. Because at buildout there is a net reduction in emissions associated with the City, regional operational emissions would result in less than significant impacts. Although not included as part of the significance determination, the operational emissions for the General Plan growth by itself is included in Table 6 for informational purposes.

TABLE 6
MAXIMUM UNMITIGATED REGIONAL OPERATIONAL EMISSIONS (POUNDS PER DAY) ^A

Source	VOC	NO _x	CO	SO _x	PM10	PM2.5
Existing (2015)						
Area (Consumer Products, Landscaping)	4,378	103	7,940	16	1,025	1,025
Energy (Natural Gas)	29	247	115	2	20	20
Motor Vehicles	245	1,122	3,825	9	610	173
Total Existing Emissions	4,651	1,473	11,881	27	1,654	1,217
General Plan Buildout (2040)						
Area (Consumer Products, Landscaping)	4,406	104	7,977	16	1,025	1,025
Energy (Natural Gas)	29	254	119	2	20	20
Motor Vehicles	62	378	933	5	588	159
Total Buildout Emissions	4,498	735	9,028	23	1,633	1,204
Net Emissions (2040)						
Total Existing	4,651	1,473	11,881	27	1,654	1,217
Total Buildout	4,498	735	9,028	23	1,633	1,204
Net Emissions (Buildout – Existing)	(154)	(738)	(2,853)	(3)	(21)	(13)
SCAQMD Thresholds of Significance	55	55	550	150	150	55
Exceeds Thresholds?	No	No	No	No	No	No
General Plan Growth Only (2040)						
Area (Consumer Products, Landscaping)	31	1	62	0	0	0
Energy (Natural Gas)	1	12	5	0	1	1
Motor Vehicles	3	20	49	0	31	8
Total Buildout Emissions	36	33	117	0	32	10

^a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix A and C.

^b parenthetical notation indicates a negative number.

SOURCE: ESA 2017

Threshold AIR-3: Would the proposed 2015 General Plan Update result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state ambient air quality standard?

The SCAQMD has provided guidance on an acceptable approach to addressing the cumulative impacts issue for air quality as discussed below. Specifically the SCAQMD states that “As Lead Agency, the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR... Projects that exceed the Project-specific significance thresholds are considered by the SCAQMD to be

cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.”⁴⁰

Buildout under the Updated General Plan would result in the emission of criteria pollutants during both construction and operation for which the Region is in non-attainment. A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant. The Air Basin is currently in non-attainment for ozone, PM₁₀, and PM_{2.5}.

Construction

As detailed under Threshold AIR-2, construction emissions from 8 percent of all anticipated growth under the Updated General Plan in any one year would not result in significant emissions of any criteria pollutant, and would not have the potential to exceed NAAQS or CAAQS for any pollutant. Therefore, buildout of the Updated General Plan would result in a less than cumulatively considerable net increase for non-attainment pollutants or ozone precursors and would result in a less than significant impact for construction emissions.

Operation

As detailed under Threshold AIR-2, operational emissions from full buildout of the Updated General Plan would result in a reduction in all criteria pollutants at buildout as compared to existing conditions. The Updated General Plan emissions would not be anticipated to result in exceedances of NAAQS, CAAQS, or ozone precursors at buildout. Therefore, buildout of the Updated General Plan would result in a less than cumulatively considerable net increase for non-attainment pollutants or ozone precursors and would result in a less than significant impact for operational emissions.

Threshold AIR-4: Would the proposed 2015 General Plan Update expose sensitive receptors to substantial pollutant concentrations?

Construction

The localized construction air quality analysis was conducted using the methodology prescribed in the SCAQMD Localized Significance Threshold Methodology (June 2003, revised July 2008).⁴¹ The screening criteria provided in the Localized Significance Threshold Methodology were used to determine localized operational emissions thresholds for a Project. The maximum daily localized emissions and localized significance thresholds are presented in **Table 7 Maximum Unmitigated Localized Construction Emissions**. As shown therein, the Updated General Plan maximum localized operational emissions for sensitive receptors would not exceed the screening thresholds for NO_x, CO, PM₁₀, or PM_{2.5}. Therefore, with respect to localized operational emissions, impacts would be less than significant.

⁴⁰ South Coast Air Quality Management District, Cumulative Impacts White Paper, Appendix D, <http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf?sfvrsn=4>. Accessed May 2017

⁴¹ South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, (2008). Available at: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds>. Accessed March 2017.

TABLE 7
MAXIMUM UNMITIGATED LOCALIZED CONSTRUCTION EMISSIONS (POUNDS PER DAY) ^A

Source	NO _x	CO	PM10	PM2.5
1 acre residential Development	28	23	3	2
SCAQMD LST Screening Thresholds ^b	50	664	5	3
Exceeds Thresholds?	No	No	No	No

^a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix A and B.

^b LST screening thresholds based on Source Receptor Area 3 (Southwest Los Angeles County Coastal), Project Site area of 1 acre, and adjacent sensitive receptors located 25 meters or less from the Project Site. Refer to Appendix A and B for additional details.

SOURCE: ESA 2017

Operations

The localized operational air quality analysis was conducted using the methodology prescribed in the SCAQMD Localized Significance Threshold Methodology (June 2003, revised July 2008).⁴² The screening criteria provided in the Localized Significance Threshold Methodology were used to determine localized operational emissions thresholds for a Project. The maximum daily localized emissions and localized significance thresholds are presented in **Table 8, Maximum Unmitigated Localized Operational Emissions**. As shown therein, the Updated General Plan maximum localized operational emissions for sensitive receptors would not exceed the screening thresholds for NO_x, CO, PM10, or PM2.5. Therefore, with respect to localized operational emissions, impacts would less than significant.

TABLE 8
MAXIMUM UNMITIGATED LOCALIZED OPERATIONAL EMISSIONS (POUNDS PER DAY) ^A

Source	NO _x	CO	PM10	PM2.5
1-acre Single Family	<1	2	<1	<1
1 – acre Multi-Family	<1	2	<1	<1
SCAQMD LST Screening Thresholds ^b	50	664	1	1
Exceeds Thresholds?	No	No	No	No

^a LST screening thresholds based on Source Receptor Area 3 (Southwest Los Angeles County Coastal), Project Site area of 1 acre, and adjacent sensitive receptors located 25 meters or less from the Project Site. Refer to Appendix A and B for additional details.

SOURCE: ESA 2017

Carbon Monoxide Hotspots

The potential for the Updated General Plan to cause or contribute to CO hotspots is evaluated by comparing intersections (both intersection geometry and traffic volumes) with prior studies

⁴² South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, (2008). Available at: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds>. Accessed March 2017.

conducted by the SCAQMD in support of their AQMPs and considering existing background CO concentrations. As discussed below, this comparison demonstrates that the Updated General Plan would not cause or contribute considerably to the formation of CO hotspots, that CO concentrations at impacted intersections would remain well below the ambient air quality standards, and that no further CO analysis is warranted or required.

As shown previously in Table 2, CO levels in the Rancho Palos Verdes area are substantially below the federal and state standards. Maximum CO levels in recent years are 2.2 ppm (one-hour average) and 3.3 ppm (eight-hour average) compared to the thresholds of 20 ppm (one-hour average) and 9.0 ppm (eight-hour average). Carbon monoxide decreased dramatically in the Air Basin with the introduction of the catalytic converter in 1975. No exceedances of CO have been recorded at monitoring stations in the Air Basin for some time and the Air Basin is currently designated as a CO attainment area for both the CAAQS and NAAQS. Thus, it is not reasonable to expect that CO levels at Project-impacted intersections would rise to the level of an exceedance of these standards.

Additionally, the SCAQMD conducted CO modeling for the 2003 AQMP for the four worst-case intersections in the Air Basin. These include: (a) Wilshire Boulevard and Veteran Avenue; (b) Sunset Boulevard and Highland Avenue; (c) La Cienega Boulevard and Century Boulevard; (d) Long Beach Boulevard and Imperial Highway. In the 2003 AQMP CO attainment demonstration, the SCAQMD notes that the intersection of Wilshire Boulevard and Veteran Avenue is the most congested intersection in Los Angeles County, with an average daily traffic volume of about 100,000 vehicles per day.⁴³ This intersection is located near the on- and off-ramps to Interstate 405 in West Los Angeles. The evidence provided in Table 4-10 of Appendix V of the 2003 AQMP shows that the peak modeled CO concentration due to vehicle emissions at these four intersections was 4.6 ppm (one-hour average) and 3.2 (eight-hour average) at Wilshire Boulevard and Veteran Avenue, exclusive of ambient background CO concentrations.⁴⁴

Based on the Updated General Plan's Traffic Impact Analysis,⁴⁵ under future plus growth (2040) conditions, the intersection of Silver Spur Road and Hawthorne Boulevard would have a maximum weekday traffic volume of approximately 78,660 average daily trips (ADT).⁴⁶ The intersection of Palos Verdes Drive West and Hawthorne Boulevard would have a maximum Saturday traffic volume of approximately 40,380 average daily trips (ADT). As a result, CO concentrations at these intersections are expected to be less than the 4.6 ppm (one-hour average) and 3.2 ppm (eight-hour average), identified for the intersection of Wilshire and Veteran Avenue under the 2003 AQMP, which in turn would not exceed the thresholds. This comparison demonstrates that the Updated General Plan would not contribute to the formation of CO hotspots and that no further CO analysis

⁴³ South Coast Air Quality Management District, 2003 Air Quality Management Plan, Appendix V: Modeling and Attainment Demonstrations, (2003) V-4-24.

⁴⁴ The eight-hour average is based on a 0.7 persistence factor, as recommended by the SCAQMD.

⁴⁵ Translutions, Inc., *City of Rancho Palos Verdes General Plan Update, Traffic Impact Analysis*, (April, 2017).

⁴⁶ The traffic volume of approximately 369,649 was estimated based on the peak hour intersection volumes under future with Project conditions and the general assumption that peak hour trips represent approximately 10 percent of daily trip volumes (the Federal Highway Administration considers 10 percent to be a standard assumption; see http://www.fhwa.dot.gov/planning/tmip/publications/other_reports/tod_modeling_procedures/ch02.cfm).

is required. The Updated General Plan would result in less than significant impacts with respect to CO hotspots.

Toxic Air Contaminants

Construction

The greatest potential for TAC emissions during construction would be related to DPM emissions associated with heavy equipment operations during demolition, grading and excavation, and building construction activities. In addition, incidental amounts of toxic substances such as oils, solvents, and paints would be used; however, use of these products would comply with all applicable SCAQMD rules for their manufacture and use.

Projects under the Updated General Plan are required to comply with all applicable SCAQMD rules designed to limit exposure to TACs during construction activities, and its compliance has been assumed in this analysis. These projects would be required to comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than 5 minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these requirements would minimize emissions of TACs during construction.

The growth within the Updated General Plan would not be construction within one location but would be spread out over the 13.5 square mile area of the City. Therefore emissions from the construction of each of the projects would not impact the same receptors. As construction equipment would be required to comply with CARB and SCAQMD rules and regulations as well as the standard fleet emissions decrease as the fleets become newer, it is not anticipated that the growth under the Updated General Plan buildout would exceed TAC emissions thresholds as established by the SCAQMD. Therefore, construction impacts related to TAC are less than significant.

Operational

Project operations would generate only minor amounts of diesel emissions from mobile sources, such as delivery trucks and occasional maintenance activities. Trucks are required to comply with the applicable provisions of the CARB Truck and Bus regulation to minimize and reduce PM and NO_x emissions from existing diesel trucks. Therefore, the operations under the Updated General Plan would not be considered a substantial source of diesel particulates.

In addition, operations under the Updated General Plan would only result in minimal emissions of air toxics from maintenance or other ongoing activities, such as from the use of architectural coatings and other products. Area sources that would generate TAC emissions include consumer products associated with re-applying architectural coatings and cleaning building surfaces.

With respect to the use of consumer products and architectural coatings, the residential uses associated with the Updated General Plan would be expected to generate minimal emissions from these sources. The growth under the Updated General Plan would not include require extensive use of commercial or household cleaning products. As a result, toxic or carcinogenic air pollutants are not expected to occur in any substantial amounts in conjunction with operation of the proposed land uses within the Updated General Plan. It is not anticipated that the operation of the Updated

General Plan would incorporate emergency back-up generators or large boilers. However, should these be required, the operation and emissions requirements of these sources are permitted by the SCAQMD and would be below the regulatory thresholds for TAC emissions.

Based on the residential uses expected for buildout of the Updated General Plan, potential long-term operational impacts associated with the release of TACs would be minimal, regulated, and controlled, and would not be expected to exceed the SCAQMD thresholds of significance. Therefore, impacts would be less than significant.

Threshold AIR-4: Would the proposed 2015 General Plan Update create objectionable odors affecting a substantial number of people?

Construction

Potential activities that may emit odors during construction activities include the use of architectural coatings and solvents and the combustion of diesel fuel in on- and off-road equipment. As discussed in the Regulatory Setting, Section 2, of this technical report, SCAQMD Rule 1113 would limit the amount of VOCs in architectural coatings and solvents. In addition, the Projects implemented under the Updated General Plan would comply with the applicable provisions of the CARB Air Toxics Control Measure regarding idling limitations for diesel trucks. Additionally because the construction activities would occur in various locations throughout the City, no one receptor would be subjected to the temporary odors resulting from all the potential growth. Through mandatory compliance with SCAQMD Rules, no construction activities or materials are expected to create objectionable odors affecting a substantial number of people. Therefore, construction of projects under the Updated General Plan would result in less than significant impacts.

Operation

According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Buildout of the Updated General Plan does not include any uses identified by SCAQMD as being associated with substantial odors. As a result, the Updated General Plan is not expected to discharge contaminants into the air in quantities that would cause a nuisance, injury, or annoyance to the public or property pursuant to SCAQMD Rule 402. Therefore, the growth under the Updated General Plan would not create adverse odors affecting a substantial number of people and impacts would be less than significant.

Cumulative Impacts

Cumulative impacts consider other projects that have been recently completed, are currently under construction, or are reasonably foreseeable (e.g., for which an application has been submitted). The schedule and timing of the implementing projects under the Updated General Plan and other potential cumulative projects is relevant to the consideration of cumulative impacts. The cumulative impact analysis pays particular attention to cumulative projects in the identified geographic scope

with implementation schedules that could overlap with implementation of the Updated General Plan.

Cumulative impacts are influenced by the geographic area that can be affected by a proposed project and its potential to contribute to cumulative impacts. The geographic scope for regional air quality impacts consists of the air basin(s) in which project emissions would occur. As many of the other projects expected to occur at the same time as those implemented under the Updated General Plan would occur outside of the City of Rancho Palos Verdes, the City has no control over the timing or sequencing of these cumulative projects. Because there is no set schedule for development of the implementing projects, there may or may not be other projects within the Air Basin that are constructed at the same time as the development under the Updated General Plan. Therefore, any quantitative analysis to ascertain daily emissions that assumes multiple, concurrent construction projects would be speculative.

For these reasons, the SCAQMD's recommended methodology to assess a project's cumulative impact differs from the cumulative impacts methodology employed for other resource areas. The SCAQMD recommends using two different methodologies: (1) that project-specific air quality impacts be used to determine the potential cumulative impacts to regional air quality; and (2) that a project's consistency with the current AQMP be used to determine its potential cumulative impacts.

Updated General Plan Specific Impacts

The significance thresholds adopted by the SCAQMD are designed to assist the region in attaining the applicable state and national ambient air quality standards. These standards apply to both primary (criteria and precursor) and secondary pollutants (ozone). The implementation of the Updated General Plan would result in the emission of criteria pollutants for which the region is in non-attainment during both construction and operation.

Based on the Project-specific level of emissions, cumulative impacts would be less than significant for construction activities because impacts for all criteria pollutants are below regional thresholds as shown in Table 5. Operational emissions would be less than significant because, as shown in Table 6, regional emissions within the Updated General Plan area would be reduced at buildout (2040) and would not exceed the regional thresholds. The Updated General Plan is located in a region that is in non-attainment for ozone, PM10, and PM2.5 under federal and/or state standards. Therefore, because emissions would not exceed SCAQMD daily significance thresholds during construction or operational activities, the Updated General Plan emissions would not be cumulatively considerable and would result in a less than significant cumulative impact.

Consistency with the Air Quality Management Plan

Construction

Alternatively, the SCAQMD recommends assessing a project's contribution to cumulative impacts based on whether it is consistent with the AQMP. The Project has incorporated strategies, as applicable, consistent with the AQMP. Project construction would comply with SCAQMD Rule 403 requirements and the ATCM to limit heavy duty diesel motor vehicle idling to no more than 5 minutes at any given time. In addition, the Project would utilize a construction contractor(s) that

complies with required and applicable BACT and the In-Use Off-Road Diesel Vehicle Regulation. Per SCAQMD rules and mandates these same requirements (i.e., Rule 403 compliance and compliance with adopted AQMP emissions control measures) would also be imposed on other construction projects in the Air Basin.

The Updated General Plan would result in an increase in short-term employment compared to existing conditions. Being relatively small in number and temporary in nature, construction jobs generated by the Project implemented under the Updated General Plan would not conflict with the long-term employment projections upon which the AQMP is based. As identified previously, would be consistent with AQMP control strategies AQMP as MOB-08 and MOB-10, which are intended to reduce emissions from on-road and off-road heavy-duty vehicles and equipment by accelerating replacement of older, emissions-prone engines with newer engines meeting more stringent emission standards. The Updated General Plan would not conflict with implementation of these strategies.

Compliance with these requirements is consistent with and meets or exceeds the AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities. The General Plan Updated would not be inconsistent with the AQMP, therefore emissions are not cumulatively considerable. The Updated General Plan would result in a less than significant cumulative impact.

Operational

The SCAQMD's approach for assessing cumulative impacts related to operations or long-term implementation is based on attainment of ambient air quality standards in accordance with the requirements of the federal and state Clean Air Acts. As discussed earlier, the SCAQMD has developed a comprehensive plan, the AQMP, which addresses the region's cumulative air quality condition.

A significant impact may occur if a project's incremental effect would contribute to a violation of a federal or state non-attainment pollutant. The Los Angeles County portion of the Air Basin is currently in nonattainment for ozone, NO₂, PM₁₀, and PM_{2.5}. Cumulative impacts to air quality are evaluated under two sets of thresholds for CEQA and the SCAQMD. In particular, Section 15064(h)(3) of the CEQA Guidelines provides guidance in determining the significance of cumulative impacts. Specifically, Section 15064(h)(3) states in part that:

“A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem (e.g., water quality control plan, air quality plan, integrated waste management plan) within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency...”

For purposes of the cumulative air quality analysis with respect to CEQA Guidelines Section 15064(h)(3), the Updated General Plan's cumulative air quality impacts are determined to be less than significant based on its consistency with the SCAQMD's adopted 2016 AQMP, as discussed in Threshold AIR-1 above. The Project would not conflict with the underlying assumptions in the 2016 AQMP as the population increase identified with respect to the Updated General Plan is less than the population increase assumed in the AQMP.

As discussed previously, the implementation of the Updated General Plan would not exceed the SCAQMD regional and localized numeric indicators as shown in Tables 6 and 8 and the population increase is consistent with the assumptions in the AQMP. Therefore, the incremental contribution to long-term emissions of non-attainment pollutants and ozone precursors from the implementation of the Updated General Plan would not be cumulatively considerable. The Updated General Plan would result in a less than significant cumulatively impact to Air Quality.

Appendix A

- A1 Construction Assumptions
- A1 CalEEMod Output Summaries
- A2 Operational Assumptions
- A2 CalEEMod Output Summaries
- A2 CO Hotspot Summary Tables

Appendix A1

Construction Assumptions
CalEEMod Output Summaries

RPV
Project Consturction Assumptions

CalEEMod Inputs (Non-Default information only)

CalEEMod Inputs (Non-Default information only)		Base	2015 ¹	2020 ¹	2030	
		CO intensity	702.43634	531.7443	411.6277	351.2182
Project Location		% renewable	0%	24.30%	41.40%	50.00%
County	Los Angeles					
Air District	South Coast					
Climate Zone	8					
Construction Year	2018					
Utility Provider	Southern California Edison					

¹ <http://www.cpuc.ca.gov/renewables/>

Land Use	Dus	Acers	CalEEMod Land Use Type
Total Growth			
Residential	668	386	Single Family
Multi-Family Residential	88	4	Apartments Mid Rise
Annual Growth - 5%			
Residential	33	19	Single Family
Multi-Family Residential	4	0.2	Apartments Mid Rise
1 Acre development			
Residential	6	1	Single Family
Multi-Family Residential	22	1.0	Apartments Mid Rise

Construction Schedule

Phases (if applicable)	Number of Workers (Max.)	Start (month/date/ye ar)	Finish (month/date/ye ar)	Duration (Work Days)
Demolition	N/A	N/A	N/A	N/A
Site Preparation		1/1/2018	1/12/2018	10
Grading		1/13/2018	2/23/2018	30
Building Construction		2/24/2018	12/28/2018	220
Architectural Coatings		11/1/2018	12/26/2018	40
Paving		2/24/2018	3/23/2018	20

RPV
Construction Inputs from CalEEMod
2018 Construction Start Year

Regional Unmitigated Construction

	ROG	NO_x	CO	SO_x	PM₁₀	PM_{2.5}	
	lbs/day						% growth
Total	26.05	119.23	72.34	0.13	18.95	12.21	10%
Onsite	25.79	119.04	70.18	0.12	18.54	12.10	
Offsite	0.26	0.18	2.16	0.01	0.41	0.11	
Total	20.84	95.38	57.87	0.10	15.16	9.77	8%
Onsite	20.63	95.23	56.14	0.10	14.83	9.68	
Offsite	0.21	0.15	1.73	0.00	0.32	0.09	
Total	13.03	59.61	36.17	0.06	9.47	6.11	5%
Onsite	12.90	59.52	35.09	0.06	9.27	6.05	
Offsite	0.13	0.09	1.08	0.00	0.20	0.06	
SCAQMD Thresholds	75	100	550	150	150	55	
Significant	No	Yes	No	No	No	No	

RPV
Construction Inputs from CalEEMod
2018 Construction Start Year

CalEEMod: RPV - Growth - Construction - 2018 start year

7/7/2017

Regional Unmitigated Construction

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	lbs/day Winter					
10% total	26.05	119.23	72.17	0.13	18.95	12.21
onsite	25.79	119.04	70.18	0.12	18.54	12.10
offsite	0.26	0.18	1.99	0.00	0.41	0.11
8.00% total	20.84	95.38	57.73	0.10	15.16	9.77
onsite	20.63	95.23	56.14	0.10	14.83	9.68
offsite	0.21	0.15	1.59	0.00	0.32	0.09
Single Project total	13.03	59.61	36.08	0.06	9.47	6.11
onsite	12.90	59.52	35.09	0.06	9.27	6.05
offsite	0.13	0.09	0.99	0.00	0.20	0.06

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	Winter					
Site Prep Fugitive					6.6936	3.6793
Onsite	4.5627	48.1988	22.4763	0.038	2.5769	2.3708
Offsite	1.1101	0.0831	0.8951	2.14E-03	0.203	0.055
Total	5.6728	48.2819	23.3714	0.04014	9.4735	6.1051
Grading Fugitive					3.13325	3.13325
Onsite	5.0901	59.5218	35.0894	6.20E-02	2.6337	2.423
Offsite	0.1223	0.0923	0.9945	2.37E-03	0.2256	0.0611
Total	5.2124	59.6141	36.0839	0.06437	5.99255	5.61735
Building Construction Fugitive						
Onsite	2.6795	23.39	17.5804	0.0269	1.4999	1.4999
Offsite	0.1109	0.5606	0.8932	2.81E-03	0.1983	0.0566
Total	2.7904	23.9506	18.4736	0.02971	1.6982	1.5565
Paving Fugitive						
Onsite	1.6437	17.5209	14.7964	0.0228	0.9561	0.8797
Offsite	0.0917	0.0693	0.7459	1.78E-03	0.1692	0.0458
Total	1.7354	17.5902	15.5423	0.02458	1.1253	0.9255
Arch Coating Fugitive						
Onsite	10.2164	2.0058	1.8542	2.97E-03	0.1506	0.1506
Offsite	0.0183	0.0139	0.1492	3.60E-04	0.0338	9.17E-03
Total	10.2347	2.0197	2.0034	0.00333	0.1844	0.15977
BC+ Pav	4.5258	41.5408	34.0159	0.05429	2.8235	2.482
BC + Arch	13.0251	25.9703	20.477	0.03304	1.8826	1.71627

RPV
Construction Inputs from CalEEMod
2018 Construction Start Year

CalEEMod: RPV - Growth - Construction - 2018 start year

7/7/2017

Regional Unmitigated Construction

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	lbs/day Summer					
	26.03	119.21	72.34	0.13	18.95	12.21
	25.79	119.04	70.18	0.12	18.54	12.10
	0.24	0.17	2.16	0.01	0.41	0.11
	20.82	95.37	57.87	0.10	15.16	9.77
	20.63	95.23	56.14	0.10	14.83	9.68
	0.19	0.13	1.73	0.00	0.32	0.09
total	13.01	59.61	36.17	0.06	9.47	6.11
onsite	12.90	59.52	35.09	0.06	9.27	6.05
offsite	0.12	0.08	1.08	0.00	0.20	0.06

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	Summer					
Site Prep Fugitive					6.6936	3.6793
Onsite	4.5627	48.1988	22.4763	0.038	2.5769	2.3708
Offsite	0.0995	0.0751	0.9721	2.27E-03	0.203	0.055
Total	4.6622	48.2739	23.4484	0.04027	9.4735	6.1051
Grading Fugitive					3.13325	3.13325
Onsite	5.0901	59.5218	35.0894	0.062	2.6337	2.423
Offsite	0.1105	0.0834	1.0802	2.52E-03	0.2256	0.0611
Total	5.2006	59.6052	36.1696	0.06452	5.99255	5.61735
Building Construction Fugitive					0	0
Onsite	2.6795	23.39	17.5804	0.0269	1.4999	1.4999
Offsite	0.1013	0.5528	0.9442	2.95E-03	0.1982	0.0565
Total	2.7808	23.9428	18.5246	0.02985	1.6981	1.5564
Paving Fugitive					0	0
Onsite	1.6437	17.5209	14.7964	0.0228	0.9561	0.8797
Offsite	0.0829	0.0625	0.8101	1.89E-03	0.1692	0.0458
Total	1.7266	17.5834	15.6065	0.02469	1.1253	0.9255
Arch Coating Fugitive					0	0
Onsite	10.2164	2.0058	1.8542	0.00297	0.1506	0.1506
Offsite	0.0166	0.0125	0.162	3.80E-04	0.0338	9.17E-03
Total	10.233	2.0183	2.0162	0.00335	0.1844	0.15977
BC+ Pav	4.5074	41.5262	34.1311	0.05454	2.8234	2.4819
BC + Arch	13.0138	25.9611	20.5408	0.0332	1.8825	1.71617

RPV
Construction Inputs from CalEEMod
2018 Construction Start Year

	ROG	NO_x	CO	SO_x	PM₁₀	PM_{2.5}
Single Family		28	23		3	2
Multi-Family		28	23		3	2
1 Acre Site		50	664		5	3
Significant		No	No		No	No

Note:

The screening criteria for NO_x were developed based on the 1-hour NO₂ CAAQS of 0.18 ppm. However, since the publication of the SCAQMD's guidance, the USEPA has promulgated a 1-hour NO₂ NAAQS of 0.100 ppm based on a 98th percentile value, which is more stringent than the CAAQS. In order to determine if Project emissions would result in an exceedance of the 1 hour NO₂ NAAQS, an approximated LST was estimated to evaluate the federal 1-hour NO₂ standard, as the SCAQMD significance threshold has not been updated to reflect this standard. Calculated by scaling the NO₂ LST for by the ratio of 1-hour NO₂ standards (federal/state)(i.e., 91 lb/day * (0.10/0.18) = 50.56 lb/day).

