



12 Oaks Winery Resort Project

Air Quality Technical Report

November 2018

Prepared for:
Standard Portfolio Temecula, LLC
488 E. Santa Clara Street, Suite 304
Arcadia, CA 91006

Prepared by:
HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

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AIR QUALITY TECHNICAL REPORT

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LIST OF ACRONYMS

ADT	average daily trips
AQMP	Air Quality Management Plan
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CalEEMod	California Emission Estimator Model
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CO	carbon monoxide
County	Riverside County
cy	cubic yard
DPM	diesel particulate matter
°F	Fahrenheit
HI	Hazard Index
HRA	health risk assessment
H ₂ SO ₃	sulfurous acid
H ₂ SO ₄	sulfuric acid
lbs/day	pounds per day
LOS	level of service
LST	localized significance threshold
MATES	Multiple Air Toxics Exposure Studies
MEI	maximally exposed individual
mph	miles per hour
NAAQS	National Ambient Air Quality Standards
NO	nitric oxide
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
N ₂ O	nitrous oxide
O ₃	ozone

LIST OF ACRONYMS (cont.)

PM ₁₀	particles smaller than 10 microns in diameter
PM _{2.5}	particulate matter with a diameter of 2.5 microns or less
ppb	parts per billion
ppm	parts per million
Project	12 Oaks Winery Resort Project
ROG	reactive organic gas
RTP	Regional Transportation Plan
SBCAPCD	Santa Barbara County Air Pollution Control District
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SFR	Single-family Residential
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO ₂	sulfur dioxide
SO ₃	sulfur trioxide
SO _X	sulfur oxides
SRA	source receptor area
TAC	toxic air contaminant
TIA	Traffic Impact Analysis
USEPA	U.S. Environmental Protection Agency
µg/m ³	micrograms per cubic meter
VMT	vehicle miles traveled
VOC	volatile organic compound
WRCC	Western Regional Climate Center

EXECUTIVE SUMMARY

This report presents an assessment of potential air quality emission impacts associated with the 12 Oaks Winery Resort Project (Project). The Project proposes a winery resort consisting of a hotel, restaurant, winery, and residences on approximately 593 acres within the County of Riverside (County). The evaluation addresses the potential for criteria air pollutant emission impacts during the construction and operation of the Project.

The Project would result in emissions of criteria air pollutants during construction and operation. Construction emission sources include fugitive dust, heavy construction equipment, and workers commuting to and from the site. Construction activities are assumed to begin August 2017 and finish by December 2022. Control measures to lower emissions during construction include, but are not limited to, low volatile organic compound (VOC) architectural coatings in accordance with South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings; off-road construction equipment that meets the minimum application of U.S. Environmental Protection Agency (USEPA) Tier 3 engines; and fugitive dust controls in accordance with SCAQMD Rule 403, Fugitive Dust. Impacts associated with emissions of criteria pollutants during Project construction would be less than significant.

Operational emissions associated with the Project would include pollutants associated with vehicular traffic, on-site energy use, wine fermentation and aging, landscaping, and the use of consumer products. Emissions of criteria pollutants during operation of the Project would not exceed the daily significance thresholds.

Development of the Project would be consistent with the SCAQMD Air Quality Management Plan (AQMP) and would not result in cumulatively considerable emissions of nonattainment air pollutants that would exceed the screening level thresholds.

The Project would not result in the exposure of sensitive receptors to substantial emissions of pollutants, toxic air contaminants (TACs), or odors.

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1.0 INTRODUCTION

This report presents an assessment of potential air quality impacts associated with the 12 Oaks Winery Resort Project (Project) proposed by Standard Portfolio Temecula, LLC, (Project Applicant).

1.1 PROJECT LOCATION

The Project consists of 11 parcels containing 1,099.3 acres of land in southwestern Riverside County, northeast of the City of Temecula, including Assessor's Parcel Numbers (APNs) 964-160-001 – 002, 964-160-004, 964-190-001 – 008 (project site). The project site is within the U.S. Geological Survey 7.5-minute Bachelor Mountain quadrangle map within Section 13, Township 7 South, Range 2 West.