RPV
Construction Inputs from CalEEMod
2018 Construction Start Year

CalEEMod: RPV - 1 Acre Single Family Residential

7/7/2017

		LST				
		ROG	NO _x	CO	SO _x	PM ₁₀ PM _{2.5}
Single Family Residential						
Site Prep	Fugitive					2.1487 1.0944
	Onsite		20.7472	8.0808		0.9523 0.8761
	Total		20.7472	8.0808		3.101 1.9705
Grading	Fugitive					1.8207 0.9357
	Onsite		17.0666	6.763		0.7947 0.7311
	Total		17.0666	6.763		2.6154 1.6668
Building Construction	Fugitive					
	Onsite		17.428	13.8766		1.058 1.0216
	Total		17.428	13.8766		1.058 1.0216
Paving	Fugitive					
	Onsite		10.4525	8.9926		0.6097 0.5618
	Total		10.4525	8.9926		0.6097 0.5618
Arch Coating	Fugitive					
	Onsite		2.0058	1.8452		0.1506 0.1506
	Total		2.0058	1.8452		0.1506 0.1506
BC+ Pav		0	27.8805	22.8692	0	1.6677 1.5834
BC + Arch		0	19.4338	15.7218	0	1.2086 1.1722

RPV
Construction Inputs from CalEEMod
2018 Construction Start Year

CalEEMod: RPV - 1 Acre Multi-Family Residential

7/7/2017

		LST				
		ROG	NO _x	CO	SO _x	PM ₁₀ PM _{2.5}
Multi-Family Residential						
Site Prep	Fugitive					2.1487 1.0944
	Onsite		20.7472	8.0808		0.9253 0.8761
	Total		20.7472	8.0808		3.074 1.9705
Grading	Fugitive					1.8207 0.9357
	Onsite		17.0666	6.763		0.7947 0.7311
	Total		17.0666	6.763		2.6154 1.6668
Building Construction	Fugitive					
	Onsite		17.428	13.8766		1.058 1.0216
	Total		17.428	13.8766		1.058 1.0216
Paving	Fugitive					
	Onsite		10.4525	8.9926		0.6097 0.5618
	Total		10.4525	8.9926		0.6097 0.5618
Arch Coating	Fugitive					
	Onsite		2.0058	1.8542		0.1506 0.1506
	Total		2.0058	1.8542		0.1506 0.1506
BC+ Pav		0	27.8805	22.8692	0	1.6677 1.5834
BC + Arch		0	19.4338	15.7308	0	1.2086 1.1722

RPV
Construction Inputs from CalEEMod
2021 Construction Start Year

Regional Unmitigated Construction

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	lbs/day					
2021 (10%) Total	24.27	92.93	64.89	0.13	17.88	11.23
Onsite	24.08	92.80	62.46	0.12	17.48	11.12
Offsite	0.20	0.13	2.43	0.00	0.41	0.11
SCAQMD Thresholds	75	100	550	150	150	55
Significant	No	No	No	No	No	No

RPV
Construction Inputs from CalEEMod
2021 Construction Start Year

CalEEMod: RPV - Growth - Construction - 2021 start year

7/6/2017

Regional Unmitigated Construction

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	lbs/day Winter					
2021 (10%) total	24.27	92.93	64.89	0.13	17.88	11.23
onsite	24.08	92.80	62.46	0.12	17.48	11.12
offsite	0.20	0.13	2.43	0.00	0.41	0.11
2021 (5%) total	12.14	46.47	32.45	0.06	8.94	5.62
onsite	12.04	46.40	31.23	0.06	8.74	5.56
offsite	0.10	0.07	1.22	0.00	0.20	0.05

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	Winter					
Site Prep Fugitive					6.6936	3.6793
Onsite	3.8882	40.4971	21.1543	0.038	2.0445	1.8809
Offsite	0.0858	0.0587	0.6629	1.94E-03	0.2028	0.0549
Total	3.974	40.5558	21.8172	0.03994	8.9409	5.6151
Grading Fugitive					3.2135	1.3325
Onsite	4.1912	46.3998	30.8785	6.20E-02	1.9853	1.8265
Offsite	0.0954	0.0652	0.7365	2.15E-03	0.2254	0.061
Total	4.2866	46.465	31.615	0.06415	5.4242	3.22
Building Construction Fugitive						
Onsite	1.9009	17.4321	16.5752	0.0269	0.9586	0.9013
Offsite	0.0843	0.4365	0.6647	2.61E-03	0.1955	0.0539
Total	1.9852	17.8686	17.2399	0.02951	1.1541	0.9552
Paving Fugitive						
Onsite	1.2556	12.9191	14.6532	0.0228	0.6777	0.6235
Offsite	0.0715	0.0489	0.5524	1.61E-03	0.169	0.0457
Total	1.3271	12.968	15.2056	0.02441	0.8467	0.6692
Arch Coating Fugitive						
Onsite	10.1366	1.5268	1.8176	2.97E-03	0.0941	0.0941
Offsite	0.0143	9.78E-03	0.1105	3.20E-04	0.0338	9.14E-03
Total	10.1509	1.53658	1.9281	0.00329	0.1279	0.10324

RPV
Construction Inputs from CalEEMod
2021 Construction Start Year

CalEEMod: RPV - Growth - Construction - 2021 start year

7/6/2017

Regional Unmitigated Construction

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	lbs/day Summer					
2021 (10%) total	24.25	92.92	63.37	0.13	17.88	11.23
onsite	24.08	92.80	61.76	0.12	17.48	11.12
offsite	0.18	0.12	1.61	0.00	0.41	0.11
2021 (5%) total	12.13	46.46	32.54	0.06	8.94	5.62
onsite	12.04	46.40	30.88	0.06	8.74	5.56
offsite	0.09	0.06	0.81	0.00	0.20	0.05

		ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
		Summer					
Site Prep	Fugitive					6.6936	3.6793
	Onsite	3.8882	40.4971	21.1543	0.038	2.0445	1.8809
	Offsite	0.0772	0.053	0.725	2.06E-03	0.2028	0.0549
	Total	3.9654	40.5501	21.8793	0.04006	8.9409	5.6151
Grading	Fugitive					3.2135	1.3325
	Onsite	4.1912	46.3998	30.8785	0.062	1.9853	1.8265
	Offsite	0.0857	0.0589	0.8056	2.29E-03	0.2254	0.061
	Total	4.2769	46.4587	31.6841	0.06429	5.4242	3.22
Building Construction	Fugitive					0	0
	Onsite	1.9009	17.4321	16.5752	0.0269	0.9586	0.9013
	Offsite	0.0765	0.4326	0.7057	2.74E-03	0.1954	0.0538
	Total	1.9774	17.8647	17.2809	0.02964	1.154	0.9551
Paving	Fugitive					0	0
	Onsite	1.2556	12.9191	14.6532	0.0228	0.6777	0.6235
	Offsite	0.0643	0.0442	0.6042	1.71E-03	0.169	0.0457
	Total	1.3199	12.9633	15.2574	0.02451	0.8467	0.6692
Arch Coating	Fugitive					0	0
	Onsite	10.1366	1.5268	1.8176	0.00297	0.0941	0.0941
	Offsite	1.29E-02	8.84E-03	0.1208	3.40E-04	0.0338	9.14E-03
	Total	10.1495	1.53564	1.9384	0.00331	0.1279	0.10324

RPV
Construction Inputs from CalEEMod
2025 Construction Start Year

Regional Unmitigated Construction

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	lbs/day					
2025 (15%) Total	34.60	83.96	94.68	0.19	23.95	14.20
Onsite	34.37	83.83	91.99	0.19	23.34	14.04
Offsite	0.23	0.13	2.69	0.01	0.61	0.16
SCAQMD Thresholds	75	100	550	150	150	55
Significant	No	No	No	No	No	No

RPV
Construction Inputs from CalEEMod
2025 Construction Start Year

CalEEMod: RPV - Growth - Construction - 2025 start year

7/6/2017

Regional Unmitigated Construction

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	lbs/day Winter					
2025 total	34.60	83.96	94.68	0.19	23.95	14.20
onsite	34.37	83.83	91.99	0.19	23.34	14.04
offsite	0.23	0.13	2.69	0.00	0.61	0.16
2025 5% total	11.53	27.99	31.56	0.06	7.98	4.73
onsite	11.46	27.94	30.66	0.06	7.78	4.68
offsite	0.08	0.04	0.90	0.00	0.20	0.05

	Winter					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Site Prep Fugitive					6.6936	3.6793
Onsite	2.4727	25.2339	17.9118	0.0381	1.0868	0.9999
Offsite	0.0687	0.04	0.4848	1.68E-03	0.2027	0.0547
Total	2.5414	25.2739	18.3966	0.03978	7.9831	4.7339
Grading Fugitive					3.2135	1.3325
Onsite	2.9012	27.9429	26.3311	6.21E-02	1.1309	1.0404
Offsite	0.0763	0.0444	0.5386	1.86E-04	0.2252	0.0608
Total	2.9775	27.9873	26.8697	0.062286	4.5696	2.4337
Building Construction Fugitive						
Onsite	1.3674	12.4697	16.0847	0.027	0.5276	0.4963
Offsite	0.0657	0.3089	0.4932	2.35E-03	0.1948	0.0533
Total	1.4331	12.7786	16.5779	0.02935	0.7224	0.5496
Paving Fugitive						
Onsite	0.9152	8.5816	14.578	0.0228	0.4185	0.385
Offsite	0.0572	0.0333	0.404	1.40E-03	0.1689	0.0456
Total	0.9724	8.6149	14.982	0.0242	0.5874	0.4306
Arch Coating Fugitive						
Onsite	10.0886	1.1455	1.18091	2.97E-03	0.0515	0.0515
Offsite	0.011	6.14E-03	0.0755	2.70E-04	0.0338	9.11E-03
Total	10.0996	1.15164	1.25641	0.00324	0.0853	0.06061

Buil

RPV
Construction Inputs from CalEEMod
2025 Construction Start Year

CalEEMod: RPV - Growth - Construction - 2025 start year

7/6/2017

Regional Unmitigated Construction

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	lbs/day Summer					
2025 (15%) total	34.55	83.95	80.77	0.19	23.95	14.20
onsite	34.37	83.83	78.99	0.19	23.34	14.04
offsite	0.18	0.12	1.78	0.01	0.61	0.16
2025 5% total	11.52	27.98	31.63	0.06	7.98	4.73
onsite	11.46	27.94	26.33	0.06	7.78	4.68
offsite	0.06	0.04	0.59	0.00	0.20	0.05

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	Summer					
Site Prep Fugitive					6.6936	3.6793
Onsite	2.4727	25.2339	17.9118	0.0381	1.0868	0.9999
Offsite	0.061	0.0362	0.5333	1.78E-03	0.2027	0.0547
Total	2.5337	25.2701	18.4451	0.03988	7.9831	4.7339
Grading Fugitive					3.2135	1.3325
Onsite	2.9012	27.9429	26.3311	0.0621	1.1309	1.0404
Offsite	0.0677	0.0402	0.5926	1.98E-03	0.2252	0.0608
Total	2.9689	27.9831	26.9237	0.06408	4.5696	2.4337
ding Construction Fugitive					0	0
Onsite	1.3674	12.4697	16.0847	0.027	0.5276	0.4963
Offsite	0.0589	0.3069	0.5264	2.45E-03	0.1948	0.0533
Total	1.4263	12.7766	16.6111	0.02945	0.7224	0.5496
Paving Fugitive					0	0
Onsite	0.9152	8.5816	14.578	0.0228	0.4185	0.385
Offsite	0.0508	0.0301	0.4445	1.48E-03	0.1689	0.0456
Total	0.966	8.6117	15.0225	0.02428	0.5874	0.4306
Arch Coating Fugitive					0	0
Onsite	10.0886	1.1455	1.18091	0.00297	0.0515	0.0515
Offsite	9.70E-04	5.55E-03	0.0831	2.90E-04	0.0338	9.11E-03
Total	10.08957	1.15105	1.26401	0.00326	0.0853	0.06061

Appendix A2

Operational Assumptions
CalEEMod Output Summaries
CO Hotspot Summary Tables

RPV Operational Assumptions

CalEEMod Inputs (Non-Default information only)

Project Location		CO intensity	Base	2015 ¹	2020 ¹	2030
County	Los Angeles	% renewable	702.43634	531.74431	411.6277	351.2182
Air District	South Coast		0%	24.30%	41.40%	50.00%
Climate Zone	8	¹ http://www.cpuc.ca.gov/renewables/				
Operational Year	2015 Existing 2040 Buildout					
Utility Provider	Southern California Edison					

Land Use	SF/ DU	KSF	Student/ bed	Acers	CalEEMod Land Use Type
Existing					
Residential	13,534			5,110	Single Family
Commercial ²	13,123,000	13,123		1,028	General Office
Baseline					
Residential	14,290			5,509	Single Family
Commercial ²	13,123,000	13,123		1,028	General Office
New					
Residential	756			399	Single Family
Residential 1-acre	28			1	Single Family

² 2015 data approximated from the *City of Rancho Palos Verdes Emissions Reduction Plan*. Dated December 2015 and prepared by Atkins (ERP). The ERP has non-residential land use data for 2012 and 2035. The 2015 data was approximated by adding the approximate growth assumed between 2012 and 2015. The RPE only segregates some emissions by residential vs non-residential, therefore all emissions are calculated based on those two categories for this analysis.

Service Population	Unknown	employees	
Service Population (# Employees)	35,351	Residents - Existing	(Based on Land use Element, 2.65 persons/du and 3.8% vacancy rate)
	1,927	Residents - New	
	37,278	Total	
	1,927	Net Service Population	

RPV Operational Assumptions

Trip Generation:

Single Family Housing ³	WD_TR	ST_TR	WU_TR	HW_TL	HS_TL	HO_TL
Existing	4.22	4.22	4.22	13.45345	13.45345	13.45345
Existing 2040	3.94	3.94	3.94	13.438163	13.438163	13.438163
Project 2040	3.94	3.94	3.94	13.438166	13.438166	13.438166
Project 2040 1-acre	3.94	3.94	3.94	13.438166	13.438166	13.438166
Baseline 2040	3.99	3.99	3.99	13.45345		

³ Trip lengths and vehicle miles traveled are based on the community inventory for the 2015 ERP. As the only growth anticipated from the 2035 values in the ERP are related to the residential, the existing 2035 values were used for the analysis at 2040. The ERP has total VMT but is not broken out by landuse type, therefore inputs in CalEEMod are consolidated into the Single Family Residential category.

Area Source

wood stoves Defaults for existing. 0 for new as not allowed.

Non cat/cat = 676.7

fireplaces **default Existing**

SF

wood 676.7

gas⁴ 0

none 1353.4

fireplaces **default Project**

SF SF

wood 37.8 0

gas⁴ 642.6 0.00

none 75.6 139.86

fireplaces **default 1-Acre Development (LST)**

SF SF

wood 1.4 0

gas⁴ 23.8 0.00

none 2.8 5.18

⁴ Natural Gas is not included here as it is included in the Energy use section where specific source of natural gas use was not broken out in the 2015 ERP.

RPV
Operational Assumptions

Energy Use

	T24E	NT24E	LightingElect	T24NG	NT24NG
Single Family Residential					
Existing	9,806.22	0.00	0.00	65,417.94	0.00
Existing 2040	9,434.85	0.00	0.00	62,940.51	0.00
Project 2040	9,434.85	0.00	0.00	62,940.51	0.00
Project 2040 1-acre	9,434.85	0.00	0.00	62,940.51	0.00
Baseline 2040	9,806.22	0.00	0.00	65,417.94	0.00
General Office					
Existing	4.9988	0.00	0.00	6.7826	0.00
Existing 2040	5.5250	0.00	0.00	7.4965	0.00
Project 2040	No growth				
2040 Baseline	4.9988	0.00	0.00	6.7826	0.00

⁵Energy Emissions in the ERP were broken out by residential and non-residential only. Energy inputs in CalEEMod are consistent with energy consumption in the 2015 ERP.

Water Use

Single Family Housing ⁶	Indoor	Outdoor	Removal of Septic		
Existing	3,206,128,189	0	Septic	Aerobic	Lagoons
Existing 2040	3,204,821,162	0		0.98	0.02
Project 2040	179,019,122	0		10.08	0.25
Project 2040 1-acre	6,630,338	0	0.00	97.54	2.46
Baseline 2040	3,385,220,320	0			

⁶ The 2015 ERP has total water use but is not broken out by landuse type, therefore inputs in CalEEMod are consolidated into the Single Family Residential category.

RPV
Operational Assumptions

Solid Waste Generation

Single Family Housing ⁷	Waste
Existing	17,146.78
Baseline 2015	17,146.78
Existing 2040	17,140.00
Project 2040	957.43
Project 2040 1-acre	35.46
Baseline 2040	18,104.59

⁶ The 2015 ERP has total solid waste generation but is not broken out by landuse type, therefore inputs in CalEEMod are consolidated into the Single Family Residential category.

RPV
Operational CalEEMod Summary

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	Max lbs/day					
Existing						
Area	4,378	103	7,940	16	1,025	1,025
Energy	29	247	115	2	20	20
Mobile	245	1,122	3,825	9	610	173
Existing Total	4,651	1,473	11,881	27	1,654	1,217
Buildout						
Area	4,406	104	7,977	16	1,025	1,025
Energy	29	254	119	2	20	20
Mobile	62	378	933	5	588	159
Project Total	4,498	735	9,028	23	1,633	1,204
Net Project Increase						
Area	28	0	36	0	0	0
Energy	1	6	4	0	0	0
Mobile	(182)	(744)	(2,892)	(3)	(22)	(14)
Net Increase Total	(154)	(738)	(2,853)	(3)	(21)	(13)
Threshold	55	55	550	150	150	55
Significant	No	No	No	No	No	No

Mitigation None Required

RPV Operational CalEEMod Summary

CalEEMod: RPV - 2015 Existing Emissions
CalEEMod: RPV - 2040 Existing Conditions
CalEEMod: RPV -2040 Project Conditions

7/17/2017
7/17/2017
7/17/2017

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
lbs/day (Winter)						
Existing 2015						
Area	4,378	103	7,940	16	1,025	1,025
Energy	29	247	115	2	20	20
Mobile	242	1,122	3,618	8	610	173
Existing	4,648	1,473	11,674	26	1,654	1,217
Existing 2040						
Area	4,375	103	7,915	16	1,025	1,025
Energy	28	241	114	2	19	19
Mobile	58	358	883	5	557	150
Proposed	4,461	702	8,912	23	1,601	1,194
Project 2040						
Area	31	1	62	0	0	0
Energy	1	12	5	0	1	1
Mobile	3	20	47	0	31	8
Proposed	36	33	114	0	32	10

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
lbs/day (Summer)						
Existing 2015						
	4,378	103	7,940	16	1,025	1,025
	29	247	115	2	20	20
	245	1,074	3,825	9	610	173
	4,651	1,425	11,881	27	1,654	1,217
Existing 2040						
	4,375	103	7,915	16	1,025	1,025
	28	241	114	2	19	19
	59	352	884	5	557	150
	4,462	697	8,912	23	1,601	1,194
Project 2040						
	31	1	62	0	0	0
	1	12	5	0	1	1
	3	20	49	0	31	0
	36	32	117	0	32	1

RPV Operational CalEEMod Summary

LST Analysis

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Single Family		0.47	2.49		0.05	0.05
5 Acre Site		50	664		1	1

The screening criteria for NO_x were developed based on the 1-hour NO₂ CAAQS of 0.18 ppm. However, since the publication of the SCAQMD's guidance, the USEPA has promulgated a 1-hour NO₂ NAAQS of 0.100 ppm based on a 98th percentile value, which is more stringent than the CAAQS. In order to determine if Project emissions would result in an exceedance of the 1 hour NO₂ NAAQS, an approximated LST was estimated to evaluate the federal 1-hour NO₂ standard, as the SCAQMD significance threshold has not been updated to reflect this standard. Calculated by scaling the NO₂ LST for by the ratio of 1-hour NO₂ standards (federal/state)(i.e., 91 lb/day * (0.10/0.18) = 50.56 lb/day).

RPV Operational CalEEMod Summary

CalEEMod: RPV - 2040 1 acre development

7/17/2017

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}		ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	Single Family - 1 Acre - Winter							Single Family - 1 Acre - Summer					
Area		0.027	2.300		0.013	0.013		0.027	2.300		0.013	0.013	
Energy		0.445	0.189		0.036	0.036		0.445	0.189		0.036	0.036	
Total		0.472	2.489		0.049	0.049		0.472	2.489		0.049	0.049	

RPV

CO Hotspot Summary

NUMBER	Street	Weekday		Saturday	
		Existing	Cumulative	Existing	Cumulative
		Daily	Daily	Daily	Daily
1	Palos Verdes Drive West/Hawthorne Boulevard	37,920	40,380	37,860	40,380
2	Palos Verdes Drive West/Lower Point - Vicente Park Entrance	26,540	28,320	28,880	30,840
3	Via Rivera/Hawthorne Boulevard	28,220	30,080	N/A	N/A
4	Gravania Altamira – Ridgeway Drive/Hawthorne Boulevard	48,120	51,380	N/A	N/A
5	Hawthorne Boulevard/Eddinghill Drive – Seamount Drive	34,540	36,840	N/A	N/A
6	Hawthorne Boulevard/Crest Road	40,620	43,300	N/A	N/A
7	Hawthorne Boulevard/Dupre Drive – R. E. Ryan Park Driveway	28,960	30,940	N/A	N/A
8	Hawthorne Boulevard/Vallon Drive	28,880	30,780	N/A	N/A
9	Crestmont Lane – Terranea Way/Palos Verdes Drive South	31,020	33,080	N/A	N/A
10	Grayslake Road – Highridge Road/Hawthorne Boulevard	59,820	63,820	N/A	N/A
11	Highridge Road/Crest Road	19,060	20,360	N/A	N/A
12	Basswood Avenue/Montemalaga Drive	12,380	13,220	N/A	N/A
13	Silver Spur Road/Hawthorne Boulevard	73,660	78,660	N/A	N/A
14	Crenshaw Boulevard/Crestridge Road	38,000	40,760	N/A	N/A
15	Crenshaw Boulevard/Indian Peak Road	43,020	45,920	N/A	N/A
16	Crenshaw Boulevard/Crest Road	29,060	32,460	N/A	N/A
17	Hawthorne Boulevard/Blackhorse Road	46,200	49,420	N/A	N/A
18	Forrestal Drive – Trump National Drive/Palos Verdes Drive South	29,020	30,960	29,380	31,320
19	Palos Verdes Drive East/Palos Verdes Drive South	29,300	31,260	27,780	29,620
20	Palos Verdes Drive East/Crest Road – Marymount College Driveway	11,980	12,760	8,180	8,720
21	Palos Verdes Drive East/Via Canada	20,700	22,080	N/A	N/A
22	Palos Verdes Drive East/Crownview Drive	20,360	21,680	N/A	N/A
23	Palos Verdes Drive East/Miraleste Drive	26,760	28,500	19,260	20,560
24	Miraleste Drive/1st Street	20,140	21,440	N/A	N/A
25	Western Avenue/Avenida Aprenda	59,320	63,320	N/A	N/A
26	Western Avenue/Dilasonde Drive	68,300	72,960	N/A	N/A
27	Western Avenue/Toscanini Drive	63,220	67,460	N/A	N/A
28	Western Avenue/Caddington Drive	69,280	73,940	N/A	N/A
29	Western Avenue/Crestwood Street	71,260	76,080	N/A	N/A
	Maximum	73,660	78,660	37,860	40,380

Note: Daily traffic is determined by taking peak PM traffic volumes and multiplying by 10.

Daily traffic provided by the Traffic Impact Analysis

Appendix B

Construction CalEEMod Output

- B1 5% Construction - 2018
- B2 5% Construction - 2021
- B3 5% Construction - 2025
- B4 1 Acre Single Family Residential
- B5 1 Acre Multi-Family Residential

Appendix B1

Construction CalEEMod Output
5% Construction - 2018

RPV - Growth - Construction - 2018 start year - Los Angeles-South Coast County, Winter

RPV - Growth - Construction - 2018 start year
Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	4.00	Dwelling Unit	0.20	4,000.00	11
Single Family Housing	33.00	Dwelling Unit	19.00	59,400.00	85

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	531.74	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - See Assumptions

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Vehicle Trips - Operations Modeled Separately

Construction Off-road Equipment Mitigation - Rule 403 Compliance for fugitive dust

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	300.00	220.00
tblConstructionPhase	PhaseEndDate	3/22/2019	2/23/2018
tblConstructionPhase	PhaseEndDate	12/28/2018	11/2/2018
tblConstructionPhase	PhaseEndDate	2/23/2018	2/9/2018
tblConstructionPhase	PhaseEndDate	1/25/2019	1/26/2018
tblConstructionPhase	PhaseStartDate	1/26/2019	1/1/2018
tblConstructionPhase	PhaseStartDate	2/24/2018	1/1/2018
tblConstructionPhase	PhaseStartDate	1/13/2018	1/1/2018
tblConstructionPhase	PhaseStartDate	12/29/2018	1/1/2018
tblLandUse	LotAcreage	0.11	0.20
tblLandUse	LotAcreage	10.71	19.00
tblLandUse	Population	94.00	85.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.74
tblProjectCharacteristics	OperationalYear	2018	2020

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					
2018	24.6457	151.4564	95.4747	0.1622	27.5588	7.8278	35.3866	13.7450	7.2438	20.9888	0.0000	16,220.3935	16,220.3935	4.5593	0.0000	16,334.3766

Maximum	24.6457	151.4564	95.4747	0.1622	27.5588	7.8278	35.3866	13.7450	7.2438	20.9888	0.0000	16,220.3935	16,220.3935	4.5593	0.0000	16,334.3766
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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					
2018	24.6457	151.4564	95.4747	0.1622	10.7262	7.8278	18.5540	5.2297	7.2438	12.4735	0.0000	16,220.3935	16,220.3935	4.5593	0.0000	16,334.3765
Maximum	24.6457	151.4564	95.4747	0.1622	10.7262	7.8278	18.5540	5.2297	7.2438	12.4735	0.0000	16,220.3935	16,220.3935	4.5593	0.0000	16,334.3765

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	61.08	0.00	47.57	61.95	0.00	40.57	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Operations modeled separately

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2018	1/12/2018	5	10	
2	Grading	Grading	1/1/2018	2/9/2018	5	30	
3	Building Construction	Building Construction	1/1/2018	11/2/2018	5	220	
4	Paving	Paving	1/1/2018	1/26/2018	5	20	
5	Architectural Coating	Architectural Coating	1/1/2018	2/23/2018	5	40	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 128,385; Residential Outdoor: 42,795; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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
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	Welders	1	8.00	46	0.45
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
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
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Building Construction	9	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Soil Stabilizer
- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

3.2 Site Preparation - 2018

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	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708		3,831.6239	3,831.6239	1.1928		3,861.4448
Total	4.5627	48.1988	22.4763	0.0380	18.0663	2.5769	20.6432	9.9307	2.3708	12.3014		3,831.6239	3,831.6239	1.1928		3,861.4448

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	0.1101	0.0831	0.8951	2.1400e-003	0.2012	1.7900e-003	0.2030	0.0534	1.6500e-003	0.0550		212.5037	212.5037	8.0000e-003		212.7036
Total	0.1101	0.0831	0.8951	2.1400e-003	0.2012	1.7900e-003	0.2030	0.0534	1.6500e-003	0.0550		212.5037	212.5037	8.0000e-003		212.7036

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					6.6936	0.0000	6.6936	3.6793	0.0000	3.6793			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448
Total	4.5627	48.1988	22.4763	0.0380	6.6936	2.5769	9.2705	3.6793	2.3708	6.0501	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448

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	0.1101	0.0831	0.8951	2.1400e-003	0.2012	1.7900e-003	0.2030	0.0534	1.6500e-003	0.0550		212.5037	212.5037	8.0000e-003		212.7036

Total	0.1101	0.0831	0.8951	2.1400e-003	0.2012	1.7900e-003	0.2030	0.0534	1.6500e-003	0.0550		212.5037	212.5037	8.0000e-003		212.7036
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3.3 Grading - 2018

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	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230		6,244.4284	6,244.4284	1.9440		6,293.0278
Total	5.0901	59.5218	35.0894	0.0620	8.6733	2.6337	11.3071	3.5965	2.4230	6.0195		6,244.4284	6,244.4284	1.9440		6,293.0278

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	0.1223	0.0923	0.9945	2.3700e-003	0.2236	1.9900e-003	0.2256	0.0593	1.8400e-003	0.0611		236.1152	236.1152	8.8900e-003		236.3373
Total	0.1223	0.0923	0.9945	2.3700e-003	0.2236	1.9900e-003	0.2256	0.0593	1.8400e-003	0.0611		236.1152	236.1152	8.8900e-003		236.3373

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					3.2135	0.0000	3.2135	1.3325	0.0000	1.3325			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278
Total	5.0901	59.5218	35.0894	0.0620	3.2135	2.6337	5.8472	1.3325	2.4230	3.7555	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278

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	0.1223	0.0923	0.9945	2.3700e-003	0.2236	1.9900e-003	0.2256	0.0593	1.8400e-003	0.0611		236.1152	236.1152	8.8900e-003		236.3373
Total	0.1223	0.0923	0.9945	2.3700e-003	0.2236	1.9900e-003	0.2256	0.0593	1.8400e-003	0.0611		236.1152	236.1152	8.8900e-003		236.3373

3.4 Building Construction - 2018

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	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883

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	0.0192	0.4913	0.1473	1.0300e-003	0.0256	3.5100e-003	0.0291	7.3700e-003	3.3600e-003	0.0107		109.6599	109.6599	7.9100e-003		109.8578
Worker	0.0917	0.0693	0.7459	1.7800e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458		177.0864	177.0864	6.6600e-003		177.2530
Total	0.1109	0.5606	0.8932	2.8100e-003	0.1933	5.0000e-003	0.1983	0.0518	4.7400e-003	0.0566		286.7463	286.7463	0.0146		287.1108

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	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883

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	0.0192	0.4913	0.1473	1.0300e-003	0.0256	3.5100e-003	0.0291	7.3700e-003	3.3600e-003	0.0107		109.6599	109.6599	7.9100e-003		109.8578
Worker	0.0917	0.0693	0.7459	1.7800e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458		177.0864	177.0864	6.6600e-003		177.2530
Total	0.1109	0.5606	0.8932	2.8100e-003	0.1933	5.0000e-003	0.1983	0.0518	4.7400e-003	0.0566		286.7463	286.7463	0.0146		287.1108

3.5 Paving - 2018

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	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797		2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797		2,294.0887	2,294.0887	0.7142		2,311.9432

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	0.0917	0.0693	0.7459	1.7800e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458		177.0864	177.0864	6.6600e-003		177.2530
Total	0.0917	0.0693	0.7459	1.7800e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458		177.0864	177.0864	6.6600e-003		177.2530

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	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797	0.0000	2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797	0.0000	2,294.0887	2,294.0887	0.7142		2,311.9432

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	0.0917	0.0693	0.7459	1.7800e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458		177.0864	177.0864	6.6600e-003		177.2530
Total	0.0917	0.0693	0.7459	1.7800e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458		177.0864	177.0864	6.6600e-003		177.2530

3.6 Architectural Coating - 2018

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	9.9177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	10.2164	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171

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	0.0183	0.0139	0.1492	3.6000e-004	0.0335	3.0000e-004	0.0338	8.8900e-003	2.8000e-004	9.1700e-003		35.4173	35.4173	1.3300e-003		35.4506
Total	0.0183	0.0139	0.1492	3.6000e-004	0.0335	3.0000e-004	0.0338	8.8900e-003	2.8000e-004	9.1700e-003		35.4173	35.4173	1.3300e-003		35.4506

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	9.9177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	10.2164	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171

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	0.0183	0.0139	0.1492	3.6000e-004	0.0335	3.0000e-004	0.0338	8.8900e-003	2.8000e-004	9.1700e-003		35.4173	35.4173	1.3300e-003		35.4506
Total	0.0183	0.0139	0.1492	3.6000e-004	0.0335	3.0000e-004	0.0338	8.8900e-003	2.8000e-004	9.1700e-003		35.4173	35.4173	1.3300e-003		35.4506

4.0 Operational Detail - Mobile

Operations Modeled separately

RPV - Growth - Construction - 2018 start year - Los Angeles-South Coast County, Summer

RPV - Growth - Construction - 2018 start year
Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	4.00	Dwelling Unit	0.20	4,000.00	11
Single Family Housing	33.00	Dwelling Unit	19.00	59,400.00	85

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	531.74	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - See Assumptions

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Vehicle Trips - Operations Modeled Separately

Construction Off-road Equipment Mitigation - Rule 403 Compliance for fugitive dust

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	300.00	220.00
tblConstructionPhase	PhaseEndDate	3/22/2019	2/23/2018
tblConstructionPhase	PhaseEndDate	12/28/2018	11/2/2018
tblConstructionPhase	PhaseEndDate	2/23/2018	2/9/2018
tblConstructionPhase	PhaseEndDate	1/25/2019	1/26/2018
tblConstructionPhase	PhaseStartDate	1/26/2019	1/1/2018
tblConstructionPhase	PhaseStartDate	2/24/2018	1/1/2018
tblConstructionPhase	PhaseStartDate	1/13/2018	1/1/2018
tblConstructionPhase	PhaseStartDate	12/29/2018	1/1/2018
tblLandUse	LotAcreage	0.11	0.20
tblLandUse	LotAcreage	10.71	19.00
tblLandUse	Population	94.00	85.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.74
tblProjectCharacteristics	OperationalYear	2018	2020

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					
2018	24.6031	151.4235	95.7653	0.1628	27.5588	7.8278	35.3866	13.7450	7.2438	20.9888	0.0000	16,275.3162	16,275.3162	4.5607	0.0000	16,389.3329

Maximum	24.6031	151.4235	95.7653	0.1628	27.5588	7.8278	35.3866	13.7450	7.2438	20.9888	0.0000	16,275.3162	16,275.3162	4.5607	0.0000	16,389.3329
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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					
2018	24.6031	151.4235	95.7653	0.1628	10.7262	7.8278	18.5540	5.2297	7.2438	12.4734	0.0000	16,275.3162	16,275.3162	4.5607	0.0000	16,389.3329
Maximum	24.6031	151.4235	95.7653	0.1628	10.7262	7.8278	18.5540	5.2297	7.2438	12.4734	0.0000	16,275.3162	16,275.3162	4.5607	0.0000	16,389.3329

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	61.08	0.00	47.57	61.95	0.00	40.57	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Operations modeled separately

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2018	1/12/2018	5	10	
2	Grading	Grading	1/1/2018	2/9/2018	5	30	
3	Building Construction	Building Construction	1/1/2018	11/2/2018	5	220	
4	Paving	Paving	1/1/2018	1/26/2018	5	20	
5	Architectural Coating	Architectural Coating	1/1/2018	2/23/2018	5	40	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 128,385; Residential Outdoor: 42,795; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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
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	Welders	1	8.00	46	0.45
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
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
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Building Construction	9	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Soil Stabilizer
- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

3.2 Site Preparation - 2018

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	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708		3,831.6239	3,831.6239	1.1928		3,861.4448
Total	4.5627	48.1988	22.4763	0.0380	18.0663	2.5769	20.6432	9.9307	2.3708	12.3014		3,831.6239	3,831.6239	1.1928		3,861.4448

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	0.0995	0.0751	0.9721	2.2700e-003	0.2012	1.7900e-003	0.2030	0.0534	1.6500e-003	0.0550		225.6642	225.6642	8.4600e-003		225.8758
Total	0.0995	0.0751	0.9721	2.2700e-003	0.2012	1.7900e-003	0.2030	0.0534	1.6500e-003	0.0550		225.6642	225.6642	8.4600e-003		225.8758

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					6.6936	0.0000	6.6936	3.6793	0.0000	3.6793			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448
Total	4.5627	48.1988	22.4763	0.0380	6.6936	2.5769	9.2705	3.6793	2.3708	6.0501	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448

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	0.0995	0.0751	0.9721	2.2700e-003	0.2012	1.7900e-003	0.2030	0.0534	1.6500e-003	0.0550		225.6642	225.6642	8.4600e-003		225.8758

Total	0.0995	0.0751	0.9721	2.2700e-003	0.2012	1.7900e-003	0.2030	0.0534	1.6500e-003	0.0550		225.6642	225.6642	8.4600e-003		225.8758
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3.3 Grading - 2018

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	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230		6,244.4284	6,244.4284	1.9440		6,293.0278
Total	5.0901	59.5218	35.0894	0.0620	8.6733	2.6337	11.3071	3.5965	2.4230	6.0195		6,244.4284	6,244.4284	1.9440		6,293.0278

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	0.1105	0.0834	1.0802	2.5200e-003	0.2236	1.9900e-003	0.2256	0.0593	1.8400e-003	0.0611		250.7380	250.7380	9.4000e-003		250.9731
Total	0.1105	0.0834	1.0802	2.5200e-003	0.2236	1.9900e-003	0.2256	0.0593	1.8400e-003	0.0611		250.7380	250.7380	9.4000e-003		250.9731

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					3.2135	0.0000	3.2135	1.3325	0.0000	1.3325			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278
Total	5.0901	59.5218	35.0894	0.0620	3.2135	2.6337	5.8472	1.3325	2.4230	3.7555	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278

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	0.1105	0.0834	1.0802	2.5200e-003	0.2236	1.9900e-003	0.2256	0.0593	1.8400e-003	0.0611		250.7380	250.7380	9.4000e-003		250.9731
Total	0.1105	0.0834	1.0802	2.5200e-003	0.2236	1.9900e-003	0.2256	0.0593	1.8400e-003	0.0611		250.7380	250.7380	9.4000e-003		250.9731

3.4 Building Construction - 2018

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	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883

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	0.0184	0.4902	0.1340	1.0600e-003	0.0256	3.4500e-003	0.0291	7.3700e-003	3.3000e-003	0.0107		112.6718	112.6718	7.4200e-003		112.8572
Worker	0.0829	0.0625	0.8101	1.8900e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458		188.0535	188.0535	7.0500e-003		188.2298
Total	0.1013	0.5528	0.9442	2.9500e-003	0.1933	4.9400e-003	0.1982	0.0518	4.6800e-003	0.0565		300.7252	300.7252	0.0145		301.0871

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	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883

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	0.0184	0.4902	0.1340	1.0600e-003	0.0256	3.4500e-003	0.0291	7.3700e-003	3.3000e-003	0.0107		112.6718	112.6718	7.4200e-003		112.8572
Worker	0.0829	0.0625	0.8101	1.8900e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458		188.0535	188.0535	7.0500e-003		188.2298
Total	0.1013	0.5528	0.9442	2.9500e-003	0.1933	4.9400e-003	0.1982	0.0518	4.6800e-003	0.0565		300.7252	300.7252	0.0145		301.0871

3.5 Paving - 2018

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	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797		2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797		2,294.0887	2,294.0887	0.7142		2,311.9432

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	0.0829	0.0625	0.8101	1.8900e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458		188.0535	188.0535	7.0500e-003		188.2298
Total	0.0829	0.0625	0.8101	1.8900e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458		188.0535	188.0535	7.0500e-003		188.2298

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	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797	0.0000	2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797	0.0000	2,294.0887	2,294.0887	0.7142		2,311.9432

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	0.0829	0.0625	0.8101	1.8900e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458		188.0535	188.0535	7.0500e-003		188.2298
Total	0.0829	0.0625	0.8101	1.8900e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458		188.0535	188.0535	7.0500e-003		188.2298

3.6 Architectural Coating - 2018

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	9.9177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	10.2164	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171

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	0.0166	0.0125	0.1620	3.8000e-004	0.0335	3.0000e-004	0.0338	8.8900e-003	2.8000e-004	9.1700e-003		37.6107	37.6107	1.4100e-003		37.6460
Total	0.0166	0.0125	0.1620	3.8000e-004	0.0335	3.0000e-004	0.0338	8.8900e-003	2.8000e-004	9.1700e-003		37.6107	37.6107	1.4100e-003		37.6460

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	9.9177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	10.2164	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171

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	0.0166	0.0125	0.1620	3.8000e-004	0.0335	3.0000e-004	0.0338	8.8900e-003	2.8000e-004	9.1700e-003		37.6107	37.6107	1.4100e-003		37.6460
Total	0.0166	0.0125	0.1620	3.8000e-004	0.0335	3.0000e-004	0.0338	8.8900e-003	2.8000e-004	9.1700e-003		37.6107	37.6107	1.4100e-003		37.6460

4.0 Operational Detail - Mobile

Operations modeled separately

Appendix B2

Construction CalEEMod Output
5% Construction - 2021

RPV - Growth - Construction - 2021 start year - Los Angeles-South Coast County, Winter

RPV - Growth - Construction - 2021 start year
Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	4.00	Dwelling Unit	0.20	4,000.00	11
Single Family Housing	33.00	Dwelling Unit	19.00	59,400.00	85

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	411.63	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - See Assumptions

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Vehicle Trips - Operations Modeled Separately

Construction Off-road Equipment Mitigation - Rule 403 Compliance for fugitive dust

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	300.00	220.00
tblConstructionPhase	PhaseEndDate	3/24/2022	2/25/2021
tblConstructionPhase	PhaseEndDate	12/30/2021	11/4/2021
tblConstructionPhase	PhaseEndDate	2/25/2021	2/11/2021
tblConstructionPhase	PhaseEndDate	1/27/2022	1/28/2021
tblConstructionPhase	PhaseStartDate	1/28/2022	1/1/2021
tblConstructionPhase	PhaseStartDate	2/26/2021	1/1/2021
tblConstructionPhase	PhaseStartDate	1/15/2021	1/1/2021
tblConstructionPhase	PhaseStartDate	12/31/2021	1/1/2021
tblLandUse	LotAcreage	0.11	0.20
tblLandUse	LotAcreage	10.71	19.00
tblLandUse	Population	94.00	85.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	411.63
tblProjectCharacteristics	OperationalYear	2018	2023

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					
2021	21.7238	119.3941	87.8056	0.1614	27.5588	5.7675	33.3263	13.7450	5.3330	19.0780	0.0000	15,602.9596	15,602.9596	4.5133	0.0000	15,715.7923

Maximum	21.7238	119.3941	87.8056	0.1614	27.5588	5.7675	33.3263	13.7450	5.3330	19.0780	0.0000	15,602.9596	15,602.9596	4.5133	0.0000	15,715.7923
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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					
2021	21.7238	119.3941	87.8056	0.1614	10.7262	5.7675	16.4937	5.2297	5.3330	10.5627	0.0000	15,602.9596	15,602.9596	4.5133	0.0000	15,715.7923
Maximum	21.7238	119.3941	87.8056	0.1614	10.7262	5.7675	16.4937	5.2297	5.3330	10.5627	0.0000	15,602.9596	15,602.9596	4.5133	0.0000	15,715.7923

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	61.08	0.00	50.51	61.95	0.00	44.63	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

No Operational Emissions

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/14/2021	5	10	
2	Grading	Grading	1/1/2021	2/11/2021	5	30	
3	Building Construction	Building Construction	1/1/2021	11/4/2021	5	220	
4	Paving	Paving	1/1/2021	1/28/2021	5	20	
5	Architectural Coating	Architectural Coating	1/1/2021	2/25/2021	5	40	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 128,385; Residential Outdoor: 42,795; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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
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	Welders	1	8.00	46	0.45
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
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
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Building Construction	9	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Soil Stabilizer
- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

3.2 Site Preparation - 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					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	3.8882	40.4971	21.1543	0.0380	18.0663	2.0445	20.1107	9.9307	1.8809	11.8116		3,685.6569	3,685.6569	1.1920		3,715.4573

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	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472

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					6.6936	0.0000	6.6936	3.6793	0.0000	3.6793			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	3.8882	40.4971	21.1543	0.0380	6.6936	2.0445	8.7380	3.6793	1.8809	5.5602	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573

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	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472

Total	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
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3.3 Grading - 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					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	4.1912	46.3998	30.8785	0.0620	8.6733	1.9853	10.6587	3.5965	1.8265	5.4230		6,007.0434	6,007.0434	1.9428		6,055.6134

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	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080

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					3.2135	0.0000	3.2135	1.3325	0.0000	1.3325			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	4.1912	46.3998	30.8785	0.0620	3.2135	1.9853	5.1988	1.3325	1.8265	3.1590	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134

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	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080

3.4 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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.363 9	2,553.3639	0.6160		2,568.764 3
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.363 9	2,553.3639	0.6160		2,568.764 3

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	0.0128	0.3876	0.1123	1.0000e- 003	0.0256	8.2000e- 004	0.0264	7.3700e- 003	7.8000e- 004	8.1600e- 003		106.9382	106.9382	6.9000e- 003		107.1108
Worker	0.0715	0.0489	0.5524	1.6100e- 003	0.1677	1.3500e- 003	0.1690	0.0445	1.2500e- 003	0.0457		160.8377	160.8377	4.7300e- 003		160.9560
Total	0.0843	0.4365	0.6647	2.6100e- 003	0.1933	2.1700e- 003	0.1955	0.0518	2.0300e- 003	0.0539		267.7759	267.7759	0.0116		268.0668

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.363 9	2,553.3639	0.6160		2,568.764 3
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.363 9	2,553.3639	0.6160		2,568.764 3

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	0.0128	0.3876	0.1123	1.0000e-003	0.0256	8.2000e-004	0.0264	7.3700e-003	7.8000e-004	8.1600e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	0.0843	0.4365	0.6647	2.6100e-003	0.1933	2.1700e-003	0.1955	0.0518	2.0300e-003	0.0539		267.7759	267.7759	0.0116		268.0668

3.5 Paving - 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	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573

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	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560

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	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573

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	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560

3.6 Architectural Coating - 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					
Archit. Coating	9.9177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	10.1366	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

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	0.0143	9.7800e-003	0.1105	3.2000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		32.1675	32.1675	9.5000e-004		32.1912
Total	0.0143	9.7800e-003	0.1105	3.2000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		32.1675	32.1675	9.5000e-004		32.1912

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	9.9177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	10.1366	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

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	0.0143	9.7800e-003	0.1105	3.2000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		32.1675	32.1675	9.5000e-004		32.1912
Total	0.0143	9.7800e-003	0.1105	3.2000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		32.1675	32.1675	9.5000e-004		32.1912

4.0 Operational Detail - Mobile

No Operational Modeling

RPV - Growth - Construction - 2021 start year - Los Angeles-South Coast County, Summer

RPV - Growth - Construction - 2021 start year
Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	4.00	Dwelling Unit	0.20	4,000.00	11
Single Family Housing	33.00	Dwelling Unit	19.00	59,400.00	85

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	411.63	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - See Assumptions

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Vehicle Trips - Operations Modeled Separately

Construction Off-road Equipment Mitigation - Rule 403 Compliance for fugitive dust

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	300.00	220.00
tblConstructionPhase	PhaseEndDate	3/24/2022	2/25/2021
tblConstructionPhase	PhaseEndDate	12/30/2021	11/4/2021
tblConstructionPhase	PhaseEndDate	2/25/2021	2/11/2021
tblConstructionPhase	PhaseEndDate	1/27/2022	1/28/2021
tblConstructionPhase	PhaseStartDate	1/28/2022	1/1/2021
tblConstructionPhase	PhaseStartDate	2/26/2021	1/1/2021
tblConstructionPhase	PhaseStartDate	1/15/2021	1/1/2021
tblConstructionPhase	PhaseStartDate	12/31/2021	1/1/2021
tblLandUse	LotAcreage	0.11	0.20
tblLandUse	LotAcreage	10.71	19.00
tblLandUse	Population	94.00	85.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	411.63
tblProjectCharacteristics	OperationalYear	2018	2023

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					
2021	21.6890	119.3725	88.0399	0.1619	27.5588	5.7674	33.3263	13.7450	5.3330	19.0780	0.0000	15,653.2020	15,653.2020	4.5143	0.0000	15,766.0595

Maximum	21.6890	119.3725	88.0399	0.1619	27.5588	5.7674	33.3263	13.7450	5.3330	19.0780	0.0000	15,653.20 20	15,653.202 0	4.5143	0.0000	15,766.05 95
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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					
2021	21.6890	119.3725	88.0399	0.1619	10.7262	5.7674	16.4937	5.2297	5.3330	10.5626	0.0000	15,653.20 20	15,653.202 0	4.5143	0.0000	15,766.05 95
Maximum	21.6890	119.3725	88.0399	0.1619	10.7262	5.7674	16.4937	5.2297	5.3330	10.5626	0.0000	15,653.20 20	15,653.202 0	4.5143	0.0000	15,766.05 95

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	61.08	0.00	50.51	61.95	0.00	44.63	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

No Operational Modeling

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/14/2021	5	10	
2	Grading	Grading	1/1/2021	2/11/2021	5	30	
3	Building Construction	Building Construction	1/1/2021	11/4/2021	5	220	
4	Paving	Paving	1/1/2021	1/28/2021	5	20	
5	Architectural Coating	Architectural Coating	1/1/2021	2/25/2021	5	40	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 128,385; Residential Outdoor: 42,795; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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
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	Welders	1	8.00	46	0.45
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
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
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Building Construction	9	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Soil Stabilizer
- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

3.2 Site Preparation - 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					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	3.8882	40.4971	21.1543	0.0380	18.0663	2.0445	20.1107	9.9307	1.8809	11.8116		3,685.6569	3,685.6569	1.1920		3,715.4573

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	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296

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					6.6936	0.0000	6.6936	3.6793	0.0000	3.6793			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	3.8882	40.4971	21.1543	0.0380	6.6936	2.0445	8.7380	3.6793	1.8809	5.5602	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573

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	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296

Total	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
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3.3 Grading - 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					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	4.1912	46.3998	30.8785	0.0620	8.6733	1.9853	10.6587	3.5965	1.8265	5.4230		6,007.0434	6,007.0434	1.9428		6,055.6134

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	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217
Total	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217

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					3.2135	0.0000	3.2135	1.3325	0.0000	1.3325			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	4.1912	46.3998	30.8785	0.0620	3.2135	1.9853	5.1988	1.3325	1.8265	3.1590	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134

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	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217
Total	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217

3.4 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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.363 9	2,553.3639	0.6160		2,568.764 3
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.363 9	2,553.3639	0.6160		2,568.764 3