The Project site is located approximately 4.5 miles east of the City of Temecula within the Wine Country Community Plan (WCCP) in Riverside County's jurisdiction. The project site is located along Rancho California Road, bound by Buck Road to the south, Warren Road to the east, and Borel Road to the north. Regional access to the Project site is provided via Rancho California Road/Buck Road and from Borel Road to the north of the site. The Project site is surrounded by vacant, undeveloped land, agricultural uses, and sparse single-family residential development. The Project site's location is shown in Figure 1, *Regional Location Map*; Figure 2, *Project Vicinity*; and Figure 3, *Site Plan*.

1.2 PROJECT DESCRIPTION

The Project proposes to develop a winery resort and residences in three construction phases; refer to Figure 3, *Site Plan*. The first phase consists of a full-service hotel and winery. The proposed winery is considered a large-scale winery in terms of the WCCP and would be similar in size to the existing South Coast Winery. The winery would consist of a tasting room, a wedding pavilion and event barn, administrative offices, a wine production barn, and two barrel storage buildings. The resort hotel would contain 251 rooms in a three-story building. The hotel would also offer additional amenities such as a spa, restaurant, pools, fitness center and an event center for weddings and events.

The second phase would develop the Wine Village Estate, a 224.3-acre site with 21 residential lots. This phase would include a winery and community clubhouse, and would be located directly west of the winery resort. Each lot is approximately 10 acres. The third phase would develop the Wine Country Residential Subdivision, consisting of 76 single-family residences in the 172.4-acre western portion of the site.

Several roadway improvements are proposed as part of project. This includes the realignment and extension of the General Plan Circulation Element road, Rancho California Road, between Buck Road and Warren Road. Off-site road improvements include the realignment of Buck Road and Camino El Vino to accommodate environmental restoration and connection to existing roads adjacent to the site.

The hotel resort would be accessed from the extension of Rancho California Road while the winery access driveway would connect to the reconfigured intersection of Warren Road, Benton Road, and Rancho California Road. The Wine Village Estate Lots at the center of the project would access the site from the east via Warren Road and from the south via Buck Road. The Wine Village Estate Lot at the east end of the project would access from the east via Buck Road and from the west via a driveway off of the realigned Rancho California Road. The single-family homes would have two access points from Buck Road with additional emergency access through the estate lots. The project would also include six internal roadways within the residential portions of the site. These roadways would connect to the realigned and paved Buck Road to the south, and Warren Road to the east.

1.3 CONSTRUCTION ACTIVITIES AND PHASING

The Project would be completed in three phases, each phase consisting of various construction activities. Operation of Phase 1 is expected to commence by 2020, Phase 2 by 2020, and Phase 3 by 2022. Construction assumptions used in emissions modeling are briefly described below. Detailed assumptions and modeling spreadsheets are provided in Appendix A.

For modeling purposes, it was assumed that construction for Phase 1 would begin in August 2017, and would occur over a 30-month period. Phase 2 was assumed to begin in January 2018 and would occur over a 34-month period. Phase 3 was assumed to begin in May 2019 and would occur over a 42-month period. As discussed further below, some of the construction activities from different Project phases will overlap. All three Project phases consist of the following construction activities: site preparation, grading, underground utilities, building construction, paving, and architectural coating. Project cut and fill is expected to be balanced on site.