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	0.0122	0.3884	0.1015	1.0300e- 003	0.0256	7.9000e- 004	0.0264	7.3700e- 003	7.6000e- 004	8.1300e- 003		109.9523	109.9523	6.4800e- 003		110.1142
Worker	0.0643	0.0442	0.6042	1.7100e- 003	0.1677	1.3500e- 003	0.1690	0.0445	1.2500e- 003	0.0457		170.8155	170.8155	5.0300e- 003		170.9413
Total	0.0765	0.4326	0.7057	2.7400e- 003	0.1933	2.1400e- 003	0.1954	0.0518	2.0100e- 003	0.0538		280.7677	280.7677	0.0115		281.0555

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.363 9	2,553.3639	0.6160		2,568.764 3
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.363 9	2,553.3639	0.6160		2,568.764 3

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	0.0122	0.3884	0.1015	1.0300e-003	0.0256	7.9000e-004	0.0264	7.3700e-003	7.6000e-004	8.1300e-003		109.9523	109.9523	6.4800e-003		110.1142
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	0.0765	0.4326	0.7057	2.7400e-003	0.1933	2.1400e-003	0.1954	0.0518	2.0100e-003	0.0538		280.7677	280.7677	0.0115		281.0555

3.5 Paving - 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	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573

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	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413

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	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573

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	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413

3.6 Architectural Coating - 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					
Archit. Coating	9.9177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	10.1366	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

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	0.0129	8.8400e-003	0.1208	3.4000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		34.1631	34.1631	1.0100e-003		34.1883
Total	0.0129	8.8400e-003	0.1208	3.4000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		34.1631	34.1631	1.0100e-003		34.1883

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	9.9177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	10.1366	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

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	0.0129	8.8400e-003	0.1208	3.4000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		34.1631	34.1631	1.0100e-003		34.1883
Total	0.0129	8.8400e-003	0.1208	3.4000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		34.1631	34.1631	1.0100e-003		34.1883

4.0 Operational Detail - Mobile

No Operational Modeling

Appendix B3

Construction CalEEMod Output
5% Construction - 2025

RPV - Growth - Construction - 2025 start year - Los Angeles-South Coast County, Winter

RPV - Growth - Construction - 2025 start year
Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	4.00	Dwelling Unit	0.20	4,000.00	11
Single Family Housing	33.00	Dwelling Unit	19.00	59,400.00	85

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2027
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	411.63	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - See Assumptions

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Vehicle Trips - Operations Modeled Separately

Construction Off-road Equipment Mitigation - Rule 403 Compliance for fugitive dust

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	300.00	220.00
tblConstructionPhase	PhaseEndDate	3/24/2026	2/25/2026
tblConstructionPhase	PhaseEndDate	12/30/2025	11/4/2025
tblConstructionPhase	PhaseEndDate	2/25/2025	2/11/2025
tblConstructionPhase	PhaseEndDate	1/27/2026	1/28/2025
tblConstructionPhase	PhaseStartDate	1/28/2026	1/1/2026
tblConstructionPhase	PhaseStartDate	2/26/2025	1/1/2025
tblConstructionPhase	PhaseStartDate	1/15/2025	1/1/2025
tblConstructionPhase	PhaseStartDate	12/31/2025	1/1/2025
tblLandUse	LotAcreage	0.11	0.20
tblLandUse	LotAcreage	10.71	19.00
tblLandUse	Population	94.00	85.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	411.63
tblProjectCharacteristics	OperationalYear	2018	2027

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					
2025	7.9243	74.6548	76.8261	0.1572	27.5253	3.1697	30.6950	13.7361	2.9270	16.6632	0.0000	15,193.678	15,193.6778	4.4712	0.0000	15,305.4589

2026	10.0996	1.1516	1.8846	3.2400e-003	0.0335	0.0517	0.0853	8.8900e-003	0.0517	0.0606	0.0000	308.3332	308.3332	0.0159	0.0000	308.7318
Maximum	10.0996	74.6548	76.8261	0.1572	27.5253	3.1697	30.6950	13.7361	2.9270	16.6632	0.0000	15,193.6778	15,193.6778	4.4712	0.0000	15,305.4589

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					
2025	7.9243	74.6548	76.8261	0.1572	10.6927	3.1697	13.8624	5.2208	2.9270	8.1478	0.0000	15,193.6778	15,193.6778	4.4712	0.0000	15,305.4588
2026	10.0996	1.1516	1.8846	3.2400e-003	0.0335	0.0517	0.0853	8.8900e-003	0.0517	0.0606	0.0000	308.3332	308.3332	0.0159	0.0000	308.7318
Maximum	10.0996	74.6548	76.8261	0.1572	10.6927	3.1697	13.8624	5.2208	2.9270	8.1478	0.0000	15,193.6778	15,193.6778	4.4712	0.0000	15,305.4588

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	61.08	0.00	54.69	61.95	0.00	50.92	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

No Operational Modeling

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2025	1/14/2025	5	10	
2	Grading	Grading	1/1/2025	2/11/2025	5	30	
3	Building Construction	Building Construction	1/1/2025	11/4/2025	5	220	
4	Paving	Paving	1/1/2025	1/28/2025	5	20	
5	Architectural Coating	Architectural Coating	1/1/2026	2/25/2026	5	40	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 128,385; Residential Outdoor: 42,795; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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
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	Welders	1	8.00	46	0.45
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
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
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Building Construction	9	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Soil Stabilizer
- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

3.2 Site Preparation - 2025

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	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305		3,689.1037	3,689.1037	1.1931		3,718.9320

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	0.0687	0.0400	0.4848	1.6800e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		167.1150	167.1150	3.8600e-003		167.2114
Total	0.0687	0.0400	0.4848	1.6800e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		167.1150	167.1150	3.8600e-003		167.2114

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					6.6936	0.0000	6.6936	3.6793	0.0000	3.6793			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	6.6936	1.0868	7.7803	3.6793	0.9999	4.6792	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320

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	0.0687	0.0400	0.4848	1.6800e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		167.1150	167.1150	3.8600e-003		167.2114

Total	0.0687	0.0400	0.4848	1.6800e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		167.1150	167.1150	3.8600e-003		167.2114
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3.3 Grading - 2025

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	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	2.9012	27.9429	26.3311	0.0621	8.6733	1.1309	9.8042	3.5965	1.0404	4.6369		6,008.2814	6,008.2814	1.9432		6,056.8614

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	0.0763	0.0444	0.5386	1.8600e-003	0.2236	1.6400e-003	0.2252	0.0593	1.5100e-003	0.0608		185.6834	185.6834	4.2800e-003		185.7905
Total	0.0763	0.0444	0.5386	1.8600e-003	0.2236	1.6400e-003	0.2252	0.0593	1.5100e-003	0.0608		185.6834	185.6834	4.2800e-003		185.7905

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					3.2135	0.0000	3.2135	1.3325	0.0000	1.3325			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	2.9012	27.9429	26.3311	0.0621	3.2135	1.1309	4.3444	1.3325	1.0404	2.3729	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614

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	0.0763	0.0444	0.5386	1.8600e-003	0.2236	1.6400e-003	0.2252	0.0593	1.5100e-003	0.0608		185.6834	185.6834	4.2800e-003		185.7905
Total	0.0763	0.0444	0.5386	1.8600e-003	0.2236	1.6400e-003	0.2252	0.0593	1.5100e-003	0.0608		185.6834	185.6834	4.2800e-003		185.7905

3.4 Building Construction - 2025

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981

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	8.4600e-003	0.2756	0.0893	9.5000e-004	0.0256	3.3000e-004	0.0259	7.3700e-003	3.1000e-004	7.6900e-003		101.7497	101.7497	5.6900e-003		101.8919
Worker	0.0572	0.0333	0.4040	1.4000e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456		139.2625	139.2625	3.2100e-003		139.3429
Total	0.0657	0.3089	0.4932	2.3500e-003	0.1933	1.5600e-003	0.1948	0.0518	1.4400e-003	0.0533		241.0122	241.0122	8.9000e-003		241.2348

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981

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	8.4600e-003	0.2756	0.0893	9.5000e-004	0.0256	3.3000e-004	0.0259	7.3700e-003	3.1000e-004	7.6900e-003		101.7497	101.7497	5.6900e-003		101.8919
Worker	0.0572	0.0333	0.4040	1.4000e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456		139.2625	139.2625	3.2100e-003		139.3429
Total	0.0657	0.3089	0.4932	2.3500e-003	0.1933	1.5600e-003	0.1948	0.0518	1.4400e-003	0.0533		241.0122	241.0122	8.9000e-003		241.2348

3.5 Paving - 2025

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878

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	0.0572	0.0333	0.4040	1.4000e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456		139.2625	139.2625	3.2100e-003		139.3429
Total	0.0572	0.0333	0.4040	1.4000e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456		139.2625	139.2625	3.2100e-003		139.3429

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878

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	0.0572	0.0333	0.4040	1.4000e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456		139.2625	139.2625	3.2100e-003		139.3429
Total	0.0572	0.0333	0.4040	1.4000e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456		139.2625	139.2625	3.2100e-003		139.3429

3.6 Architectural Coating - 2026

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	9.9177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	10.0886	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

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	0.0110	6.1400e-003	0.0755	2.7000e-004	0.0335	2.4000e-004	0.0338	8.8900e-003	2.2000e-004	9.1100e-003		26.8852	26.8852	5.9000e-004		26.8999
Total	0.0110	6.1400e-003	0.0755	2.7000e-004	0.0335	2.4000e-004	0.0338	8.8900e-003	2.2000e-004	9.1100e-003		26.8852	26.8852	5.9000e-004		26.8999

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	9.9177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	10.0886	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319

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	0.0110	6.1400e-003	0.0755	2.7000e-004	0.0335	2.4000e-004	0.0338	8.8900e-003	2.2000e-004	9.1100e-003		26.8852	26.8852	5.9000e-004		26.8999
Total	0.0110	6.1400e-003	0.0755	2.7000e-004	0.0335	2.4000e-004	0.0338	8.8900e-003	2.2000e-004	9.1100e-003		26.8852	26.8852	5.9000e-004		26.8999

4.0 Operational Detail - Mobile

No Operational Modeling

RPV - Growth - Construction - 2025 start year - Los Angeles-South Coast County, Summer

RPV - Growth - Construction - 2025 start year
Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	4.00	Dwelling Unit	0.20	4,000.00	11
Single Family Housing	33.00	Dwelling Unit	19.00	59,400.00	85

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2027
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	411.63	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - See Assumptions

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Vehicle Trips - Operations Modeled Separately

Construction Off-road Equipment Mitigation - Rule 403 Compliance for fugitive dust

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	300.00	220.00
tblConstructionPhase	PhaseEndDate	3/24/2026	2/25/2026
tblConstructionPhase	PhaseEndDate	12/30/2025	11/4/2025
tblConstructionPhase	PhaseEndDate	2/25/2025	2/11/2025
tblConstructionPhase	PhaseEndDate	1/27/2026	1/28/2025
tblConstructionPhase	PhaseStartDate	1/28/2026	1/1/2026
tblConstructionPhase	PhaseStartDate	2/26/2025	1/1/2025
tblConstructionPhase	PhaseStartDate	1/15/2025	1/1/2025
tblConstructionPhase	PhaseStartDate	12/31/2025	1/1/2025
tblLandUse	LotAcreage	0.11	0.20
tblLandUse	LotAcreage	10.71	19.00
tblLandUse	Population	94.00	85.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	411.63
tblProjectCharacteristics	OperationalYear	2018	2027

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					
2025	7.8949	74.6415	77.0023	0.1576	27.5253	3.1697	30.6950	13.7361	2.9270	16.6631	0.0000	15,235.5957	15,235.5957	4.4719	0.0000	15,347.3940

2026	10.0983	1.1511	1.8923	3.2600e-003	0.0335	0.0517	0.0853	8.8900e-003	0.0517	0.0606	0.0000	309.9984	309.9984	0.0160	0.0000	310.3980
Maximum	10.0983	74.6415	77.0023	0.1576	27.5253	3.1697	30.6950	13.7361	2.9270	16.6631	0.0000	15,235.5957	15,235.5957	4.4719	0.0000	15,347.3940

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					
2025	7.8949	74.6415	77.0023	0.1576	10.6927	3.1697	13.8624	5.2208	2.9270	8.1478	0.0000	15,235.5957	15,235.5957	4.4719	0.0000	15,347.3940
2026	10.0983	1.1511	1.8923	3.2600e-003	0.0335	0.0517	0.0853	8.8900e-003	0.0517	0.0606	0.0000	309.9984	309.9984	0.0160	0.0000	310.3980
Maximum	10.0983	74.6415	77.0023	0.1576	10.6927	3.1697	13.8624	5.2208	2.9270	8.1478	0.0000	15,235.5957	15,235.5957	4.4719	0.0000	15,347.3940

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	61.08	0.00	54.69	61.95	0.00	50.92	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

No Operational Modeling

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2025	1/14/2025	5	10	
2	Grading	Grading	1/1/2025	2/11/2025	5	30	
3	Building Construction	Building Construction	1/1/2025	11/4/2025	5	220	
4	Paving	Paving	1/1/2025	1/28/2025	5	20	
5	Architectural Coating	Architectural Coating	1/1/2026	2/25/2026	5	40	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 128,385; Residential Outdoor: 42,795; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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
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	Welders	1	8.00	46	0.45
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
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
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Building Construction	9	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Soil Stabilizer
- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

3.2 Site Preparation - 2025

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	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305		3,689.1037	3,689.1037	1.1931		3,718.9320

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	0.0610	0.0362	0.5333	1.7800e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		177.4683	177.4683	4.1200e-003		177.5713
Total	0.0610	0.0362	0.5333	1.7800e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		177.4683	177.4683	4.1200e-003		177.5713

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					6.6936	0.0000	6.6936	3.6793	0.0000	3.6793			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	6.6936	1.0868	7.7803	3.6793	0.9999	4.6792	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320

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	0.0610	0.0362	0.5333	1.7800e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		177.4683	177.4683	4.1200e-003		177.5713

Total	0.0610	0.0362	0.5333	1.7800e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		177.4683	177.4683	4.1200e-003		177.5713
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3.3 Grading - 2025

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	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	2.9012	27.9429	26.3311	0.0621	8.6733	1.1309	9.8042	3.5965	1.0404	4.6369		6,008.2814	6,008.2814	1.9432		6,056.8614

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	0.0677	0.0402	0.5926	1.9800e-003	0.2236	1.6400e-003	0.2252	0.0593	1.5100e-003	0.0608		197.1870	197.1870	4.5800e-003		197.3014
Total	0.0677	0.0402	0.5926	1.9800e-003	0.2236	1.6400e-003	0.2252	0.0593	1.5100e-003	0.0608		197.1870	197.1870	4.5800e-003		197.3014

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					3.2135	0.0000	3.2135	1.3325	0.0000	1.3325			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	2.9012	27.9429	26.3311	0.0621	3.2135	1.1309	4.3444	1.3325	1.0404	2.3729	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614

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	0.0677	0.0402	0.5926	1.9800e-003	0.2236	1.6400e-003	0.2252	0.0593	1.5100e-003	0.0608		197.1870	197.1870	4.5800e-003		197.3014
Total	0.0677	0.0402	0.5926	1.9800e-003	0.2236	1.6400e-003	0.2252	0.0593	1.5100e-003	0.0608		197.1870	197.1870	4.5800e-003		197.3014

3.4 Building Construction - 2025

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.4744	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.4744	0.6010		2,571.498 1

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	8.0500e-003	0.2768	0.0820	9.7000e-004	0.0256	3.1000e-004	0.0259	7.3700e-003	3.0000e-004	7.6700e-003		104.5553	104.5553	5.3900e-003		104.6900
Worker	0.0508	0.0301	0.4445	1.4800e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456		147.8903	147.8903	3.4300e-003		147.9761
Total	0.0589	0.3069	0.5264	2.4500e-003	0.1933	1.5400e-003	0.1948	0.0518	1.4300e-003	0.0533		252.4455	252.4455	8.8200e-003		252.6660

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.4744	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.4744	0.6010		2,571.498 1

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	8.0500e-003	0.2768	0.0820	9.7000e-004	0.0256	3.1000e-004	0.0259	7.3700e-003	3.0000e-004	7.6700e-003		104.5553	104.5553	5.3900e-003		104.6900
Worker	0.0508	0.0301	0.4445	1.4800e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456		147.8903	147.8903	3.4300e-003		147.9761
Total	0.0589	0.3069	0.5264	2.4500e-003	0.1933	1.5400e-003	0.1948	0.0518	1.4300e-003	0.0533		252.4455	252.4455	8.8200e-003		252.6660

3.5 Paving - 2025

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878

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	0.0508	0.0301	0.4445	1.4800e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456		147.8903	147.8903	3.4300e-003		147.9761
Total	0.0508	0.0301	0.4445	1.4800e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456		147.8903	147.8903	3.4300e-003		147.9761

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878

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	0.0508	0.0301	0.4445	1.4800e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456		147.8903	147.8903	3.4300e-003		147.9761
Total	0.0508	0.0301	0.4445	1.4800e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456		147.8903	147.8903	3.4300e-003		147.9761

3.6 Architectural Coating - 2026

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	9.9177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	10.0886	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

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	9.7000e-003	5.5500e-003	0.0831	2.9000e-004	0.0335	2.4000e-004	0.0338	8.8900e-003	2.2000e-004	9.1100e-003		28.5504	28.5504	6.3000e-004		28.5661
Total	9.7000e-003	5.5500e-003	0.0831	2.9000e-004	0.0335	2.4000e-004	0.0338	8.8900e-003	2.2000e-004	9.1100e-003		28.5504	28.5504	6.3000e-004		28.5661

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	9.9177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	10.0886	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319

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	9.7000e-003	5.5500e-003	0.0831	2.9000e-004	0.0335	2.4000e-004	0.0338	8.8900e-003	2.2000e-004	9.1100e-003		28.5504	28.5504	6.3000e-004		28.5661
Total	9.7000e-003	5.5500e-003	0.0831	2.9000e-004	0.0335	2.4000e-004	0.0338	8.8900e-003	2.2000e-004	9.1100e-003		28.5504	28.5504	6.3000e-004		28.5661

4.0 Operational Detail - Mobile

No Operational Modeling

Appendix B4

Construction CalEEMod Output
1 Acre Single Family Residential

RPV - 1 Acre Single Family Residential - Los Angeles-South Coast County, Winter

RPV - 1 Acre Single Family Residential
Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	6.00	Dwelling Unit	1.00	10,800.00	15

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	531.74	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics - See Assumptions
- Land Use - See Assumptions
- Construction Phase -
- Off-road Equipment -
- Woodstoves - See Assumptions
- Energy Use - See Assumptions
- Water And Wastewater - See Assumptions
- Solid Waste - See Assumptions
- Construction Off-road Equipment Mitigation - Rule 403 Compliance

Table Name	Column Name	Default Value	New Value
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tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblEnergyUse	LightingElect	1,608.84	1,528.40
tblEnergyUse	T24E	287.34	206.88
tblEnergyUse	T24NG	25,682.16	18,491.16
tblFireplaces	NumberGas	5.10	5.36
tblFireplaces	NumberNoFireplace	0.60	1.11
tblFireplaces	NumberWood	0.30	0.00
tblLandUse	LotAcreage	1.95	1.00
tblLandUse	Population	17.00	15.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.74
tblProjectCharacteristics	OperationalYear	2018	2020
tblSolidWaste	SolidWasteGenerationRate	6.15	2.19
tblWater	AerobicPercent	87.46	97.54
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	2.46
tblWater	IndoorWaterUseRate	390,924.15	254,100.70
tblWater	OutdoorWaterUseRate	246,452.18	184,839.14
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	0.30	0.00
tblWoodstoves	NumberNoncatalytic	0.30	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

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

Year	lb/day										lb/day					
2018	20.9221	67.9660	41.1456	0.0738	11.0667	3.5692	14.6360	5.5730	3.3448	8.9179	0.0000	7,208.7404	7,208.7404	1.8453	0.0000	7,254.8735
Maximum	20.9221	67.9660	41.1456	0.0738	11.0667	3.5692	14.6360	5.5730	3.3448	8.9179	0.0000	7,208.7404	7,208.7404	1.8453	0.0000	7,254.8735

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					
2018	20.9221	67.9660	41.1456	0.0738	4.3224	3.5692	7.8916	2.1238	3.3448	5.4687	0.0000	7,208.7404	7,208.7404	1.8453	0.0000	7,254.8735
Maximum	20.9221	67.9660	41.1456	0.0738	4.3224	3.5692	7.8916	2.1238	3.3448	5.4687	0.0000	7,208.7404	7,208.7404	1.8453	0.0000	7,254.8735

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	60.94	0.00	46.08	61.89	0.00	38.68	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

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

Area	0.2579	0.0947	0.5345	5.9000e-004		9.9200e-003	9.9200e-003		9.9200e-003	9.9200e-003	0.0000	114.3972	114.3972	3.0400e-003	2.0800e-003	115.0934
Energy	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003		46.4280	46.4280	8.9000e-004	8.5000e-004	46.7039
Mobile	0.1217	0.6045	1.6346	5.3200e-003	0.4321	5.6100e-003	0.4377	0.1156	5.2600e-003	0.1209		541.1829	541.1829	0.0307		541.9496
Total	0.3838	0.7355	2.1846	6.1400e-003	0.4321	0.0185	0.4505	0.1156	0.0181	0.1338	0.0000	702.0082	702.0082	0.0346	2.9300e-003	703.7469

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2579	0.0947	0.5345	5.9000e-004		9.9200e-003	9.9200e-003		9.9200e-003	9.9200e-003	0.0000	114.3972	114.3972	3.0400e-003	2.0800e-003	115.0934
Energy	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003		46.4280	46.4280	8.9000e-004	8.5000e-004	46.7039
Mobile	0.1217	0.6045	1.6346	5.3200e-003	0.4321	5.6100e-003	0.4377	0.1156	5.2600e-003	0.1209		541.1829	541.1829	0.0307		541.9496
Total	0.3838	0.7355	2.1846	6.1400e-003	0.4321	0.0185	0.4505	0.1156	0.0181	0.1338	0.0000	702.0082	702.0082	0.0346	2.9300e-003	703.7469

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	Site Preparation	Site Preparation	1/1/2018	1/1/2018	5	1	
2	Grading	Grading	1/1/2018	1/2/2018	5	2	
3	Building Construction	Building Construction	1/1/2018	5/18/2018	5	100	

4	Paving	Paving	1/1/2018	1/5/2018	5	5
5	Architectural Coating	Architectural Coating	1/1/2018	1/5/2018	5	5

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.75

Acres of Paving: 0

Residential Indoor: 21,870; Residential Outdoor: 7,290; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Architectural Coating	1	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	2.00	1.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Soil Stabilizer
- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

3.2 Site Preparation - 2018

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					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.8061	20.7472	8.0808	0.0172		0.9523	0.9523		0.8761	0.8761		1,735.3630	1,735.3630	0.5402		1,748.8690
Total	1.8061	20.7472	8.0808	0.0172	5.7996	0.9523	6.7518	2.9537	0.8761	3.8298		1,735.3630	1,735.3630	0.5402		1,748.8690

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	0.0489	0.0369	0.3978	9.5000e-004	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		94.4461	94.4461	3.5500e-003		94.5349
Total	0.0489	0.0369	0.3978	9.5000e-004	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		94.4461	94.4461	3.5500e-003		94.5349

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1487	0.0000	2.1487	1.0944	0.0000	1.0944			0.0000			0.0000
Off-Road	1.8061	20.7472	8.0808	0.0172		0.9523	0.9523		0.8761	0.8761	0.0000	1,735.3630	1,735.3630	0.5402		1,748.8690
Total	1.8061	20.7472	8.0808	0.0172	2.1487	0.9523	3.1010	1.0944	0.8761	1.9704	0.0000	1,735.3630	1,735.3630	0.5402		1,748.8690

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	0.0489	0.0369	0.3978	9.5000e-004	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		94.4461	94.4461	3.5500e-003		94.5349
Total	0.0489	0.0369	0.3978	9.5000e-004	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		94.4461	94.4461	3.5500e-003		94.5349

3.3 Grading - 2018

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					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.4972	17.0666	6.7630	0.0141		0.7947	0.7947		0.7311	0.7311		1,421.2605	1,421.2605	0.4425		1,432.3219
Total	1.4972	17.0666	6.7630	0.0141	4.9143	0.7947	5.7090	2.5256	0.7311	3.2568		1,421.2605	1,421.2605	0.4425		1,432.3219

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	0.0489	0.0369	0.3978	9.5000e-004	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		94.4461	94.4461	3.5500e-003		94.5349

Total	0.0489	0.0369	0.3978	9.5000e-004	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		94.4461	94.4461	3.5500e-003		94.5349
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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					1.8207	0.0000	1.8207	0.9357	0.0000	0.9357			0.0000			0.0000
Off-Road	1.4972	17.0666	6.7630	0.0141		0.7947	0.7947		0.7311	0.7311	0.0000	1,421.2605	1,421.2605	0.4425		1,432.3219
Total	1.4972	17.0666	6.7630	0.0141	1.8207	0.7947	2.6155	0.9357	0.7311	1.6669	0.0000	1,421.2605	1,421.2605	0.4425		1,432.3219

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	0.0489	0.0369	0.3978	9.5000e-004	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		94.4461	94.4461	3.5500e-003		94.5349
Total	0.0489	0.0369	0.3978	9.5000e-004	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		94.4461	94.4461	3.5500e-003		94.5349

3.4 Building Construction - 2018

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	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216		2,030.8389	2,030.8389	0.4088		2,041.0596
Total	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216		2,030.8389	2,030.8389	0.4088		2,041.0596

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	4.7900e-003	0.1228	0.0368	2.6000e-004	6.4000e-003	8.8000e-004	7.2800e-003	1.8400e-003	8.4000e-004	2.6800e-003		27.4150	27.4150	1.9800e-003		27.4644
Worker	0.0122	9.2300e-003	0.0995	2.4000e-004	0.0224	2.0000e-004	0.0226	5.9300e-003	1.8000e-004	6.1100e-003		23.6115	23.6115	8.9000e-004		23.6337
Total	0.0170	0.1321	0.1363	5.0000e-004	0.0288	1.0800e-003	0.0298	7.7700e-003	1.0200e-003	8.7900e-003		51.0265	51.0265	2.8700e-003		51.0982

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	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216	0.0000	2,030.8389	2,030.8389	0.4088		2,041.0596
Total	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216	0.0000	2,030.8389	2,030.8389	0.4088		2,041.0596

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	4.7900e-003	0.1228	0.0368	2.6000e-004	6.4000e-003	8.8000e-004	7.2800e-003	1.8400e-003	8.4000e-004	2.6800e-003		27.4150	27.4150	1.9800e-003		27.4644
Worker	0.0122	9.2300e-003	0.0995	2.4000e-004	0.0224	2.0000e-004	0.0226	5.9300e-003	1.8000e-004	6.1100e-003		23.6115	23.6115	8.9000e-004		23.6337
Total	0.0170	0.1321	0.1363	5.0000e-004	0.0288	1.0800e-003	0.0298	7.7700e-003	1.0200e-003	8.7900e-003		51.0265	51.0265	2.8700e-003		51.0982

3.5 Paving - 2018

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	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618		1,346.4360	1,346.4360	0.4113		1,356.7186
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618		1,346.4360	1,346.4360	0.4113		1,356.7186

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	0.0795	0.0600	0.6465	1.5400e-003	0.1453	1.3000e-003	0.1466	0.0385	1.1900e-003	0.0397		153.4749	153.4749	5.7800e-003		153.6193
Total	0.0795	0.0600	0.6465	1.5400e-003	0.1453	1.3000e-003	0.1466	0.0385	1.1900e-003	0.0397		153.4749	153.4749	5.7800e-003		153.6193

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	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618	0.0000	1,346.4360	1,346.4360	0.4113		1,356.7186
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618	0.0000	1,346.4360	1,346.4360	0.4113		1,356.7186

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	0.0795	0.0600	0.6465	1.5400e-003	0.1453	1.3000e-003	0.1466	0.0385	1.1900e-003	0.0397		153.4749	153.4749	5.7800e-003		153.6193
Total	0.0795	0.0600	0.6465	1.5400e-003	0.1453	1.3000e-003	0.1466	0.0385	1.1900e-003	0.0397		153.4749	153.4749	5.7800e-003		153.6193

3.6 Architectural Coating - 2018

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	13.5157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	13.8143	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171

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	0.0000	0.0000	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 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	13.5157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	13.8143	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171

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	0.0000	0.0000	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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1217	0.6045	1.6346	5.3200e-003	0.4321	5.6100e-003	0.4377	0.1156	5.2600e-003	0.1209		541.1829	541.1829	0.0307		541.9496
Unmitigated	0.1217	0.6045	1.6346	5.3200e-003	0.4321	5.6100e-003	0.4377	0.1156	5.2600e-003	0.1209		541.1829	541.1829	0.0307		541.9496

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	57.12	59.46	51.72	193,694	193,694
Total	57.12	59.46	51.72	193,694	193,694

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.547726	0.045437	0.201480	0.122768	0.016614	0.006090	0.019326	0.029174	0.002438	0.002359	0.005005	0.000677	0.000907

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003		46.4280	46.4280	8.9000e-004	8.5000e-004	46.7039
NaturalGas Unmitigated	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003		46.4280	46.4280	8.9000e-004	8.5000e-004	46.7039

5.2 Energy by Land Use - NaturalGas
Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	394.638	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003		46.4280	46.4280	8.9000e-004	8.5000e-004	46.7039
Total		4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003		46.4280	46.4280	8.9000e-004	8.5000e-004	46.7039

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	0.394638	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003		46.4280	46.4280	8.9000e-004	8.5000e-004	46.7039
Total		4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003		46.4280	46.4280	8.9000e-004	8.5000e-004	46.7039

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2579	0.0947	0.5345	5.9000e-004		9.9200e-003	9.9200e-003		9.9200e-003	9.9200e-003	0.0000	114.3972	114.3972	3.0400e-003	2.0800e-003	115.0934
Unmitigated	0.2579	0.0947	0.5345	5.9000e-004		9.9200e-003	9.9200e-003		9.9200e-003	9.9200e-003	0.0000	114.3972	114.3972	3.0400e-003	2.0800e-003	115.0934

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0185					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2138					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0104	0.0889	0.0378	5.7000e-004		7.1900e-003	7.1900e-003		7.1900e-003	7.1900e-003	0.0000	113.5059	113.5059	2.1800e-003	2.0800e-003	114.1804
Landscaping	0.0151	5.7400e-003	0.4967	3.0000e-005		2.7300e-003	2.7300e-003		2.7300e-003	2.7300e-003		0.8913	0.8913	8.7000e-004		0.9130
Total	0.2579	0.0947	0.5345	6.0000e-004		9.9200e-003	9.9200e-003		9.9200e-003	9.9200e-003	0.0000	114.3972	114.3972	3.0500e-003	2.0800e-003	115.0934

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0185					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2138					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0104	0.0889	0.0378	5.7000e-004		7.1900e-003	7.1900e-003		7.1900e-003	7.1900e-003	0.0000	113.5059	113.5059	2.1800e-003	2.0800e-003	114.1804
Landscaping	0.0151	5.7400e-003	0.4967	3.0000e-005		2.7300e-003	2.7300e-003		2.7300e-003	2.7300e-003		0.8913	0.8913	8.7000e-004		0.9130
Total	0.2579	0.0947	0.5345	6.0000e-004		9.9200e-003	9.9200e-003		9.9200e-003	9.9200e-003	0.0000	114.3972	114.3972	3.0500e-003	2.0800e-003	115.0934

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

RPV - 1 Acre Single Family Residential - Los Angeles-South Coast County, Summer

RPV - 1 Acre Single Family Residential
Los Angeles-South Coast County, Summer**1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	6.00	Dwelling Unit	1.00	10,800.00	15

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	531.74	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase -

Off-road Equipment -

Woodstoves - See Assumptions

Energy Use - See Assumptions

Water And Wastewater - See Assumptions

Solid Waste - See Assumptions

Construction Off-road Equipment Mitigation - Rule 403 Compliance

Table Name	Column Name	Default Value	New Value
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tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblEnergyUse	LightingElect	1,608.84	1,528.40
tblEnergyUse	T24E	287.34	206.88
tblEnergyUse	T24NG	25,682.16	18,491.16
tblFireplaces	NumberGas	5.10	5.36
tblFireplaces	NumberNoFireplace	0.60	1.11
tblFireplaces	NumberWood	0.30	0.00
tblLandUse	LotAcreage	1.95	1.00
tblLandUse	Population	17.00	15.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.74
tblProjectCharacteristics	OperationalYear	2018	2020
tblSolidWaste	SolidWasteGenerationRate	6.15	2.19
tblWater	AerobicPercent	87.46	97.54
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	2.46
tblWater	IndoorWaterUseRate	390,924.15	254,100.70
tblWater	OutdoorWaterUseRate	246,452.18	184,839.14
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	0.30	0.00
tblWoodstoves	NumberNoncatalytic	0.30	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
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Year	lb/day										lb/day					
2018	20.9036	67.9519	41.2750	0.0741	11.0667	3.5692	14.6359	5.5730	3.3448	8.9179	0.0000	7,232.1587	7,232.1587	1.8460	0.0000	7,278.3088
Maximum	20.9036	67.9519	41.2750	0.0741	11.0667	3.5692	14.6359	5.5730	3.3448	8.9179	0.0000	7,232.1587	7,232.1587	1.8460	0.0000	7,278.3088

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					
2018	20.9036	67.9519	41.2750	0.0741	4.3224	3.5692	7.8916	2.1238	3.3448	5.4687	0.0000	7,232.1586	7,232.1586	1.8460	0.0000	7,278.3088
Maximum	20.9036	67.9519	41.2750	0.0741	4.3224	3.5692	7.8916	2.1238	3.3448	5.4687	0.0000	7,232.1586	7,232.1586	1.8460	0.0000	7,278.3088

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	60.94	0.00	46.08	61.89	0.00	38.68	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational
Unmitigated Operational

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

Area	0.2579	0.0947	0.5345	5.9000e-004		9.9200e-003	9.9200e-003		9.9200e-003	9.9200e-003	0.0000	114.3972	114.3972	3.0400e-003	2.0800e-003	115.0934
Energy	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003		46.4280	46.4280	8.9000e-004	8.5000e-004	46.7039
Mobile	0.1250	0.5878	1.7202	5.6000e-003	0.4321	5.5800e-003	0.4377	0.1156	5.2300e-003	0.1209		568.8563	568.8563	0.0308		569.6272
Total	0.3872	0.7189	2.2702	6.4200e-003	0.4321	0.0184	0.4505	0.1156	0.0181	0.1337	0.0000	729.6815	729.6815	0.0348	2.9300e-003	731.4245

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2579	0.0947	0.5345	5.9000e-004		9.9200e-003	9.9200e-003		9.9200e-003	9.9200e-003	0.0000	114.3972	114.3972	3.0400e-003	2.0800e-003	115.0934
Energy	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003		46.4280	46.4280	8.9000e-004	8.5000e-004	46.7039
Mobile	0.1250	0.5878	1.7202	5.6000e-003	0.4321	5.5800e-003	0.4377	0.1156	5.2300e-003	0.1209		568.8563	568.8563	0.0308		569.6272
Total	0.3872	0.7189	2.2702	6.4200e-003	0.4321	0.0184	0.4505	0.1156	0.0181	0.1337	0.0000	729.6815	729.6815	0.0348	2.9300e-003	731.4245

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	Site Preparation	Site Preparation	1/1/2018	1/1/2018	5	1	
2	Grading	Grading	1/1/2018	1/2/2018	5	2	
3	Building Construction	Building Construction	1/1/2018	5/18/2018	5	100	

4	Paving	Paving	1/1/2018	1/5/2018	5	5
5	Architectural Coating	Architectural Coating	1/1/2018	1/5/2018	5	5

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.75

Acres of Paving: 0

Residential Indoor: 21,870; Residential Outdoor: 7,290; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Architectural Coating	1	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	2.00	1.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Soil Stabilizer
- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

3.2 Site Preparation - 2018

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					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.8061	20.7472	8.0808	0.0172		0.9523	0.9523		0.8761	0.8761		1,735.3630	1,735.3630	0.5402		1,748.8690
Total	1.8061	20.7472	8.0808	0.0172	5.7996	0.9523	6.7518	2.9537	0.8761	3.8298		1,735.3630	1,735.3630	0.5402		1,748.8690

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	0.0442	0.0334	0.4321	1.0100e-003	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		100.2952	100.2952	3.7600e-003		100.3892
Total	0.0442	0.0334	0.4321	1.0100e-003	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		100.2952	100.2952	3.7600e-003		100.3892

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1487	0.0000	2.1487	1.0944	0.0000	1.0944			0.0000			0.0000
Off-Road	1.8061	20.7472	8.0808	0.0172		0.9523	0.9523		0.8761	0.8761	0.0000	1,735.3630	1,735.3630	0.5402		1,748.8690
Total	1.8061	20.7472	8.0808	0.0172	2.1487	0.9523	3.1010	1.0944	0.8761	1.9704	0.0000	1,735.3630	1,735.3630	0.5402		1,748.8690

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	0.0442	0.0334	0.4321	1.0100e-003	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		100.2952	100.2952	3.7600e-003		100.3892
Total	0.0442	0.0334	0.4321	1.0100e-003	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		100.2952	100.2952	3.7600e-003		100.3892

3.3 Grading - 2018

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					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.4972	17.0666	6.7630	0.0141		0.7947	0.7947		0.7311	0.7311		1,421.2605	1,421.2605	0.4425		1,432.3219
Total	1.4972	17.0666	6.7630	0.0141	4.9143	0.7947	5.7090	2.5256	0.7311	3.2568		1,421.2605	1,421.2605	0.4425		1,432.3219

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	0.0442	0.0334	0.4321	1.0100e-003	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		100.2952	100.2952	3.7600e-003		100.3892

Total	0.0442	0.0334	0.4321	1.0100e-003	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		100.2952	100.2952	3.7600e-003		100.3892
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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					1.8207	0.0000	1.8207	0.9357	0.0000	0.9357			0.0000			0.0000
Off-Road	1.4972	17.0666	6.7630	0.0141		0.7947	0.7947		0.7311	0.7311	0.0000	1,421.2605	1,421.2605	0.4425		1,432.3219
Total	1.4972	17.0666	6.7630	0.0141	1.8207	0.7947	2.6155	0.9357	0.7311	1.6669	0.0000	1,421.2605	1,421.2605	0.4425		1,432.3219

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	0.0442	0.0334	0.4321	1.0100e-003	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		100.2952	100.2952	3.7600e-003		100.3892
Total	0.0442	0.0334	0.4321	1.0100e-003	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		100.2952	100.2952	3.7600e-003		100.3892

3.4 Building Construction - 2018

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	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216		2,030.8389	2,030.8389	0.4088		2,041.0596
Total	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216		2,030.8389	2,030.8389	0.4088		2,041.0596

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	4.6000e-003	0.1226	0.0335	2.6000e-004	6.4000e-003	8.6000e-004	7.2700e-003	1.8400e-003	8.3000e-004	2.6700e-003		28.1679	28.1679	1.8500e-003		28.2143
Worker	0.0111	8.3400e-003	0.1080	2.5000e-004	0.0224	2.0000e-004	0.0226	5.9300e-003	1.8000e-004	6.1100e-003		25.0738	25.0738	9.4000e-004		25.0973
Total	0.0157	0.1309	0.1415	5.1000e-004	0.0288	1.0600e-003	0.0298	7.7700e-003	1.0100e-003	8.7800e-003		53.2417	53.2417	2.7900e-003		53.3116

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	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216	0.0000	2,030.8389	2,030.8389	0.4088		2,041.0596
Total	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216	0.0000	2,030.8389	2,030.8389	0.4088		2,041.0596

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	4.6000e-003	0.1226	0.0335	2.6000e-004	6.4000e-003	8.6000e-004	7.2700e-003	1.8400e-003	8.3000e-004	2.6700e-003		28.1679	28.1679	1.8500e-003		28.2143
Worker	0.0111	8.3400e-003	0.1080	2.5000e-004	0.0224	2.0000e-004	0.0226	5.9300e-003	1.8000e-004	6.1100e-003		25.0738	25.0738	9.4000e-004		25.0973
Total	0.0157	0.1309	0.1415	5.1000e-004	0.0288	1.0600e-003	0.0298	7.7700e-003	1.0100e-003	8.7800e-003		53.2417	53.2417	2.7900e-003		53.3116

3.5 Paving - 2018

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	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618		1,346.4360	1,346.4360	0.4113		1,356.7186
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618		1,346.4360	1,346.4360	0.4113		1,356.7186

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	0.0718	0.0542	0.7021	1.6400e-003	0.1453	1.3000e-003	0.1466	0.0385	1.1900e-003	0.0397		162.9797	162.9797	6.1100e-003		163.1325
Total	0.0718	0.0542	0.7021	1.6400e-003	0.1453	1.3000e-003	0.1466	0.0385	1.1900e-003	0.0397		162.9797	162.9797	6.1100e-003		163.1325

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	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618	0.0000	1,346.4360	1,346.4360	0.4113		1,356.7186
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618	0.0000	1,346.4360	1,346.4360	0.4113		1,356.7186

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	0.0718	0.0542	0.7021	1.6400e-003	0.1453	1.3000e-003	0.1466	0.0385	1.1900e-003	0.0397		162.9797	162.9797	6.1100e-003		163.1325
Total	0.0718	0.0542	0.7021	1.6400e-003	0.1453	1.3000e-003	0.1466	0.0385	1.1900e-003	0.0397		162.9797	162.9797	6.1100e-003		163.1325

3.6 Architectural Coating - 2018

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	13.5157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	13.8143	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171

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	0.0000	0.0000	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 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	13.5157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	13.8143	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171

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	0.0000	0.0000	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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1250	0.5878	1.7202	5.6000e-003	0.4321	5.5800e-003	0.4377	0.1156	5.2300e-003	0.1209		568.8563	568.8563	0.0308		569.6272
Unmitigated	0.1250	0.5878	1.7202	5.6000e-003	0.4321	5.5800e-003	0.4377	0.1156	5.2300e-003	0.1209		568.8563	568.8563	0.0308		569.6272

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	57.12	59.46	51.72	193,694	193,694
Total	57.12	59.46	51.72	193,694	193,694

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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.547726	0.045437	0.201480	0.122768	0.016614	0.006090	0.019326	0.029174	0.002438	0.002359	0.005005	0.000677	0.000907

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003		46.4280	46.4280	8.9000e-004	8.5000e-004	46.7039
NaturalGas Unmitigated	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003		46.4280	46.4280	8.9000e-004	8.5000e-004	46.7039

5.2 Energy by Land Use - NaturalGas
Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	394.638	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003		46.4280	46.4280	8.9000e-004	8.5000e-004	46.7039
Total		4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003		46.4280	46.4280	8.9000e-004	8.5000e-004	46.7039

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	0.394638	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003		46.4280	46.4280	8.9000e-004	8.5000e-004	46.7039
Total		4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003		46.4280	46.4280	8.9000e-004	8.5000e-004	46.7039

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2579	0.0947	0.5345	5.9000e-004		9.9200e-003	9.9200e-003		9.9200e-003	9.9200e-003	0.0000	114.3972	114.3972	3.0400e-003	2.0800e-003	115.0934
Unmitigated	0.2579	0.0947	0.5345	5.9000e-004		9.9200e-003	9.9200e-003		9.9200e-003	9.9200e-003	0.0000	114.3972	114.3972	3.0400e-003	2.0800e-003	115.0934

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0185					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2138					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0104	0.0889	0.0378	5.7000e-004		7.1900e-003	7.1900e-003		7.1900e-003	7.1900e-003	0.0000	113.5059	113.5059	2.1800e-003	2.0800e-003	114.1804
Landscaping	0.0151	5.7400e-003	0.4967	3.0000e-005		2.7300e-003	2.7300e-003		2.7300e-003	2.7300e-003		0.8913	0.8913	8.7000e-004		0.9130
Total	0.2579	0.0947	0.5345	6.0000e-004		9.9200e-003	9.9200e-003		9.9200e-003	9.9200e-003	0.0000	114.3972	114.3972	3.0500e-003	2.0800e-003	115.0934

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0185					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2138					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0104	0.0889	0.0378	5.7000e-004		7.1900e-003	7.1900e-003		7.1900e-003	7.1900e-003	0.0000	113.5059	113.5059	2.1800e-003	2.0800e-003	114.1804
Landscaping	0.0151	5.7400e-003	0.4967	3.0000e-005		2.7300e-003	2.7300e-003		2.7300e-003	2.7300e-003		0.8913	0.8913	8.7000e-004		0.9130
Total	0.2579	0.0947	0.5345	6.0000e-004		9.9200e-003	9.9200e-003		9.9200e-003	9.9200e-003	0.0000	114.3972	114.3972	3.0500e-003	2.0800e-003	115.0934

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Appendix B5

Construction CalEEMod Output
1 Acre Multi-Family Residential

RPV - 1 Acre Multi-Family Residential - Los Angeles-South Coast County, Winter

RPV - 1 Acre Multi-Family Residential

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	22.00	Dwelling Unit	1.00	22,000.00	56

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	531.74	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Woodstoves - See Assumptions

Energy Use - See Assumptions

Water And Wastewater - See Assumptions

Solid Waste - See Assumptions

Construction Off-road Equipment Mitigation - Rule 403 Compliance

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	PhaseEndDate	12/31/2017	1/5/2018
tblConstructionPhase	PhaseEndDate	12/31/2017	5/18/2018
tblConstructionPhase	PhaseEndDate	12/31/2017	1/2/2018
tblConstructionPhase	PhaseEndDate	12/31/2017	1/5/2018
tblConstructionPhase	PhaseEndDate	12/31/2017	1/1/2018
tblEnergyUse	LightingElect	741.44	704.05
tblEnergyUse	T24E	211.98	152.63
tblEnergyUse	T24NG	8,530.25	6,141.78
tblFireplaces	NumberGas	18.70	19.64
tblFireplaces	NumberNoFireplace	2.20	4.07
tblFireplaces	NumberWood	1.10	0.00
tblLandUse	LotAcreage	0.58	1.00
tblLandUse	Population	63.00	56.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.74
tblProjectCharacteristics	OperationalYear	2018	2020
tblSolidWaste	SolidWasteGenerationRate	10.12	3.60
tblWater	AerobicPercent	87.46	97.54
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	2.46
tblWater	IndoorWaterUseRate	1,433,388.56	931,702.62
tblWater	OutdoorWaterUseRate	903,658.01	677,743.51
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	1.10	0.00
tblWoodstoves	NumberNoncatalytic	1.10	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	35.0471	68.1673	42.0278	0.0761	11.2632	3.5718	14.8350	5.6253	3.3473	8.9725	0.0000	7,436.8533	7,436.8533	1.8549	0.0000	7,483.2247
Maximum	35.0471	68.1673	42.0278	0.0761	11.2632	3.5718	14.8350	5.6253	3.3473	8.9725	0.0000	7,436.8533	7,436.8533	1.8549	0.0000	7,483.2247

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					
2018	35.0471	68.1673	42.0278	0.0761	4.5188	3.5718	8.0906	2.1761	3.3473	5.5233	0.0000	7,436.8533	7,436.8533	1.8549	0.0000	7,483.2247
Maximum	35.0471	68.1673	42.0278	0.0761	4.5188	3.5718	8.0906	2.1761	3.3473	5.5233	0.0000	7,436.8533	7,436.8533	1.8549	0.0000	7,483.2247

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	59.88	0.00	45.46	61.32	0.00	38.44	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.5669	0.3469	1.9597	2.1800e-003		0.0364	0.0364		0.0364	0.0364	0.0000	419.1740	419.1740	0.0112	7.6200e-003	421.7252
Energy	7.5800e-003	0.0648	0.0276	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.6660	82.6660	1.5800e-003	1.5200e-003	83.1572
Mobile	0.2994	1.4873	4.0219	0.0131	1.0631	0.0138	1.0769	0.2845	0.0129	0.2975		1,331.5685	1,331.5685	0.0755		1,333.4548
Total	0.8739	1.8989	6.0091	0.0157	1.0631	0.0554	1.1185	0.2845	0.0545	0.3391	0.0000	1,833.4085	1,833.4085	0.0882	9.1400e-003	1,838.3372

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.5669	0.3469	1.9597	2.1800e-003		0.0364	0.0364		0.0364	0.0364	0.0000	419.1740	419.1740	0.0112	7.6200e-003	421.7252
Energy	7.5800e-003	0.0648	0.0276	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.6660	82.6660	1.5800e-003	1.5200e-003	83.1572
Mobile	0.2994	1.4873	4.0219	0.0131	1.0631	0.0138	1.0769	0.2845	0.0129	0.2975		1,331.5685	1,331.5685	0.0755		1,333.4548
Total	0.8739	1.8989	6.0091	0.0157	1.0631	0.0554	1.1185	0.2845	0.0545	0.3391	0.0000	1,833.4085	1,833.4085	0.0882	9.1400e-003	1,838.3372

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	Architectural Coating	Architectural Coating	1/1/2018	1/5/2018	5	5	
2	Building Construction	Building Construction	1/1/2018	5/18/2018	5	100	
3	Grading	Grading	1/1/2018	1/2/2018	5	2	
4	Paving	Paving	1/1/2018	1/5/2018	5	5	
5	Site Preparation	Site Preparation	1/1/2018	1/1/2018	5	1	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.75

Acres of Paving: 0

Residential Indoor: 44,550; Residential Outdoor: 14,850; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41

Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	16.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Soil Stabilizer
- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

3.2 Architectural Coating - 2018

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	27.5319					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171

Total	27.8305	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
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Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	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	0.0183	0.0139	0.1492	3.6000e-004	0.0335	3.0000e-004	0.0338	8.8900e-003	2.8000e-004	9.1700e-003		35.4173	35.4173	1.3300e-003		35.4506
Total	0.0183	0.0139	0.1492	3.6000e-004	0.0335	3.0000e-004	0.0338	8.8900e-003	2.8000e-004	9.1700e-003		35.4173	35.4173	1.3300e-003		35.4506

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	27.5319					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	27.8305	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171

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	0.0183	0.0139	0.1492	3.6000e-004	0.0335	3.0000e-004	0.0338	8.8900e-003	2.8000e-004	9.1700e-003		35.4173	35.4173	1.3300e-003		35.4506
Total	0.0183	0.0139	0.1492	3.6000e-004	0.0335	3.0000e-004	0.0338	8.8900e-003	2.8000e-004	9.1700e-003		35.4173	35.4173	1.3300e-003		35.4506

3.3 Building Construction - 2018

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	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216		2,030.8389	2,030.8389	0.4088		2,041.0596
Total	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216		2,030.8389	2,030.8389	0.4088		2,041.0596

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	9.5900e-003	0.2457	0.0737	5.1000e-004	0.0128	1.7500e-003	0.0146	3.6900e-003	1.6800e-003	5.3700e-003		54.8300	54.8300	3.9600e-003		54.9289
Worker	0.0978	0.0739	0.7956	1.9000e-003	0.1788	1.5900e-003	0.1804	0.0474	1.4700e-003	0.0489		188.8922	188.8922	7.1100e-003		189.0699
Total	0.1074	0.3195	0.8693	2.4100e-003	0.1916	3.3400e-003	0.1950	0.0511	3.1500e-003	0.0543		243.7221	243.7221	0.0111		243.9987

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	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216	0.0000	2,030.8389	2,030.8389	0.4088		2,041.0596
Total	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216	0.0000	2,030.8389	2,030.8389	0.4088		2,041.0596

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	9.5900e-003	0.2457	0.0737	5.1000e-004	0.0128	1.7500e-003	0.0146	3.6900e-003	1.6800e-003	5.3700e-003		54.8300	54.8300	3.9600e-003		54.9289
Worker	0.0978	0.0739	0.7956	1.9000e-003	0.1788	1.5900e-003	0.1804	0.0474	1.4700e-003	0.0489		188.8922	188.8922	7.1100e-003		189.0699

Total	0.1074	0.3195	0.8693	2.4100e-003	0.1916	3.3400e-003	0.1950	0.0511	3.1500e-003	0.0543		243.7221	243.7221	0.0111		243.9987
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3.4 Grading - 2018