2.0 ENVIRONMENTAL SETTING

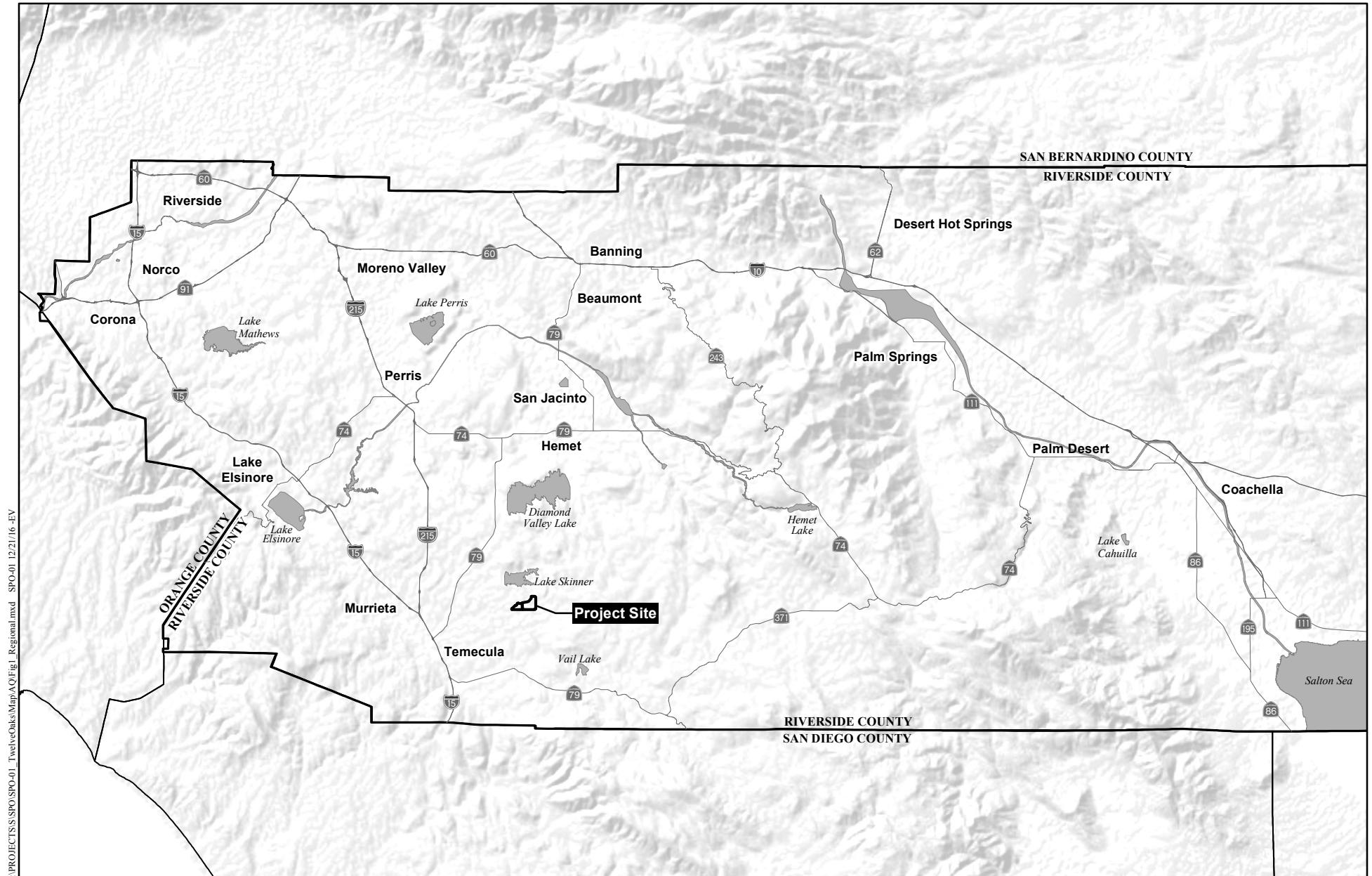
2.1 AIR POLLUTANTS

2.1.1 Criteria Pollutants

Air quality regulations were first promulgated with the Federal Clean Air Act (CAA) of 1970. Air quality is defined by ambient air concentrations of seven “criteria air pollutants,” which are a group of common air pollutants identified by the U.S. Environmental Protection Agency (USEPA) to be of concern with respect to the health and welfare of the general public. Federal and state governments regulate criteria air pollutants by using ambient standards based on criteria regarding the health and/or environmental effects of each pollutant. These pollutants include nitrogen dioxide (NO_2), ozone (O_3), particulate matter (including both PM_{10} and $\text{PM}_{2.5}$), carbon monoxide (CO), sulfur dioxide (SO_2), and lead. A description of each criteria air pollutant, including source types and health effects, is provided below.