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					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.4972	17.0666	6.7630	0.0141		0.7947	0.7947		0.7311	0.7311		1,421.2605	1,421.2605	0.4425		1,432.3219
Total	1.4972	17.0666	6.7630	0.0141	4.9143	0.7947	5.7090	2.5256	0.7311	3.2568		1,421.2605	1,421.2605	0.4425		1,432.3219

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	0.0489	0.0369	0.3978	9.5000e-004	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		94.4461	94.4461	3.5500e-003		94.5349
Total	0.0489	0.0369	0.3978	9.5000e-004	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		94.4461	94.4461	3.5500e-003		94.5349

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					1.8207	0.0000	1.8207	0.9357	0.0000	0.9357			0.0000			0.0000
Off-Road	1.4972	17.0666	6.7630	0.0141		0.7947	0.7947		0.7311	0.7311	0.0000	1,421.2605	1,421.2605	0.4425		1,432.3219
Total	1.4972	17.0666	6.7630	0.0141	1.8207	0.7947	2.6155	0.9357	0.7311	1.6669	0.0000	1,421.2605	1,421.2605	0.4425		1,432.3219

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	0.0489	0.0369	0.3978	9.5000e-004	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		94.4461	94.4461	3.5500e-003		94.5349
Total	0.0489	0.0369	0.3978	9.5000e-004	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		94.4461	94.4461	3.5500e-003		94.5349

3.5 Paving - 2018

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	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618		1,346.4360	1,346.4360	0.4113		1,356.7186
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618		1,346.4360	1,346.4360	0.4113		1,356.7186

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	0.0795	0.0600	0.6465	1.5400e-003	0.1453	1.3000e-003	0.1466	0.0385	1.1900e-003	0.0397		153.4749	153.4749	5.7800e-003		153.6193
Total	0.0795	0.0600	0.6465	1.5400e-003	0.1453	1.3000e-003	0.1466	0.0385	1.1900e-003	0.0397		153.4749	153.4749	5.7800e-003		153.6193

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	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618	0.0000	1,346.4360	1,346.4360	0.4113		1,356.7186
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618	0.0000	1,346.4360	1,346.4360	0.4113		1,356.7186

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	0.0795	0.0600	0.6465	1.5400e-003	0.1453	1.3000e-003	0.1466	0.0385	1.1900e-003	0.0397		153.4749	153.4749	5.7800e-003		153.6193
Total	0.0795	0.0600	0.6465	1.5400e-003	0.1453	1.3000e-003	0.1466	0.0385	1.1900e-003	0.0397		153.4749	153.4749	5.7800e-003		153.6193

3.6 Site Preparation - 2018

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					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.8061	20.7472	8.0808	0.0172		0.9523	0.9523		0.8761	0.8761		1,735.3630	1,735.3630	0.5402		1,748.8690
Total	1.8061	20.7472	8.0808	0.0172	5.7996	0.9523	6.7518	2.9537	0.8761	3.8298		1,735.3630	1,735.3630	0.5402		1,748.8690

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	0.0489	0.0369	0.3978	9.5000e-004	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		94.4461	94.4461	3.5500e-003		94.5349
Total	0.0489	0.0369	0.3978	9.5000e-004	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		94.4461	94.4461	3.5500e-003		94.5349

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1487	0.0000	2.1487	1.0944	0.0000	1.0944			0.0000			0.0000
Off-Road	1.8061	20.7472	8.0808	0.0172		0.9523	0.9523		0.8761	0.8761	0.0000	1,735.3630	1,735.3630	0.5402		1,748.8690
Total	1.8061	20.7472	8.0808	0.0172	2.1487	0.9523	3.1010	1.0944	0.8761	1.9704	0.0000	1,735.3630	1,735.3630	0.5402		1,748.8690

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	0.0489	0.0369	0.3978	9.5000e-004	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		94.4461	94.4461	3.5500e-003		94.5349
Total	0.0489	0.0369	0.3978	9.5000e-004	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		94.4461	94.4461	3.5500e-003		94.5349

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2994	1.4873	4.0219	0.0131	1.0631	0.0138	1.0769	0.2845	0.0129	0.2975		1,331.5685	1,331.5685	0.0755		1,333.4548
Unmitigated	0.2994	1.4873	4.0219	0.0131	1.0631	0.0138	1.0769	0.2845	0.0129	0.2975		1,331.5685	1,331.5685	0.0755		1,333.4548

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	146.30	140.58	128.92	488,653	488,653
Total	146.30	140.58	128.92	488,653	488,653

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 Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.547726	0.045437	0.201480	0.122768	0.016614	0.006090	0.019326	0.029174	0.002438	0.002359	0.005005	0.000677	0.000907

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	7.5800e-003	0.0648	0.0276	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.6660	82.6660	1.5800e-003	1.5200e-003	83.1572
NaturalGas Unmitigated	7.5800e-003	0.0648	0.0276	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.6660	82.6660	1.5800e-003	1.5200e-003	83.1572

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 Mid Rise	702.661	7.5800e-003	0.0648	0.0276	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.6660	82.6660	1.5800e-003	1.5200e-003	83.1572
Total		7.5800e-003	0.0648	0.0276	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.6660	82.6660	1.5800e-003	1.5200e-003	83.1572

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 Mid Rise	0.702661	7.5800e-003	0.0648	0.0276	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.6660	82.6660	1.5800e-003	1.5200e-003	83.1572
Total		7.5800e-003	0.0648	0.0276	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.6660	82.6660	1.5800e-003	1.5200e-003	83.1572

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5669	0.3469	1.9597	2.1800e-003		0.0364	0.0364		0.0364	0.0364	0.0000	419.1740	419.1740	0.0112	7.6200e-003	421.7252
Unmitigated	0.5669	0.3469	1.9597	2.1800e-003		0.0364	0.0364		0.0364	0.0364	0.0000	419.1740	419.1740	0.0112	7.6200e-003	421.7252

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0377					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4356					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0381	0.3258	0.1386	2.0800e-003		0.0263	0.0263		0.0263	0.0263	0.0000	415.9059	415.9059	7.9700e-003	7.6200e-003	418.3774
Landscaping	0.0555	0.0211	1.8211	1.0000e-004		0.0100	0.0100		0.0100	0.0100		3.2682	3.2682	3.1900e-003		3.3478
Total	0.5669	0.3469	1.9597	2.1800e-003		0.0364	0.0364		0.0364	0.0364	0.0000	419.1740	419.1740	0.0112	7.6200e-003	421.7252

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0377					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4356					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0381	0.3258	0.1386	2.0800e-003		0.0263	0.0263		0.0263	0.0263	0.0000	415.9059	415.9059	7.9700e-003	7.6200e-003	418.3774
Landscaping	0.0555	0.0211	1.8211	1.0000e-004		0.0100	0.0100		0.0100	0.0100		3.2682	3.2682	3.1900e-003		3.3478
Total	0.5669	0.3469	1.9597	2.1800e-003		0.0364	0.0364		0.0364	0.0364	0.0000	419.1740	419.1740	0.0112	7.6200e-003	421.7252

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

RPV - 1 Acre Multi-Family Residential - Los Angeles-South Coast County, Summer

RPV - 1 Acre Multi-Family Residential

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	22.00	Dwelling Unit	1.00	22,000.00	56

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	531.74	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Woodstoves - See Assumptions

Energy Use - See Assumptions

Water And Wastewater - See Assumptions

Solid Waste - See Assumptions

Construction Off-road Equipment Mitigation - Rule 403 Compliance

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	PhaseEndDate	12/31/2017	1/5/2018
tblConstructionPhase	PhaseEndDate	12/31/2017	5/18/2018
tblConstructionPhase	PhaseEndDate	12/31/2017	1/2/2018
tblConstructionPhase	PhaseEndDate	12/31/2017	1/5/2018
tblConstructionPhase	PhaseEndDate	12/31/2017	1/1/2018
tblEnergyUse	LightingElect	741.44	704.05
tblEnergyUse	T24E	211.98	152.63
tblEnergyUse	T24NG	8,530.25	6,141.78
tblFireplaces	NumberGas	18.70	19.64
tblFireplaces	NumberNoFireplace	2.20	4.07
tblFireplaces	NumberWood	1.10	0.00
tblLandUse	LotAcreage	0.58	1.00
tblLandUse	Population	63.00	56.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.74
tblProjectCharacteristics	OperationalYear	2018	2020
tblSolidWaste	SolidWasteGenerationRate	10.12	3.60
tblWater	AerobicPercent	87.46	97.54
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	2.46
tblWater	IndoorWaterUseRate	1,433,388.56	931,702.62
tblWater	OutdoorWaterUseRate	903,658.01	677,743.51
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	1.10	0.00
tblWoodstoves	NumberNoncatalytic	1.10	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	35.0184	68.1453	42.2266	0.0765	11.2632	3.5718	14.8349	5.6253	3.3472	8.9725	0.0000	7,473.4539	7,473.4539	1.8558	0.0000	7,519.8502
Maximum	35.0184	68.1453	42.2266	0.0765	11.2632	3.5718	14.8349	5.6253	3.3472	8.9725	0.0000	7,473.4539	7,473.4539	1.8558	0.0000	7,519.8502

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					
2018	35.0184	68.1453	42.2266	0.0765	4.5188	3.5718	8.0906	2.1761	3.3472	5.5233	0.0000	7,473.4538	7,473.4538	1.8558	0.0000	7,519.8502
Maximum	35.0184	68.1453	42.2266	0.0765	4.5188	3.5718	8.0906	2.1761	3.3472	5.5233	0.0000	7,473.4538	7,473.4538	1.8558	0.0000	7,519.8502

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	59.88	0.00	45.46	61.32	0.00	38.44	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.5669	0.3469	1.9597	2.1800e-003		0.0364	0.0364		0.0364	0.0364	0.0000	419.1740	419.1740	0.0112	7.6200e-003	421.7252
Energy	7.5800e-003	0.0648	0.0276	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.6660	82.6660	1.5800e-003	1.5200e-003	83.1572
Mobile	0.3076	1.4464	4.2325	0.0138	1.0631	0.0137	1.0768	0.2845	0.0129	0.2974		1,399.6582	1,399.6582	0.0759		1,401.5549
Total	0.8821	1.8580	6.2198	0.0164	1.0631	0.0553	1.1184	0.2845	0.0545	0.3390	0.0000	1,901.4982	1,901.4982	0.0886	9.1400e-003	1,906.4373

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.5669	0.3469	1.9597	2.1800e-003		0.0364	0.0364		0.0364	0.0364	0.0000	419.1740	419.1740	0.0112	7.6200e-003	421.7252
Energy	7.5800e-003	0.0648	0.0276	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.6660	82.6660	1.5800e-003	1.5200e-003	83.1572
Mobile	0.3076	1.4464	4.2325	0.0138	1.0631	0.0137	1.0768	0.2845	0.0129	0.2974		1,399.6582	1,399.6582	0.0759		1,401.5549
Total	0.8821	1.8580	6.2198	0.0164	1.0631	0.0553	1.1184	0.2845	0.0545	0.3390	0.0000	1,901.4982	1,901.4982	0.0886	9.1400e-003	1,906.4373

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	Architectural Coating	Architectural Coating	1/1/2018	1/5/2018	5	5	
2	Building Construction	Building Construction	1/1/2018	5/18/2018	5	100	
3	Grading	Grading	1/1/2018	1/2/2018	5	2	
4	Paving	Paving	1/1/2018	1/5/2018	5	5	
5	Site Preparation	Site Preparation	1/1/2018	1/1/2018	5	1	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.75

Acres of Paving: 0

Residential Indoor: 44,550; Residential Outdoor: 14,850; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41

Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	16.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Soil Stabilizer
- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

3.2 Architectural Coating - 2018

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	27.5319					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171

Total	27.8305	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
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Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	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	0.0166	0.0125	0.1620	3.8000e-004	0.0335	3.0000e-004	0.0338	8.8900e-003	2.8000e-004	9.1700e-003		37.6107	37.6107	1.4100e-003		37.6460
Total	0.0166	0.0125	0.1620	3.8000e-004	0.0335	3.0000e-004	0.0338	8.8900e-003	2.8000e-004	9.1700e-003		37.6107	37.6107	1.4100e-003		37.6460

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	27.5319					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	27.8305	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171

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	0.0166	0.0125	0.1620	3.8000e-004	0.0335	3.0000e-004	0.0338	8.8900e-003	2.8000e-004	9.1700e-003		37.6107	37.6107	1.4100e-003		37.6460
Total	0.0166	0.0125	0.1620	3.8000e-004	0.0335	3.0000e-004	0.0338	8.8900e-003	2.8000e-004	9.1700e-003		37.6107	37.6107	1.4100e-003		37.6460

3.3 Building Construction - 2018

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	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216		2,030.8389	2,030.8389	0.4088		2,041.0596
Total	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216		2,030.8389	2,030.8389	0.4088		2,041.0596

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	9.2000e-003	0.2451	0.0670	5.3000e-004	0.0128	1.7300e-003	0.0145	3.6900e-003	1.6500e-003	5.3400e-003		56.3359	56.3359	3.7100e-003		56.4286
Worker	0.0884	0.0667	0.8641	2.0200e-003	0.1788	1.5900e-003	0.1804	0.0474	1.4700e-003	0.0489		200.5904	200.5904	7.5200e-003		200.7785
Total	0.0976	0.3118	0.9311	2.5500e-003	0.1916	3.3200e-003	0.1950	0.0511	3.1200e-003	0.0542		256.9263	256.9263	0.0112		257.2071

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	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216	0.0000	2,030.8389	2,030.8389	0.4088		2,041.0596
Total	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216	0.0000	2,030.8389	2,030.8389	0.4088		2,041.0596

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	9.2000e-003	0.2451	0.0670	5.3000e-004	0.0128	1.7300e-003	0.0145	3.6900e-003	1.6500e-003	5.3400e-003		56.3359	56.3359	3.7100e-003		56.4286
Worker	0.0884	0.0667	0.8641	2.0200e-003	0.1788	1.5900e-003	0.1804	0.0474	1.4700e-003	0.0489		200.5904	200.5904	7.5200e-003		200.7785

Total	0.0976	0.3118	0.9311	2.5500e-003	0.1916	3.3200e-003	0.1950	0.0511	3.1200e-003	0.0542		256.9263	256.9263	0.0112		257.2071
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3.4 Grading - 2018

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					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.4972	17.0666	6.7630	0.0141		0.7947	0.7947		0.7311	0.7311		1,421.2605	1,421.2605	0.4425		1,432.3219
Total	1.4972	17.0666	6.7630	0.0141	4.9143	0.7947	5.7090	2.5256	0.7311	3.2568		1,421.2605	1,421.2605	0.4425		1,432.3219

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	0.0442	0.0334	0.4321	1.0100e-003	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		100.2952	100.2952	3.7600e-003		100.3892
Total	0.0442	0.0334	0.4321	1.0100e-003	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		100.2952	100.2952	3.7600e-003		100.3892

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					1.8207	0.0000	1.8207	0.9357	0.0000	0.9357			0.0000			0.0000
Off-Road	1.4972	17.0666	6.7630	0.0141		0.7947	0.7947		0.7311	0.7311	0.0000	1,421.2605	1,421.2605	0.4425		1,432.3219
Total	1.4972	17.0666	6.7630	0.0141	1.8207	0.7947	2.6155	0.9357	0.7311	1.6669	0.0000	1,421.2605	1,421.2605	0.4425		1,432.3219

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	0.0442	0.0334	0.4321	1.0100e-003	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		100.2952	100.2952	3.7600e-003		100.3892
Total	0.0442	0.0334	0.4321	1.0100e-003	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		100.2952	100.2952	3.7600e-003		100.3892

3.5 Paving - 2018

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	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618		1,346.4360	1,346.4360	0.4113		1,356.7186
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618		1,346.4360	1,346.4360	0.4113		1,356.7186

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	0.0718	0.0542	0.7021	1.6400e-003	0.1453	1.3000e-003	0.1466	0.0385	1.1900e-003	0.0397		162.9797	162.9797	6.1100e-003		163.1325
Total	0.0718	0.0542	0.7021	1.6400e-003	0.1453	1.3000e-003	0.1466	0.0385	1.1900e-003	0.0397		162.9797	162.9797	6.1100e-003		163.1325

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	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618	0.0000	1,346.4360	1,346.4360	0.4113		1,356.7186
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618	0.0000	1,346.4360	1,346.4360	0.4113		1,356.7186

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	0.0718	0.0542	0.7021	1.6400e-003	0.1453	1.3000e-003	0.1466	0.0385	1.1900e-003	0.0397		162.9797	162.9797	6.1100e-003		163.1325
Total	0.0718	0.0542	0.7021	1.6400e-003	0.1453	1.3000e-003	0.1466	0.0385	1.1900e-003	0.0397		162.9797	162.9797	6.1100e-003		163.1325

3.6 Site Preparation - 2018

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					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.8061	20.7472	8.0808	0.0172		0.9523	0.9523		0.8761	0.8761		1,735.3630	1,735.3630	0.5402		1,748.8690
Total	1.8061	20.7472	8.0808	0.0172	5.7996	0.9523	6.7518	2.9537	0.8761	3.8298		1,735.3630	1,735.3630	0.5402		1,748.8690

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	0.0442	0.0334	0.4321	1.0100e-003	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		100.2952	100.2952	3.7600e-003		100.3892
Total	0.0442	0.0334	0.4321	1.0100e-003	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		100.2952	100.2952	3.7600e-003		100.3892

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1487	0.0000	2.1487	1.0944	0.0000	1.0944			0.0000			0.0000
Off-Road	1.8061	20.7472	8.0808	0.0172		0.9523	0.9523		0.8761	0.8761	0.0000	1,735.3630	1,735.3630	0.5402		1,748.8690
Total	1.8061	20.7472	8.0808	0.0172	2.1487	0.9523	3.1010	1.0944	0.8761	1.9704	0.0000	1,735.3630	1,735.3630	0.5402		1,748.8690

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	0.0442	0.0334	0.4321	1.0100e-003	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		100.2952	100.2952	3.7600e-003		100.3892
Total	0.0442	0.0334	0.4321	1.0100e-003	0.0894	8.0000e-004	0.0902	0.0237	7.4000e-004	0.0245		100.2952	100.2952	3.7600e-003		100.3892

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3076	1.4464	4.2325	0.0138	1.0631	0.0137	1.0768	0.2845	0.0129	0.2974		1,399.6582	1,399.6582	0.0759		1,401.5549
Unmitigated	0.3076	1.4464	4.2325	0.0138	1.0631	0.0137	1.0768	0.2845	0.0129	0.2974		1,399.6582	1,399.6582	0.0759		1,401.5549

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	146.30	140.58	128.92	488,653	488,653
Total	146.30	140.58	128.92	488,653	488,653

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 Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.547726	0.045437	0.201480	0.122768	0.016614	0.006090	0.019326	0.029174	0.002438	0.002359	0.005005	0.000677	0.000907

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	7.5800e-003	0.0648	0.0276	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.6660	82.6660	1.5800e-003	1.5200e-003	83.1572
NaturalGas Unmitigated	7.5800e-003	0.0648	0.0276	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.6660	82.6660	1.5800e-003	1.5200e-003	83.1572

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 Mid Rise	702.661	7.5800e-003	0.0648	0.0276	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.6660	82.6660	1.5800e-003	1.5200e-003	83.1572
Total		7.5800e-003	0.0648	0.0276	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.6660	82.6660	1.5800e-003	1.5200e-003	83.1572

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 Mid Rise	0.702661	7.5800e-003	0.0648	0.0276	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.6660	82.6660	1.5800e-003	1.5200e-003	83.1572
Total		7.5800e-003	0.0648	0.0276	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.6660	82.6660	1.5800e-003	1.5200e-003	83.1572

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5669	0.3469	1.9597	2.1800e-003		0.0364	0.0364		0.0364	0.0364	0.0000	419.1740	419.1740	0.0112	7.6200e-003	421.7252
Unmitigated	0.5669	0.3469	1.9597	2.1800e-003		0.0364	0.0364		0.0364	0.0364	0.0000	419.1740	419.1740	0.0112	7.6200e-003	421.7252

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0377					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4356					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0381	0.3258	0.1386	2.0800e-003		0.0263	0.0263		0.0263	0.0263	0.0000	415.9059	415.9059	7.9700e-003	7.6200e-003	418.3774
Landscaping	0.0555	0.0211	1.8211	1.0000e-004		0.0100	0.0100		0.0100	0.0100		3.2682	3.2682	3.1900e-003		3.3478
Total	0.5669	0.3469	1.9597	2.1800e-003		0.0364	0.0364		0.0364	0.0364	0.0000	419.1740	419.1740	0.0112	7.6200e-003	421.7252

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0377					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4356					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0381	0.3258	0.1386	2.0800e-003		0.0263	0.0263		0.0263	0.0263	0.0000	415.9059	415.9059	7.9700e-003	7.6200e-003	418.3774
Landscaping	0.0555	0.0211	1.8211	1.0000e-004		0.0100	0.0100		0.0100	0.0100		3.2682	3.2682	3.1900e-003		3.3478
Total	0.5669	0.3469	1.9597	2.1800e-003		0.0364	0.0364		0.0364	0.0364	0.0000	419.1740	419.1740	0.0112	7.6200e-003	421.7252

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Appendix C

Operational CalEEMod Output

- C1 Existing - 2015
- C2 Existing - 2040
- C3 Project Growth - 2040
- C4 Operational LST CalEEMod Output

Appendix C1

Operational CalEEMod Output
Existing - 2015

RPV - 2015 Existing Emissions - Los Angeles-South Coast County, Winter

RPV - 2015 Existing Emissions

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	13,534.00	Dwelling Unit	5,110.00	24,361,200.00	35351
General Office Building	13,123.00	1000sqft	1,028.00	13,123,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2015
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	531.74	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - No construction

Vehicle Trips - See Assumptions

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - See Assumptions

Energy Use - See Assumptions

Water And Wastewater - See Assumptions

Solid Waste - See Assumptions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	2.00
tblConstructionPhase	PhaseEndDate	12/31/2012	1/2/2013
tblEnergyUse	LightingElect	4.46	0.00
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	4.94	0.00
tblEnergyUse	NT24E	6,680.41	0.00
tblEnergyUse	NT24NG	0.55	0.00
tblEnergyUse	NT24NG	5,516.00	0.00
tblEnergyUse	T24E	4.94	5.00
tblEnergyUse	T24E	287.34	9,806.22
tblEnergyUse	T24NG	8.63	6.78
tblEnergyUse	T24NG	25,682.16	65,417.94
tblFireplaces	NumberGas	11,503.90	0.00
tblLandUse	LotAcreage	4,394.16	5,110.00
tblLandUse	LotAcreage	301.26	1,028.00
tblLandUse	Population	38,707.00	35,351.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.74
tblProjectCharacteristics	OperationalYear	2018	2015
tblSolidWaste	SolidWasteGenerationRate	12,204.39	0.00
tblSolidWaste	SolidWasteGenerationRate	14,493.91	17,146.78
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	8.70	13.45
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	13.45

tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	13.45
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	9.91	4.22
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	8.62	4.22
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	9.52	4.22
tblWater	AerobicPercent	87.46	97.54
tblWater	AerobicPercent	87.46	97.54
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	2.46
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	2.46
tblWater	IndoorWaterUseRate	2,332,399,974.92	0.00
tblWater	IndoorWaterUseRate	881,794,582.76	3,206,128,189.00
tblWater	OutdoorWaterUseRate	1,429,535,468.50	0.00
tblWater	OutdoorWaterUseRate	555,913,976.09	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

No Construction for Existing Conditions

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	4,377.8710	103.3923	7,940.4317	16.3995		1,024.5062	1,024.5062		1,024.5062	1,024.5062	126,771.8736	2,013.3788	128,785.2525	375.4881	4.1382	139,405.6243
Energy	28.7889	247.4490	115.2064	1.5703		19.8905	19.8905		19.8905	19.8905		314,061.0668	314,061.0668	6.0195	5.7578	315,927.3747
Mobile	241.7808	1,121.9251	3,618.4055	8.1173	595.3386	14.3190	609.6576	159.4624	13.5487	173.0112		820,711.3726	820,711.3726	60.4600		822,222.8717
Total	4,648.4406	1,472.7664	11,674.0436	26.0871	595.3386	1,058.7158	1,654.0544	159.4624	1,057.9455	1,217.4080	126,771.8736	1,136,785.8182	1,263,557.6918	441.9675	9.8960	1,277,555.8707

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	4,377.8710	103.3923	7,940.4317	16.3995		1,024.5062	1,024.5062		1,024.5062	1,024.5062	126,771.8736	2,013.3788	128,785.2525	375.4881	4.1382	139,405.6243
Energy	28.7889	247.4490	115.2064	1.5703		19.8905	19.8905		19.8905	19.8905		314,061.0668	314,061.0668	6.0195	5.7578	315,927.3747
Mobile	241.7808	1,121.9251	3,618.4055	8.1173	595.3386	14.3190	609.6576	159.4624	13.5487	173.0112		820,711.3726	820,711.3726	60.4600		822,222.8717
Total	4,648.4406	1,472.7664	11,674.0436	26.0871	595.3386	1,058.7158	1,654.0544	159.4624	1,057.9455	1,217.4080	126,771.8736	1,136,785.8182	1,263,557.6918	441.9675	9.8960	1,277,555.8707

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

3.0 Construction Detail

No Construction for Existing Conditions

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	241.7808	1,121.9251	3,618.4055	8.1173	595.3386	14.3190	609.6576	159.4624	13.5487	173.0112		820,711.3726	820,711.3726	60.4600		822,222.8717
Unmitigated	241.7808	1,121.9251	3,618.4055	8.1173	595.3386	14.3190	609.6576	159.4624	13.5487	173.0112		820,711.3726	820,711.3726	60.4600		822,222.8717

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Single Family Housing	57,113.48	57,113.48	57,113.48	279,687,898	279,687,898
Total	57,113.48	57,113.48	57,113.48	279,687,898	279,687,898

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
General Office Building	0.00	0.00	0.00	33.00	48.00	19.00	100	0	0
Single Family Housing	13.45	13.45	13.45	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.545411	0.048190	0.195574	0.130523	0.019876	0.005677	0.017394	0.026000	0.002226	0.003081	0.004397	0.000627	0.001023
General Office Building	0.545411	0.048190	0.195574	0.130523	0.019876	0.005677	0.017394	0.026000	0.002226	0.003081	0.004397	0.000627	0.001023

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	28.7889	247.4490	115.2064	1.5703		19.8905	19.8905		19.8905	19.8905		314,061.0668	314,061.0668	6.0195	5.7578	315,927.3747
NaturalGas Unmitigated	28.7889	247.4490	115.2064	1.5703		19.8905	19.8905		19.8905	19.8905		314,061.0668	314,061.0668	6.0195	5.7578	315,927.3747

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					
General Office Building	243858	2.6298	23.9076	20.0824	0.1435		1.8170	1.8170		1.8170	1.8170		28,689.1410	28,689.1410	0.5499	0.5260	28,859.6262
Single Family Housing	2.42566e+006	26.1591	223.5413	95.1240	1.4269		18.0736	18.0736		18.0736	18.0736		285,371.9259	285,371.9259	5.4696	5.2318	287,067.7485
Total		28.7889	247.4490	115.2064	1.5703		19.8905	19.8905		19.8905	19.8905		314,061.0668	314,061.0668	6.0195	5.7578	315,927.3747

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
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Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	243.858	2.6298	23.9076	20.0824	0.1435		1.8170	1.8170		1.8170	1.8170		28,689.1410	28,689.1410	0.5499	0.5260	28,859.6262
Single Family Housing	2425.66	26.1591	223.5413	95.1240	1.4269		18.0736	18.0736		18.0736	18.0736		285,371.9259	285,371.9259	5.4696	5.2318	287,067.7485
Total		28.7889	247.4490	115.2064	1.5703		19.8905	19.8905		19.8905	19.8905		314,061.0668	314,061.0668	6.0195	5.7578	315,927.3747

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	4,377.8710	103.3923	7,940.4317	16.3995		1,024.5062	1,024.5062		1,024.5062	1,024.5062	126,771.8736	2,013.3788	128,785.2525	375.4881	4.1382	139,405.6243
Unmitigated	4,377.8710	103.3923	7,940.4317	16.3995		1,024.5062	1,024.5062		1,024.5062	1,024.5062	126,771.8736	2,013.3788	128,785.2525	375.4881	4.1382	139,405.6243

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	75.0916					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Consumer Products	742.1872					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	3,524.0641	89.9784	6,801.5366	16.3404		1,018.4108	1,018.4108		1,018.4108	1,018.4108	126,771.8736	0.0000	126,771.8736	373.3890	4.1382	137,339.7687
Landscaping	36.5281	13.4140	1,138.8951	0.0591		6.0955	6.0955		6.0955	6.0955		2,013.3788	2,013.3788	2.0991		2,065.8556
Total	4,377.8710	103.3923	7,940.4317	16.3995		1,024.5062	1,024.5062		1,024.5062	1,024.5062	126,771.8736	2,013.3788	128,785.2525	375.4881	4.1382	139,405.6243

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	75.0916					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	742.1872					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	3,524.0641	89.9784	6,801.5366	16.3404		1,018.4108	1,018.4108		1,018.4108	1,018.4108	126,771.8736	0.0000	126,771.8736	373.3890	4.1382	137,339.7687
Landscaping	36.5281	13.4140	1,138.8951	0.0591		6.0955	6.0955		6.0955	6.0955		2,013.3788	2,013.3788	2.0991		2,065.8556
Total	4,377.8710	103.3923	7,940.4317	16.3995		1,024.5062	1,024.5062		1,024.5062	1,024.5062	126,771.8736	2,013.3788	128,785.2525	375.4881	4.1382	139,405.6243

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

RPV - 2015 Existing Emissions - Los Angeles-South Coast County, Summer

RPV - 2015 Existing Emissions

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	13,534.00	Dwelling Unit	5,110.00	24,361,200.00	35351
General Office Building	13,123.00	1000sqft	1,028.00	13,123,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2015
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	531.74	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - No construction

Vehicle Trips - See Assumptions

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - See Assumptions

Energy Use - See Assumptions

Water And Wastewater - See Assumptions

Solid Waste - See Assumptions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	2.00
tblConstructionPhase	PhaseEndDate	12/31/2012	1/2/2013
tblEnergyUse	LightingElect	4.46	0.00
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	4.94	0.00
tblEnergyUse	NT24E	6,680.41	0.00
tblEnergyUse	NT24NG	0.55	0.00
tblEnergyUse	NT24NG	5,516.00	0.00
tblEnergyUse	T24E	4.94	5.00
tblEnergyUse	T24E	287.34	9,806.22
tblEnergyUse	T24NG	8.63	6.78
tblEnergyUse	T24NG	25,682.16	65,417.94
tblFireplaces	NumberGas	11,503.90	0.00
tblLandUse	LotAcreage	4,394.16	5,110.00
tblLandUse	LotAcreage	301.26	1,028.00
tblLandUse	Population	38,707.00	35,351.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.74
tblProjectCharacteristics	OperationalYear	2018	2015
tblSolidWaste	SolidWasteGenerationRate	12,204.39	0.00
tblSolidWaste	SolidWasteGenerationRate	14,493.91	17,146.78
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	8.70	13.45
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	13.45

tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	13.45
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	9.91	4.22
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	8.62	4.22
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	9.52	4.22
tblWater	AerobicPercent	87.46	97.54
tblWater	AerobicPercent	87.46	97.54
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	2.46
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	2.46
tblWater	IndoorWaterUseRate	2,332,399,974.92	0.00
tblWater	IndoorWaterUseRate	881,794,582.76	3,206,128,189.00
tblWater	OutdoorWaterUseRate	1,429,535,468.50	0.00
tblWater	OutdoorWaterUseRate	555,913,976.09	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

No Construction for Existing Conditions

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	4,377.8710	103.3923	7,940.4317	16.3995		1,024.5062	1,024.5062		1,024.5062	1,024.5062	126,771.8736	2,013.3788	128,785.2525	375.4881	4.1382	139,405.6243
Energy	28.7889	247.4490	115.2064	1.5703		19.8905	19.8905		19.8905	19.8905		314,061.0668	314,061.0668	6.0195	5.7578	315,927.3747
Mobile	244.6994	1,074.1540	3,825.4367	8.5368	595.3386	14.2454	609.5840	159.4624	13.4783	172.9408		862,534.5770	862,534.5770	61.4448		864,070.6978
Total	4,651.3593	1,424.9952	11,881.0748	26.5066	595.3386	1,058.6421	1,653.9807	159.4624	1,057.8751	1,217.3375	126,771.8736	1,178,609.0227	1,305,380.8963	442.9524	9.8960	1,319,403.6968

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	4,377.8710	103.3923	7,940.4317	16.3995		1,024.5062	1,024.5062		1,024.5062	1,024.5062	126,771.8736	2,013.3788	128,785.2525	375.4881	4.1382	139,405.6243
Energy	28.7889	247.4490	115.2064	1.5703		19.8905	19.8905		19.8905	19.8905		314,061.0668	314,061.0668	6.0195	5.7578	315,927.3747
Mobile	244.6994	1,074.1540	3,825.4367	8.5368	595.3386	14.2454	609.5840	159.4624	13.4783	172.9408		862,534.5770	862,534.5770	61.4448		864,070.6978
Total	4,651.3593	1,424.9952	11,881.0748	26.5066	595.3386	1,058.6421	1,653.9807	159.4624	1,057.8751	1,217.3375	126,771.8736	1,178,609.0227	1,305,380.8963	442.9524	9.8960	1,319,403.6968

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

3.0 Construction Detail

No Construction for Existing Conditions

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	244.6994	1,074.1540	3,825.4367	8.5368	595.3386	14.2454	609.5840	159.4624	13.4783	172.9408		862,534.5770	862,534.5770	61.4448		864,070.6978
Unmitigated	244.6994	1,074.1540	3,825.4367	8.5368	595.3386	14.2454	609.5840	159.4624	13.4783	172.9408		862,534.5770	862,534.5770	61.4448		864,070.6978

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Single Family Housing	57,113.48	57,113.48	57,113.48	279,687,898	279,687,898
Total	57,113.48	57,113.48	57,113.48	279,687,898	279,687,898

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
General Office Building	0.00	0.00	0.00	33.00	48.00	19.00	100	0	0
Single Family Housing	13.45	13.45	13.45	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.545411	0.048190	0.195574	0.130523	0.019876	0.005677	0.017394	0.026000	0.002226	0.003081	0.004397	0.000627	0.001023
General Office Building	0.545411	0.048190	0.195574	0.130523	0.019876	0.005677	0.017394	0.026000	0.002226	0.003081	0.004397	0.000627	0.001023

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive 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	28.7889	247.4490	115.2064	1.5703		19.8905	19.8905		19.8905	19.8905		314,061.0668	314,061.0668	6.0195	5.7578	315,927.3747
NaturalGas Unmitigated	28.7889	247.4490	115.2064	1.5703		19.8905	19.8905		19.8905	19.8905		314,061.0668	314,061.0668	6.0195	5.7578	315,927.3747

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					
General Office Building	243858	2.6298	23.9076	20.0824	0.1435		1.8170	1.8170		1.8170	1.8170		28,689.1410	28,689.1410	0.5499	0.5260	28,859.6262
Single Family Housing	2.42566e+006	26.1591	223.5413	95.1240	1.4269		18.0736	18.0736		18.0736	18.0736		285,371.9259	285,371.9259	5.4696	5.2318	287,067.7485
Total		28.7889	247.4490	115.2064	1.5703		19.8905	19.8905		19.8905	19.8905		314,061.0668	314,061.0668	6.0195	5.7578	315,927.3747

Mitigated

	Natural Gas 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					
General Office Building	243.858	2.6298	23.9076	20.0824	0.1435		1.8170	1.8170		1.8170	1.8170		28,689.1410	28,689.1410	0.5499	0.5260	28,859.6262
Single Family Housing	2425.66	26.1591	223.5413	95.1240	1.4269		18.0736	18.0736		18.0736	18.0736		285,371.9259	285,371.9259	5.4696	5.2318	287,067.7485
Total		28.7889	247.4490	115.2064	1.5703		19.8905	19.8905		19.8905	19.8905		314,061.0668	314,061.0668	6.0195	5.7578	315,927.3747

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	4,377.8710	103.3923	7,940.4317	16.3995		1,024.5062	1,024.5062		1,024.5062	1,024.5062	126,771.8736	2,013.3788	128,785.2525	375.4881	4.1382	139,405.6243
Unmitigated	4,377.8710	103.3923	7,940.4317	16.3995		1,024.5062	1,024.5062		1,024.5062	1,024.5062	126,771.8736	2,013.3788	128,785.2525	375.4881	4.1382	139,405.6243

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	75.0916					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	742.1872					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	3,524.0641	89.9784	6,801.5366	16.3404		1,018.4108	1,018.4108		1,018.4108	1,018.4108	126,771.8736	0.0000	126,771.8736	373.3890	4.1382	137,339.7687
Landscaping	36.5281	13.4140	1,138.8951	0.0591		6.0955	6.0955		6.0955	6.0955		2,013.3788	2,013.3788	2.0991		2,065.8556
Total	4,377.8710	103.3923	7,940.4317	16.3995		1,024.5062	1,024.5062		1,024.5062	1,024.5062	126,771.8736	2,013.3788	128,785.2525	375.4881	4.1382	139,405.6243

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	75.0916					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	742.1872					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	3,524.0641	89.9784	6,801.5366	16.3404		1,018.4108	1,018.4108		1,018.4108	1,018.4108	126,771.8736	0.0000	126,771.8736	373.3890	4.1382	137,339.7687
Landscaping	36.5281	13.4140	1,138.8951	0.0591		6.0955	6.0955		6.0955	6.0955		2,013.3788	2,013.3788	2.0991		2,065.8556
Total	4,377.8710	103.3923	7,940.4317	16.3995		1,024.5062	1,024.5062		1,024.5062	1,024.5062	126,771.8736	2,013.3788	128,785.2525	375.4881	4.1382	139,405.6243

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Appendix C2

Operational CalEEMod Output
Existing - 2040

RPV - 2040 Existing Conditions - Los Angeles-South Coast County, Winter

RPV - 2040 Existing Conditions

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	13,534.00	Dwelling Unit	5,110.00	24,361,200.00	35351
General Office Building	13,123.00	1000sqft	1,028.00	13,123,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2040
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	351.22	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - No Construction

Off-road Equipment -

Vehicle Trips - See Assumptions

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - See Assumptions

Energy Use - See Assumptions

Water And Wastewater - See Assumptions

Solid Waste - See Assumptions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	1.00
tblConstructionPhase	PhaseEndDate	12/31/2037	1/1/2038
tblEnergyUse	LightingElect	4.46	0.00
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	4.94	0.00
tblEnergyUse	NT24E	6,680.41	0.00
tblEnergyUse	NT24NG	0.55	0.00
tblEnergyUse	NT24NG	5,516.00	0.00
tblEnergyUse	T24E	4.94	5.53
tblEnergyUse	T24E	287.34	9,434.85
tblEnergyUse	T24NG	8.63	7.50
tblEnergyUse	T24NG	25,682.16	62,940.51
tblFireplaces	NumberGas	11,503.90	0.00
tblLandUse	LotAcreage	4,394.16	5,110.00
tblLandUse	LotAcreage	301.26	1,028.00
tblLandUse	Population	38,707.00	35,351.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	351.22
tblProjectCharacteristics	OperationalYear	2018	2040
tblSolidWaste	SolidWasteGenerationRate	12,204.39	0.00
tblSolidWaste	SolidWasteGenerationRate	14,493.91	17,140.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	8.70	13.44
tblVehicleTrips	HS_TL	5.90	13.44

tblVehicleTrips	HW_TL	14.70	13.44
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	9.91	3.94
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	8.62	3.94
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	9.52	3.94
tblWater	AerobicPercent	87.46	97.54
tblWater	AerobicPercent	87.46	97.54
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	2.46
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	2.46
tblWater	IndoorWaterUseRate	2,332,399,974.92	0.00
tblWater	IndoorWaterUseRate	881,794,582.76	3,204,821,162.00
tblWater	OutdoorWaterUseRate	1,429,535,468.50	0.00
tblWater	OutdoorWaterUseRate	555,913,976.09	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

No Construction for Existing Conditions

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
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Category	lb/day										lb/day					
Area	4,374.7137	102.8219	7,914.5350	16.3995		1,024.6075	1,024.6075		1,024.6075	1,024.6075	126,771.8736	2,013.3788	128,785.2525	375.3101	4.1382	139,401.1744
Energy	28.0751	241.4997	113.7177	1.5314		19.3973	19.3973		19.3973	19.3973		306,273.4672	306,273.4672	5.8702	5.6150	308,093.4972
Mobile	57.9613	357.8031	833.3105	4.8834	554.8637	2.0962	556.9599	148.4562	1.9518	150.4080		502,181.7693	502,181.7693	18.7950		502,651.6445
Total	4,460.7501	702.1246	8,861.5633	22.8143	554.8637	1,046.1010	1,600.9647	148.4562	1,045.9566	1,194.4128	126,771.8736	810,468.6153	937,240.4889	399.9753	9.7532	950,146.3160

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	4,374.7137	102.8219	7,914.5350	16.3995		1,024.6075	1,024.6075		1,024.6075	1,024.6075	126,771.8736	2,013.3788	128,785.2525	375.3101	4.1382	139,401.1744
Energy	28.0751	241.4997	113.7177	1.5314		19.3973	19.3973		19.3973	19.3973		306,273.4672	306,273.4672	5.8702	5.6150	308,093.4972
Mobile	57.9613	357.8031	833.3105	4.8834	554.8637	2.0962	556.9599	148.4562	1.9518	150.4080		502,181.7693	502,181.7693	18.7950		502,651.6445
Total	4,460.7501	702.1246	8,861.5633	22.8143	554.8637	1,046.1010	1,600.9647	148.4562	1,045.9566	1,194.4128	126,771.8736	810,468.6153	937,240.4889	399.9753	9.7532	950,146.3160

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

3.0 Construction Detail

No Construction for Existing Conditions

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	57.9613	357.8031	833.3105	4.8834	554.8637	2.0962	556.9599	148.4562	1.9518	150.4080		502,181.7693	502,181.7693	18.7950		502,651.6445
Unmitigated	57.9613	357.8031	833.3105	4.8834	554.8637	2.0962	556.9599	148.4562	1.9518	150.4080		502,181.7693	502,181.7693	18.7950		502,651.6445

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Single Family Housing	53,323.96	53,323.96	53,323.96	260,833,688	260,833,688
Total	53,323.96	53,323.96	53,323.96	260,833,688	260,833,688

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
General Office Building	0.00	0.00	0.00	33.00	48.00	19.00	77	19	4
Single Family Housing	13.44	13.44	13.44	40.20	19.20	40.60	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
General Office Building	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	28.0751	241.4997	113.7177	1.5314		19.3973	19.3973		19.3973	19.3973		306,273.4672	306,273.4672	5.8702	5.6150	308,093.4972
NaturalGas Unmitigated	28.0751	241.4997	113.7177	1.5314		19.3973	19.3973		19.3973	19.3973		306,273.4672	306,273.4672	5.8702	5.6150	308,093.4972

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					
General Office Building	269525	2.9066	26.4240	22.1962	0.1585		2.0082	2.0082		2.0082	2.0082		31,708.8056	31,708.8056	0.6078	0.5813	31,897.2352
Single Family Housing	2.3338e+006	25.1684	215.0757	91.5216	1.3728		17.3891	17.3891		17.3891	17.3891		274,564.6615	274,564.6615	5.2625	5.0337	276,196.2620
Total		28.0751	241.4997	113.7177	1.5314		19.3973	19.3973		19.3973	19.3973		306,273.4672	306,273.4672	5.8702	5.6150	308,093.4972

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
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Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	269.525	2.9066	26.4240	22.1962	0.1585		2.0082	2.0082		2.0082	2.0082		31,708.8056	31,708.8056	0.6078	0.5813	31,897.2352
Single Family Housing	2333.8	25.1684	215.0757	91.5216	1.3728		17.3891	17.3891		17.3891	17.3891		274,564.6615	274,564.6615	5.2625	5.0337	276,196.2620
Total		28.0751	241.4997	113.7177	1.5314		19.3973	19.3973		19.3973	19.3973		306,273.4672	306,273.4672	5.8702	5.6150	308,093.4972

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	4,374.7137	102.8219	7,914.5350	16.3995		1,024.6075	1,024.6075		1,024.6075	1,024.6075	126,771.8736	2,013.3788	128,785.2525	375.3101	4.1382	139,401.1744
Unmitigated	4,374.7137	102.8219	7,914.5350	16.3995		1,024.6075	1,024.6075		1,024.6075	1,024.6075	126,771.8736	2,013.3788	128,785.2525	375.3101	4.1382	139,401.1744

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	75.0916					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Consumer Products	742.1872					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	3,524.0641	89.9784	6,801.5366	16.3404		1,018.4108	1,018.4108		1,018.4108	1,018.4108	126,771.8736	0.0000	126,771.8736	373.3890	4.1382	137,339.7687
Landscaping	33.3709	12.8435	1,112.9984	0.0591		6.1967	6.1967		6.1967	6.1967		2,013.3788	2,013.3788	1.9211		2,061.4057
Total	4,374.7137	102.8219	7,914.5350	16.3995		1,024.6075	1,024.6075		1,024.6075	1,024.6075	126,771.8736	2,013.3788	128,785.2525	375.3101	4.1382	139,401.1744

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	75.0916					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	742.1872					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	3,524.0641	89.9784	6,801.5366	16.3404		1,018.4108	1,018.4108		1,018.4108	1,018.4108	126,771.8736	0.0000	126,771.8736	373.3890	4.1382	137,339.7687
Landscaping	33.3709	12.8435	1,112.9984	0.0591		6.1967	6.1967		6.1967	6.1967		2,013.3788	2,013.3788	1.9211		2,061.4057
Total	4,374.7137	102.8219	7,914.5350	16.3995		1,024.6075	1,024.6075		1,024.6075	1,024.6075	126,771.8736	2,013.3788	128,785.2525	375.3101	4.1382	139,401.1744

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

RPV - 2040 Existing Conditions - Los Angeles-South Coast County, Summer

RPV - 2040 Existing Conditions

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	13,534.00	Dwelling Unit	5,110.00	24,361,200.00	35351
General Office Building	13,123.00	1000sqft	1,028.00	13,123,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2040
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	351.22	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - No Construction

Off-road Equipment -

Vehicle Trips - See Assumptions

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - See Assumptions

Energy Use - See Assumptions

Water And Wastewater - See Assumptions

Solid Waste - See Assumptions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	1.00
tblConstructionPhase	PhaseEndDate	12/31/2037	1/1/2038
tblEnergyUse	LightingElect	4.46	0.00
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	4.94	0.00
tblEnergyUse	NT24E	6,680.41	0.00
tblEnergyUse	NT24NG	0.55	0.00
tblEnergyUse	NT24NG	5,516.00	0.00
tblEnergyUse	T24E	4.94	5.53
tblEnergyUse	T24E	287.34	9,434.85
tblEnergyUse	T24NG	8.63	7.50
tblEnergyUse	T24NG	25,682.16	62,940.51
tblFireplaces	NumberGas	11,503.90	0.00
tblLandUse	LotAcreage	4,394.16	5,110.00
tblLandUse	LotAcreage	301.26	1,028.00
tblLandUse	Population	38,707.00	35,351.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	351.22
tblProjectCharacteristics	OperationalYear	2018	2040
tblSolidWaste	SolidWasteGenerationRate	12,204.39	0.00
tblSolidWaste	SolidWasteGenerationRate	14,493.91	17,140.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	8.70	13.44
tblVehicleTrips	HS_TL	5.90	13.44

tblVehicleTrips	HW_TL	14.70	13.44
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	9.91	3.94
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	8.62	3.94
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	9.52	3.94
tblWater	AerobicPercent	87.46	97.54
tblWater	AerobicPercent	87.46	97.54
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	2.46
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	2.46
tblWater	IndoorWaterUseRate	2,332,399,974.92	0.00
tblWater	IndoorWaterUseRate	881,794,582.76	3,204,821,162.00
tblWater	OutdoorWaterUseRate	1,429,535,468.50	0.00
tblWater	OutdoorWaterUseRate	555,913,976.09	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

No Construction for Existing Conditions

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
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Category	lb/day										lb/day					
Area	4,374.7137	102.8219	7,914.5350	16.3995		1,024.6075	1,024.6075		1,024.6075	1,024.6075	126,771.8736	2,013.3788	128,785.2525	375.3101	4.1382	139,401.1744
Energy	28.0751	241.4997	113.7177	1.5314		19.3973	19.3973		19.3973	19.3973		306,273.4672	306,273.4672	5.8702	5.6150	308,093.4972
Mobile	59.1284	352.3818	883.5971	5.1086	554.8637	2.0930	556.9567	148.4562	1.9488	150.4050		524,949.9352	524,949.9352	18.6953		525,417.3170
Total	4,461.9172	696.7033	8,911.8498	23.0395	554.8637	1,046.0978	1,600.9615	148.4562	1,045.9535	1,194.4098	126,771.8736	833,236.7811	960,008.6548	399.8756	9.7532	972,911.9886

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	4,374.7137	102.8219	7,914.5350	16.3995		1,024.6075	1,024.6075		1,024.6075	1,024.6075	126,771.8736	2,013.3788	128,785.2525	375.3101	4.1382	139,401.1744
Energy	28.0751	241.4997	113.7177	1.5314		19.3973	19.3973		19.3973	19.3973		306,273.4672	306,273.4672	5.8702	5.6150	308,093.4972
Mobile	59.1284	352.3818	883.5971	5.1086	554.8637	2.0930	556.9567	148.4562	1.9488	150.4050		524,949.9352	524,949.9352	18.6953		525,417.3170
Total	4,461.9172	696.7033	8,911.8498	23.0395	554.8637	1,046.0978	1,600.9615	148.4562	1,045.9535	1,194.4098	126,771.8736	833,236.7811	960,008.6548	399.8756	9.7532	972,911.9886

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

3.0 Construction Detail

No Construction for Existing Conditions

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	59.1284	352.3818	883.5971	5.1086	554.8637	2.0930	556.9567	148.4562	1.9488	150.4050		524,949.9352	524,949.9352	18.6953		525,417.3170
Unmitigated	59.1284	352.3818	883.5971	5.1086	554.8637	2.0930	556.9567	148.4562	1.9488	150.4050		524,949.9352	524,949.9352	18.6953		525,417.3170

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Single Family Housing	53,323.96	53,323.96	53,323.96	260,833,688	260,833,688
Total	53,323.96	53,323.96	53,323.96	260,833,688	260,833,688

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
General Office Building	0.00	0.00	0.00	33.00	48.00	19.00	77	19	4
Single Family Housing	13.44	13.44	13.44	40.20	19.20	40.60	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
General Office Building	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	28.0751	241.4997	113.7177	1.5314		19.3973	19.3973		19.3973	19.3973		306,273.4672	306,273.4672	5.8702	5.6150	308,093.4972
NaturalGas Unmitigated	28.0751	241.4997	113.7177	1.5314		19.3973	19.3973		19.3973	19.3973		306,273.4672	306,273.4672	5.8702	5.6150	308,093.4972

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					
General Office Building	269525	2.9066	26.4240	22.1962	0.1585		2.0082	2.0082		2.0082	2.0082		31,708.8056	31,708.8056	0.6078	0.5813	31,897.2352
Single Family Housing	2.3338e+006	25.1684	215.0757	91.5216	1.3728		17.3891	17.3891		17.3891	17.3891		274,564.6615	274,564.6615	5.2625	5.0337	276,196.2620
Total		28.0751	241.4997	113.7177	1.5314		19.3973	19.3973		19.3973	19.3973		306,273.4672	306,273.4672	5.8702	5.6150	308,093.4972