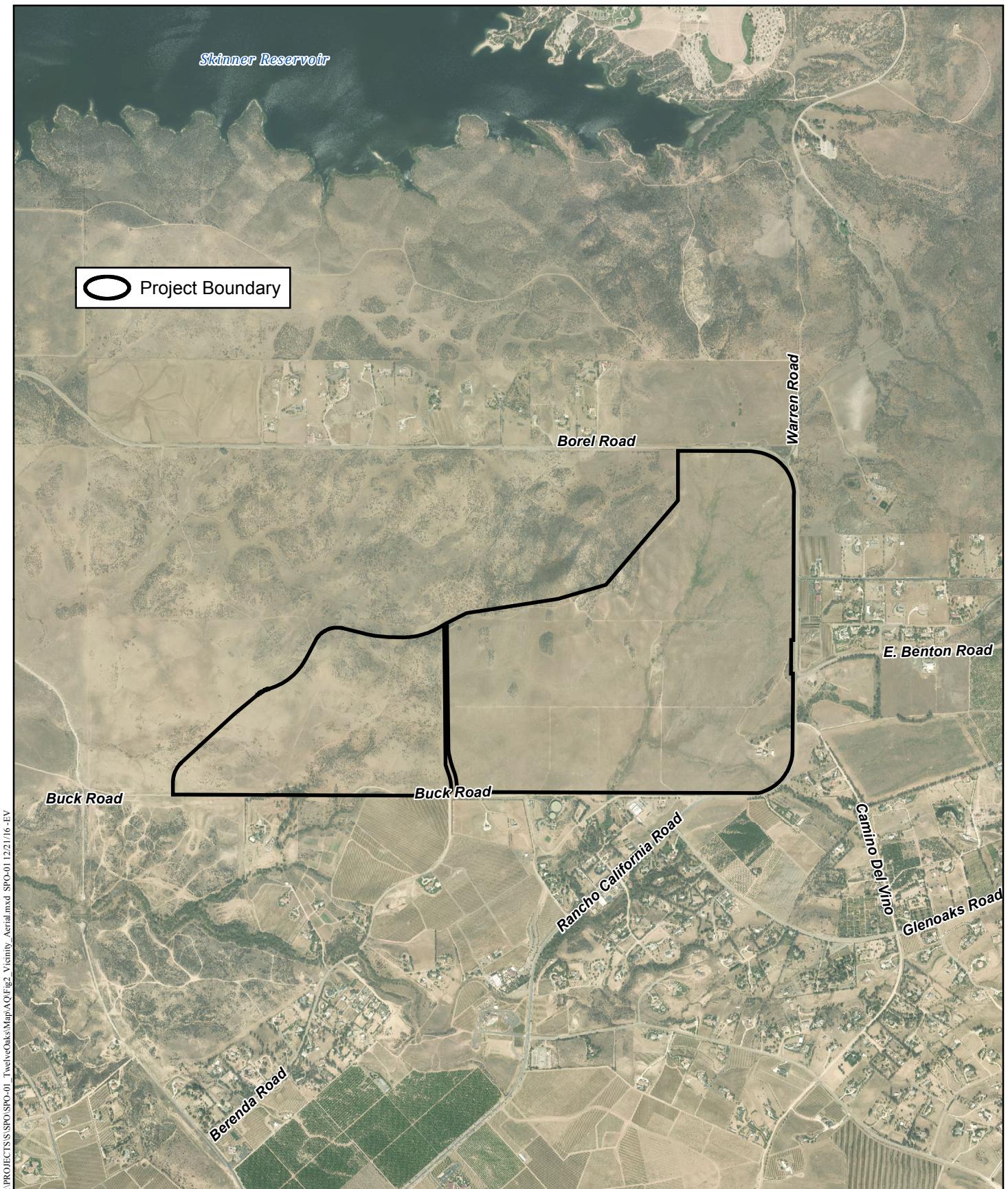
2.1.1.1 Nitrogen Dioxide

Nitrogen gas, normally relatively inert (nonreactive), comprises about 80 percent of the air. At high temperatures (e.g., in a combustion process) and under certain other conditions, nitrogen



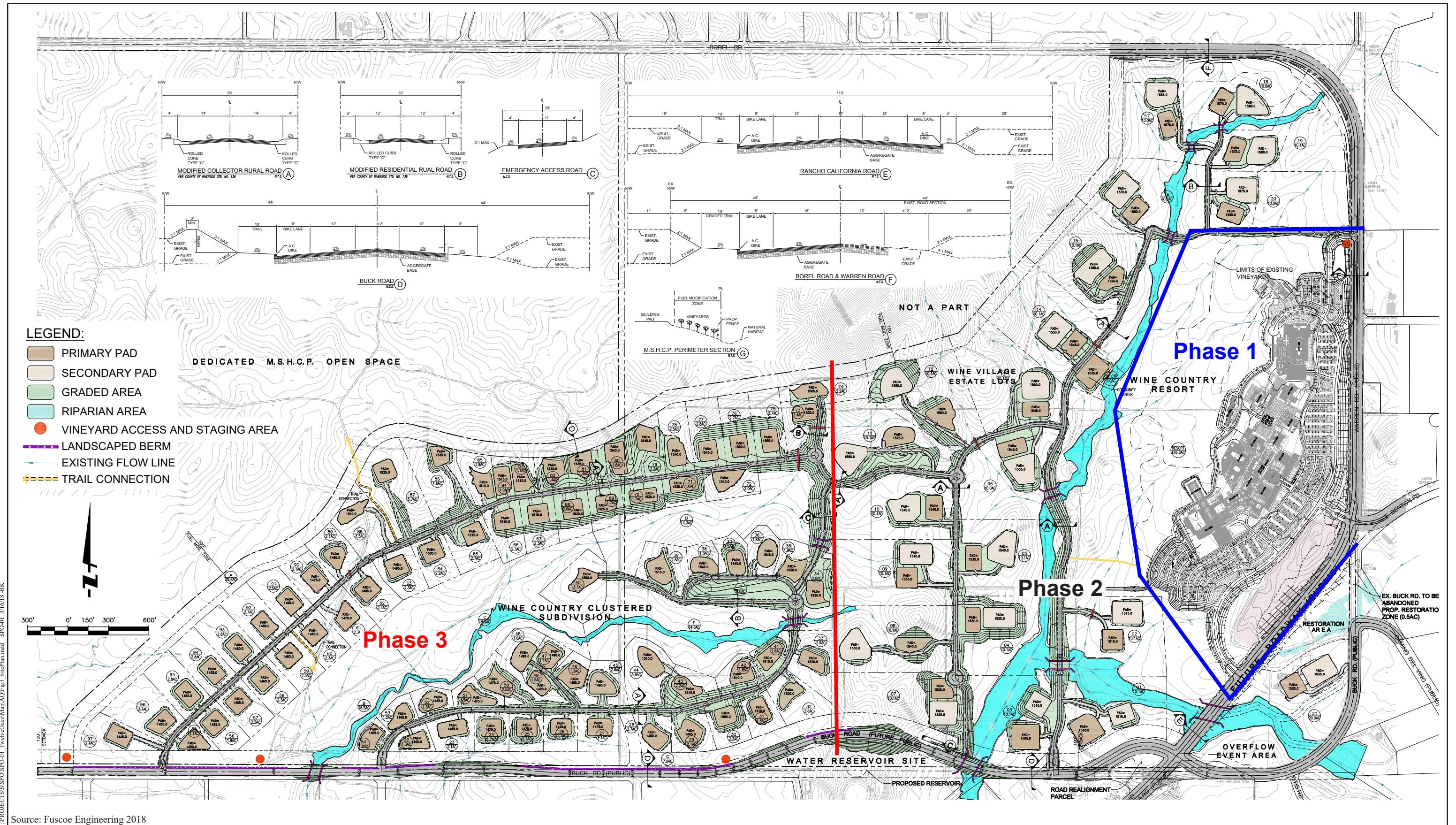
Regional Location Map

12 OAKS WINERY RESORT



Project Vicinity

12 OAKS WINERY RESORT



Source: Fuscoe Engineering 2018

Site Plan

12 OAKS WINERY RESORT

can combine with oxygen to form several different gaseous compounds collectively called nitrogen oxides (NO_x). Nitric oxide (NO), NO₂, and nitrous oxide (N₂O) are important constituents of NO_x. NO is converted to NO₂ in the atmosphere. Motor vehicle emissions are the main source of NO_x in urban areas.

NO₂ is a red-brown pungent gas and is toxic to various animals and to humans because of its ability to form nitric acid with water in the eyes, lungs, mucus membranes, and skin. In animals, long-term exposure to NO_x increases susceptibility to respiratory infections, lowering resistance to such diseases as pneumonia and influenza. Laboratory studies show that susceptible humans, such as asthmatics, who are exposed to high concentrations of NO₂ can suffer lung irritation and potentially lung damage. Epidemiological studies have also shown associations between NO₂ concentrations and (1) hospital admissions for respiratory conditions and (2) daily mortality from respiratory and cardiovascular causes.

Although the National Ambient Air Quality Standards (NAAQS) only address NO₂, NO and NO₂ are precursor emissions for both ozone and fine particulate matter with a diameter of 2.5 microns or less (PM_{2.5}), as discussed below. Because of this and the fact that NO emissions largely convert to NO₂, NO_x emissions are typically examined when assessing potential air quality impacts.

2.1.1.2 *Ozone*

Ozone is a secondary pollutant, meaning that it is not directly emitted. It is a gas that is formed when volatile organic compounds (VOCs) (also referred to as reactive organic gases or ROGs) and NO_x undergo photochemical reactions that occur only in the presence of sunlight. The primary source of VOC emissions is unburned hydrocarbons in motor vehicle and other internal combustion engine exhaust. NO_x forms as a result of the combustion process, most notably due to the operation of motor vehicles. Sunlight and hot weather cause ground-level ozone to form; as a result, ozone is known as a summertime air pollutant. Ground-level ozone is the primary constituent of smog. Because ozone formation occurs over extended periods of time, both ozone and its precursors are transported by wind, and high ozone concentrations can occur in areas well away from sources of its constituent pollutants.

People with lung disease, children, older adults, and people who are active can be affected when ozone levels exceed ambient air quality standards. Numerous scientific studies have linked ground-level ozone exposure to a variety of problems, including:

- lung irritation that can cause inflammation much like a sunburn;
- wheezing, coughing, pain when taking a deep breath, and breathing difficulties during exercise or outdoor activities;
- permanent lung damage to those with repeated exposure to ozone pollution; and
- aggravated asthma, reduced lung capacity, and increased susceptibility to respiratory illnesses like pneumonia and bronchitis.

2.1.1.3 Particulate Matter

Particulate matter includes both aerosols and solid particles with a wide range of size and composition. Of particular concern are those particles smaller than 10 microns in diameter (PM_{10}) and smaller than or equal to 2.5 microns in diameter ($PM_{2.5}$). Particulate matter size refers to the aerodynamic diameter of the particle. Smaller particles are of greater concern because they can penetrate deeper into the lungs than large particles.

Particulate matter tends to occur primarily in the form of fugitive dust. Fugitive dust is generated by both local and regional sources; the latter during moderate to high wind episodes. The principal sources of dust in urban areas are from grading, construction, disturbed areas of soil, and dust entrained by vehicles on roadways.

PM_{10} is generally emitted directly as a result of mechanical processes that crush or grind larger particles or from the resuspension of dusts, most typically through construction activities and vehicular entrainment. PM_{10} generally settles out of the atmosphere rapidly and is not readily transported over large distances.

$PM_{2.5}$ is directly emitted in combustion exhaust and formed in atmospheric reactions between various gaseous pollutants including NO_x , sulfur oxides (SO_x), and VOCs. $PM_{2