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
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Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	269.525	2.9066	26.4240	22.1962	0.1585		2.0082	2.0082		2.0082	2.0082		31,708.8056	31,708.8056	0.6078	0.5813	31,897.2352
Single Family Housing	2333.8	25.1684	215.0757	91.5216	1.3728		17.3891	17.3891		17.3891	17.3891		274,564.6615	274,564.6615	5.2625	5.0337	276,196.2620
Total		28.0751	241.4997	113.7177	1.5314		19.3973	19.3973		19.3973	19.3973		306,273.4672	306,273.4672	5.8702	5.6150	308,093.4972

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	4,374.7137	102.8219	7,914.5350	16.3995		1,024.6075	1,024.6075		1,024.6075	1,024.6075	126,771.8736	2,013.3788	128,785.2525	375.3101	4.1382	139,401.1744
Unmitigated	4,374.7137	102.8219	7,914.5350	16.3995		1,024.6075	1,024.6075		1,024.6075	1,024.6075	126,771.8736	2,013.3788	128,785.2525	375.3101	4.1382	139,401.1744

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	75.0916					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Consumer Products	742.1872					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	3,524.0641	89.9784	6,801.5366	16.3404		1,018.4108	1,018.4108		1,018.4108	1,018.4108	126,771.8736	0.0000	126,771.8736	373.3890	4.1382	137,339.7687
Landscaping	33.3709	12.8435	1,112.9984	0.0591		6.1967	6.1967		6.1967	6.1967		2,013.3788	2,013.3788	1.9211		2,061.4057
Total	4,374.7137	102.8219	7,914.5350	16.3995		1,024.6075	1,024.6075		1,024.6075	1,024.6075	126,771.8736	2,013.3788	128,785.2525	375.3101	4.1382	139,401.1744

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	75.0916					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	742.1872					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	3,524.0641	89.9784	6,801.5366	16.3404		1,018.4108	1,018.4108		1,018.4108	1,018.4108	126,771.8736	0.0000	126,771.8736	373.3890	4.1382	137,339.7687
Landscaping	33.3709	12.8435	1,112.9984	0.0591		6.1967	6.1967		6.1967	6.1967		2,013.3788	2,013.3788	1.9211		2,061.4057
Total	4,374.7137	102.8219	7,914.5350	16.3995		1,024.6075	1,024.6075		1,024.6075	1,024.6075	126,771.8736	2,013.3788	128,785.2525	375.3101	4.1382	139,401.1744

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

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

11.0 Vegetation

Appendix C3

Operational CalEEMod Output
Project Growth - 2040

RPV - 2040 Project Conditions - Los Angeles-South Coast County, Winter

RPV - 2040 Project Conditions

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	756.00	Dwelling Unit	399.00	1,360,800.00	1927

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2040
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	351.22	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptiuons

Construction Phase - Construction modeled separately

Off-road Equipment -

Vehicle Trips - See Assumptions

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - See Assumptions

Energy Use - See Assumptions

Water And Wastewater - See Assumptions

Solid Waste - See Assumptions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	440.00	2.00
tblConstructionPhase	PhaseEndDate	12/31/2037	1/4/2038
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	6,680.41	0.00
tblEnergyUse	NT24NG	5,516.00	0.00
tblEnergyUse	T24E	287.34	9,434.85
tblEnergyUse	T24NG	25,682.16	62,940.51
tblFireplaces	NumberGas	642.60	0.00
tblFireplaces	NumberNoFireplace	75.60	139.86
tblFireplaces	NumberWood	37.80	0.00
tblLandUse	LotAcreage	245.45	399.00
tblLandUse	Population	2,162.00	1,927.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	351.22
tblProjectCharacteristics	OperationalYear	2018	2040
tblSolidWaste	SolidWasteGenerationRate	790.07	957.43
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	8.70	13.44
tblVehicleTrips	HS_TL	5.90	13.44
tblVehicleTrips	HW_TL	14.70	13.44
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	9.91	3.94
tblVehicleTrips	SU_TR	8.62	3.94
tblVehicleTrips	WD_TR	9.52	3.94
tblWater	AerobicPercent	87.46	97.54
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	2.46
tblWater	IndoorWaterUseRate	49,256,443.37	179,019,122.00

tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	37.80	0.00
tblWoodstoves	NumberNoncatalytic	37.80	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Construction Modeled Separately

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	31.1340	0.7168	62.0970	3.2900e-003		0.3459	0.3459		0.3459	0.3459	0.0000	112.3055	112.3055	0.1069	0.0000	114.9780
Energy	1.4059	12.0140	5.1123	0.0767		0.9713	0.9713		0.9713	0.9713		15,336.9945	15,336.9945	0.2940	0.2812	15,428.1346
Mobile	3.2377	19.9866	46.5482	0.2728	30.9943	0.1171	31.1114	8.2927	0.1090	8.4017		28,051.5368	28,051.5368	1.0499		28,077.7837
Total	35.7775	32.7174	113.7575	0.3528	30.9943	1.4343	32.4286	8.2927	1.4263	9.7189	0.0000	43,500.8368	43,500.8368	1.4507	0.2812	43,620.8962

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	31.1340	0.7168	62.0970	3.2900e-003		0.3459	0.3459		0.3459	0.3459	0.0000	112.3055	112.3055	0.1069	0.0000	114.9780
Energy	1.4059	12.0140	5.1123	0.0767		0.9713	0.9713		0.9713	0.9713		15,336.9945	15,336.9945	0.2940	0.2812	15,428.1346
Mobile	3.2377	19.9866	46.5482	0.2728	30.9943	0.1171	31.1114	8.2927	0.1090	8.4017		28,051.5368	28,051.5368	1.0499		28,077.7837
Total	35.7775	32.7174	113.7575	0.3528	30.9943	1.4343	32.4286	8.2927	1.4263	9.7189	0.0000	43,500.8368	43,500.8368	1.4507	0.2812	43,620.8962

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

3.0 Construction Detail

Construction Modeled Separately

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.2377	19.9866	46.5482	0.2728	30.9943	0.1171	31.1114	8.2927	0.1090	8.4017		28,051.5368	28,051.5368	1.0499		28,077.7837
Unmitigated	3.2377	19.9866	46.5482	0.2728	30.9943	0.1171	31.1114	8.2927	0.1090	8.4017		28,051.5368	28,051.5368	1.0499		28,077.7837

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	2,978.64	2,978.64	2978.64	14,569,995	14,569,995
Total	2,978.64	2,978.64	2,978.64	14,569,995	14,569,995

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	13.44	13.44	13.44	40.20	19.20	40.60	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.4059	12.0140	5.1123	0.0767		0.9713	0.9713		0.9713	0.9713		15,336.9945	15,336.9945	0.2940	0.2812	15,428.1346
NaturalGas Unmitigated	1.4059	12.0140	5.1123	0.0767		0.9713	0.9713		0.9713	0.9713		15,336.9945	15,336.9945	0.2940	0.2812	15,428.1346

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
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Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	130364	1.4059	12.0140	5.1123	0.0767		0.9713	0.9713		0.9713	0.9713		15,336.9945	15,336.9945	0.2940	0.2812	15,428.1346
Total		1.4059	12.0140	5.1123	0.0767		0.9713	0.9713		0.9713	0.9713		15,336.9945	15,336.9945	0.2940	0.2812	15,428.1346

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	130.364	1.4059	12.0140	5.1123	0.0767		0.9713	0.9713		0.9713	0.9713		15,336.9945	15,336.9945	0.2940	0.2812	15,428.1346
Total		1.4059	12.0140	5.1123	0.0767		0.9713	0.9713		0.9713	0.9713		15,336.9945	15,336.9945	0.2940	0.2812	15,428.1346

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	31.1340	0.7168	62.0970	3.2900e-003		0.3459	0.3459		0.3459	0.3459	0.0000	112.3055	112.3055	0.1069	0.0000	114.9780

Unmitigated	31.1340	0.7168	62.0970	3.2900e-003		0.3459	0.3459		0.3459	0.3459	0.0000	112.3055	112.3055	0.1069	0.0000	114.9780
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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	2.3328					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	26.9438					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8573	0.7168	62.0970	3.2900e-003		0.3459	0.3459		0.3459	0.3459		112.3055	112.3055	0.1069		114.9780
Total	31.1340	0.7168	62.0970	3.2900e-003		0.3459	0.3459		0.3459	0.3459	0.0000	112.3055	112.3055	0.1069	0.0000	114.9780

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	2.3328					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	26.9438					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8573	0.7168	62.0970	3.2900e-003		0.3459	0.3459		0.3459	0.3459		112.3055	112.3055	0.1069		114.9780

Total	31.1340	0.7168	62.0970	3.2900e-003		0.3459	0.3459		0.3459	0.3459	0.0000	112.3055	112.3055	0.1069	0.0000	114.9780
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7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

RPV - 2040 Project Conditions - Los Angeles-South Coast County, Summer

RPV - 2040 Project Conditions

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	756.00	Dwelling Unit	399.00	1,360,800.00	1927

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2040
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	351.22	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptiuons

Construction Phase - Construction modeled separately

Off-road Equipment -

Vehicle Trips - See Assumptions

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - See Assumptions

Energy Use - See Assumptions

Water And Wastewater - See Assumptions

Solid Waste - See Assumptions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	440.00	2.00
tblConstructionPhase	PhaseEndDate	12/31/2037	1/4/2038
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	6,680.41	0.00
tblEnergyUse	NT24NG	5,516.00	0.00
tblEnergyUse	T24E	287.34	9,434.85
tblEnergyUse	T24NG	25,682.16	62,940.51
tblFireplaces	NumberGas	642.60	0.00
tblFireplaces	NumberNoFireplace	75.60	139.86
tblFireplaces	NumberWood	37.80	0.00
tblLandUse	LotAcreage	245.45	399.00
tblLandUse	Population	2,162.00	1,927.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	351.22
tblProjectCharacteristics	OperationalYear	2018	2040
tblSolidWaste	SolidWasteGenerationRate	790.07	957.43
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	8.70	13.44
tblVehicleTrips	HS_TL	5.90	13.44
tblVehicleTrips	HW_TL	14.70	13.44
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	9.91	3.94
tblVehicleTrips	SU_TR	8.62	3.94
tblVehicleTrips	WD_TR	9.52	3.94
tblWater	AerobicPercent	87.46	97.54
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	2.46
tblWater	IndoorWaterUseRate	49,256,443.37	179,019,122.00

tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	37.80	0.00
tblWoodstoves	NumberNoncatalytic	37.80	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Construction Modeled Separately

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	31.1340	0.7168	62.0970	3.2900e-003		0.3459	0.3459		0.3459	0.3459	0.0000	112.3055	112.3055	0.1069	0.0000	114.9780
Energy	1.4059	12.0140	5.1123	0.0767		0.9713	0.9713		0.9713	0.9713		15,336.9945	15,336.9945	0.2940	0.2812	15,428.1346
Mobile	3.3029	19.6838	49.3571	0.2854	30.9943	0.1169	31.1112	8.2927	0.1089	8.4015		29,323.3512	29,323.3512	1.0443		29,349.4588
Total	35.8427	32.4146	116.5664	0.3653	30.9943	1.4341	32.4285	8.2927	1.4261	9.7187	0.0000	44,772.6513	44,772.6513	1.4452	0.2812	44,892.5714

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	31.1340	0.7168	62.0970	3.2900e-003		0.3459	0.3459		0.3459	0.3459	0.0000	112.3055	112.3055	0.1069	0.0000	114.9780
Energy	1.4059	12.0140	5.1123	0.0767		0.9713	0.9713		0.9713	0.9713		15,336.9945	15,336.9945	0.2940	0.2812	15,428.1346
Mobile	3.3029	19.6838	49.3571	0.2854	30.9943	0.1169	31.1112	8.2927	0.1089	8.4015		29,323.3512	29,323.3512	1.0443		29,349.4588
Total	35.8427	32.4146	116.5664	0.3653	30.9943	1.4341	32.4285	8.2927	1.4261	9.7187	0.0000	44,772.6513	44,772.6513	1.4452	0.2812	44,892.5714

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

3.0 Construction Detail

Construction Modeled Separately

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.3029	19.6838	49.3571	0.2854	30.9943	0.1169	31.1112	8.2927	0.1089	8.4015		29,323.3512	29,323.3512	1.0443		29,349.4588
Unmitigated	3.3029	19.6838	49.3571	0.2854	30.9943	0.1169	31.1112	8.2927	0.1089	8.4015		29,323.3512	29,323.3512	1.0443		29,349.4588

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	2,978.64	2,978.64	2978.64	14,569,995	14,569,995
Total	2,978.64	2,978.64	2,978.64	14,569,995	14,569,995

4.3 Trip Type Information

	Miles	Trip %	Trip Purpose %
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Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-C	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	13.44	13.44	13.44	40.20	19.20	40.60	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.4059	12.0140	5.1123	0.0767		0.9713	0.9713		0.9713	0.9713		15,336.9945	15,336.9945	0.2940	0.2812	15,428.1346
NaturalGas Unmitigated	1.4059	12.0140	5.1123	0.0767		0.9713	0.9713		0.9713	0.9713		15,336.9945	15,336.9945	0.2940	0.2812	15,428.1346

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					

Single Family Housing	130364	1.4059	12.0140	5.1123	0.0767		0.9713	0.9713		0.9713	0.9713		15,336.9945	15,336.9945	0.2940	0.2812	15,428.1346
Total		1.4059	12.0140	5.1123	0.0767		0.9713	0.9713		0.9713	0.9713		15,336.9945	15,336.9945	0.2940	0.2812	15,428.1346

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	130.364	1.4059	12.0140	5.1123	0.0767		0.9713	0.9713		0.9713	0.9713		15,336.9945	15,336.9945	0.2940	0.2812	15,428.1346
Total		1.4059	12.0140	5.1123	0.0767		0.9713	0.9713		0.9713	0.9713		15,336.9945	15,336.9945	0.2940	0.2812	15,428.1346

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	31.1340	0.7168	62.0970	3.2900e-003		0.3459	0.3459		0.3459	0.3459	0.0000	112.3055	112.3055	0.1069	0.0000	114.9780
Unmitigated	31.1340	0.7168	62.0970	3.2900e-003		0.3459	0.3459		0.3459	0.3459	0.0000	112.3055	112.3055	0.1069	0.0000	114.9780

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	2.3328					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	26.9438					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8573	0.7168	62.0970	3.2900e-003		0.3459	0.3459		0.3459	0.3459		112.3055	112.3055	0.1069		114.9780
Total	31.1340	0.7168	62.0970	3.2900e-003		0.3459	0.3459		0.3459	0.3459	0.0000	112.3055	112.3055	0.1069	0.0000	114.9780

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	2.3328					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	26.9438					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8573	0.7168	62.0970	3.2900e-003		0.3459	0.3459		0.3459	0.3459		112.3055	112.3055	0.1069		114.9780
Total	31.1340	0.7168	62.0970	3.2900e-003		0.3459	0.3459		0.3459	0.3459	0.0000	112.3055	112.3055	0.1069	0.0000	114.9780

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Appendix C3

Operational CalEEMod Output
Operational LST CalEEMod Output

RPV - 2040 1 acre development - Los Angeles-South Coast County, Winter

RPV - 2040 1 acre development
Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	28.00	Dwelling Unit	1.00	50,400.00	71

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2040
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	351.22	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - Construction modeled separately

Off-road Equipment -

Vehicle Trips - See Assumptions

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - See Assumptions

Energy Use - See Assumptions

Water And Wastewater - See Assumptions

Solid Waste - See Assumptions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	1.00
tblConstructionPhase	PhaseEndDate	12/31/2037	1/1/2038
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	6,680.41	0.00
tblEnergyUse	NT24NG	5,516.00	0.00
tblEnergyUse	T24E	287.34	9,434.85
tblEnergyUse	T24NG	25,682.16	62,940.51
tblFireplaces	NumberGas	23.80	0.00
tblFireplaces	NumberNoFireplace	2.80	5.18
tblFireplaces	NumberWood	1.40	0.00
tblLandUse	LotAcreage	9.09	1.00
tblLandUse	Population	80.00	71.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	351.22
tblProjectCharacteristics	OperationalYear	2018	2040
tblSolidWaste	SolidWasteGenerationRate	29.11	35.46
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	8.70	13.44
tblVehicleTrips	HS_TL	5.90	13.44
tblVehicleTrips	HW_TL	14.70	13.44
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	9.91	3.94
tblVehicleTrips	SU_TR	8.62	3.94
tblVehicleTrips	WD_TR	9.52	3.94
tblWater	AerobicPercent	87.46	97.54
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	2.46
tblWater	IndoorWaterUseRate	1,824,312.72	6,630,338.00

tblWater	OutdoorWaterUseRate	1,150,110.19	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	1.40	0.00
tblWoodstoves	NumberNoncatalytic	1.40	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Construction Modeled Separately

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	1.1531	0.0266	2.2999	1.2000e-004		0.0128	0.0128		0.0128	0.0128	0.0000	4.1595	4.1595	3.9600e-003	0.0000	4.2584
Energy	0.0521	0.4450	0.1894	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.0368	568.0368	0.0109	0.0104	571.4124
Mobile	0.1199	0.7403	1.7240	0.0101	1.1479	4.3400e-003	1.1523	0.3071	4.0400e-003	0.3112		1,038.9458	1,038.9458	0.0389		1,039.9179
Total	1.3251	1.2118	4.2133	0.0131	1.1479	0.0531	1.2011	0.3071	0.0528	0.3600	0.0000	1,611.1421	1,611.1421	0.0537	0.0104	1,615.5887

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	1.1531	0.0266	2.2999	1.2000e-004		0.0128	0.0128		0.0128	0.0128	0.0000	4.1595	4.1595	3.9600e-003	0.0000	4.2584
Energy	0.0521	0.4450	0.1894	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.0368	568.0368	0.0109	0.0104	571.4124
Mobile	0.1199	0.7403	1.7240	0.0101	1.1479	4.3400e-003	1.1523	0.3071	4.0400e-003	0.3112		1,038.9458	1,038.9458	0.0389		1,039.9179
Total	1.3251	1.2118	4.2133	0.0131	1.1479	0.0531	1.2011	0.3071	0.0528	0.3600	0.0000	1,611.1421	1,611.1421	0.0537	0.0104	1,615.5887

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

3.0 Construction Detail

Construction Modeled Separately

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1199	0.7403	1.7240	0.0101	1.1479	4.3400e-003	1.1523	0.3071	4.0400e-003	0.3112		1,038.9458	1,038.9458	0.0389		1,039.9179
Unmitigated	0.1199	0.7403	1.7240	0.0101	1.1479	4.3400e-003	1.1523	0.3071	4.0400e-003	0.3112		1,038.9458	1,038.9458	0.0389		1,039.9179

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	110.32	110.32	110.32	539,629	539,629
Total	110.32	110.32	110.32	539,629	539,629

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	13.44	13.44	13.44	40.20	19.20	40.60	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0521	0.4450	0.1894	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.0368	568.0368	0.0109	0.0104	571.4124
NaturalGas Unmitigated	0.0521	0.4450	0.1894	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.0368	568.0368	0.0109	0.0104	571.4124

5.2 Energy by Land Use - NaturalGas
Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	4828.31	0.0521	0.4450	0.1894	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.0368	568.0368	0.0109	0.0104	571.4124
Total		0.0521	0.4450	0.1894	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.0368	568.0368	0.0109	0.0104	571.4124

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	4.82831	0.0521	0.4450	0.1894	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.0368	568.0368	0.0109	0.0104	571.4124
Total		0.0521	0.4450	0.1894	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.0368	568.0368	0.0109	0.0104	571.4124

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	1.1531	0.0266	2.2999	1.2000e-004		0.0128	0.0128		0.0128	0.0128	0.0000	4.1595	4.1595	3.9600e-003	0.0000	4.2584
Unmitigated	1.1531	0.0266	2.2999	1.2000e-004		0.0128	0.0128		0.0128	0.0128	0.0000	4.1595	4.1595	3.9600e-003	0.0000	4.2584

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0864					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.9979					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0688	0.0266	2.2999	1.2000e-004		0.0128	0.0128		0.0128	0.0128		4.1595	4.1595	3.9600e-003		4.2584
Total	1.1531	0.0266	2.2999	1.2000e-004		0.0128	0.0128		0.0128	0.0128	0.0000	4.1595	4.1595	3.9600e-003	0.0000	4.2584

Mitigated

[illegible]

Landscaping	0.0688	0.0266	2.2999	1.2000e-004		0.0128	0.0128		0.0128	0.0128		4.1595	4.1595	3.9600e-003		4.2584
Total	1.1531	0.0266	2.2999	1.2000e-004		0.0128	0.0128		0.0128	0.0128	0.0000	4.1595	4.1595	3.9600e-003	0.0000	4.2584

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

RPV - 2040 1 acre development - Los Angeles-South Coast County, Summer

RPV - 2040 1 acre development
Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	28.00	Dwelling Unit	1.00	50,400.00	71

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2040
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	351.22	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - Construction modeled separately

Off-road Equipment -

Vehicle Trips - See Assumptions

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - See Assumptions

Energy Use - See Assumptions

Water And Wastewater - See Assumptions

Solid Waste - See Assumptions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	1.00
tblConstructionPhase	PhaseEndDate	12/31/2037	1/1/2038
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	6,680.41	0.00
tblEnergyUse	NT24NG	5,516.00	0.00
tblEnergyUse	T24E	287.34	9,434.85
tblEnergyUse	T24NG	25,682.16	62,940.51
tblFireplaces	NumberGas	23.80	0.00
tblFireplaces	NumberNoFireplace	2.80	5.18
tblFireplaces	NumberWood	1.40	0.00
tblLandUse	LotAcreage	9.09	1.00
tblLandUse	Population	80.00	71.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	351.22
tblProjectCharacteristics	OperationalYear	2018	2040
tblSolidWaste	SolidWasteGenerationRate	29.11	35.46
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	8.70	13.44
tblVehicleTrips	HS_TL	5.90	13.44
tblVehicleTrips	HW_TL	14.70	13.44
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	9.91	3.94
tblVehicleTrips	SU_TR	8.62	3.94
tblVehicleTrips	WD_TR	9.52	3.94
tblWater	AerobicPercent	87.46	97.54
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	2.46
tblWater	IndoorWaterUseRate	1,824,312.72	6,630,338.00

tblWater	OutdoorWaterUseRate	1,150,110.19	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	1.40	0.00
tblWoodstoves	NumberNoncatalytic	1.40	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Construction Modeled Separately

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	1.1531	0.0266	2.2999	1.2000e-004		0.0128	0.0128		0.0128	0.0128	0.0000	4.1595	4.1595	3.9600e-003	0.0000	4.2584
Energy	0.0521	0.4450	0.1894	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.0368	568.0368	0.0109	0.0104	571.4124
Mobile	0.1223	0.7290	1.8280	0.0106	1.1479	4.3300e-003	1.1523	0.3071	4.0300e-003	0.3112		1,086.0500	1,086.0500	0.0387		1,087.0170
Total	1.3275	1.2005	4.3173	0.0135	1.1479	0.0531	1.2011	0.3071	0.0528	0.3600	0.0000	1,658.2463	1,658.2463	0.0535	0.0104	1,662.6878

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
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Category	lb/day										lb/day					
Area	1.1531	0.0266	2.2999	1.2000e-004		0.0128	0.0128		0.0128	0.0128	0.0000	4.1595	4.1595	3.9600e-003	0.0000	4.2584
Energy	0.0521	0.4450	0.1894	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.0368	568.0368	0.0109	0.0104	571.4124
Mobile	0.1223	0.7290	1.8280	0.0106	1.1479	4.3300e-003	1.1523	0.3071	4.0300e-003	0.3112		1,086.0500	1,086.0500	0.0387		1,087.0170
Total	1.3275	1.2005	4.3173	0.0135	1.1479	0.0531	1.2011	0.3071	0.0528	0.3600	0.0000	1,658.2463	1,658.2463	0.0535	0.0104	1,662.6878

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

3.0 Construction Detail

Construction Modeled Separately

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1223	0.7290	1.8280	0.0106	1.1479	4.3300e-003	1.1523	0.3071	4.0300e-003	0.3112		1,086.0500	1,086.0500	0.0387		1,087.0170
Unmitigated	0.1223	0.7290	1.8280	0.0106	1.1479	4.3300e-003	1.1523	0.3071	4.0300e-003	0.3112		1,086.0500	1,086.0500	0.0387		1,087.0170

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	110.32	110.32	110.32	539,629	539,629
Total	110.32	110.32	110.32	539,629	539,629

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	13.44	13.44	13.44	40.20	19.20	40.60	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0521	0.4450	0.1894	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.0368	568.0368	0.0109	0.0104	571.4124
NaturalGas Unmitigated	0.0521	0.4450	0.1894	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.0368	568.0368	0.0109	0.0104	571.4124

5.2 Energy by Land Use - NaturalGas
Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	4828.31	0.0521	0.4450	0.1894	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.0368	568.0368	0.0109	0.0104	571.4124
Total		0.0521	0.4450	0.1894	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.0368	568.0368	0.0109	0.0104	571.4124

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	4.82831	0.0521	0.4450	0.1894	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.0368	568.0368	0.0109	0.0104	571.4124
Total		0.0521	0.4450	0.1894	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.0368	568.0368	0.0109	0.0104	571.4124

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	1.1531	0.0266	2.2999	1.2000e-004		0.0128	0.0128		0.0128	0.0128	0.0000	4.1595	4.1595	3.9600e-003	0.0000	4.2584
Unmitigated	1.1531	0.0266	2.2999	1.2000e-004		0.0128	0.0128		0.0128	0.0128	0.0000	4.1595	4.1595	3.9600e-003	0.0000	4.2584

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0864					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.9979					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0688	0.0266	2.2999	1.2000e-004		0.0128	0.0128		0.0128	0.0128		4.1595	4.1595	3.9600e-003		4.2584
Total	1.1531	0.0266	2.2999	1.2000e-004		0.0128	0.0128		0.0128	0.0128	0.0000	4.1595	4.1595	3.9600e-003	0.0000	4.2584

Mitigated

[illegible]

Landscaping	0.0688	0.0266	2.2999	1.2000e-004		0.0128	0.0128		0.0128	0.0128		4.1595	4.1595	3.9600e-003		4.2584
Total	1.1531	0.0266	2.2999	1.2000e-004		0.0128	0.0128		0.0128	0.0128	0.0000	4.1595	4.1595	3.9600e-003	0.0000	4.2584

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation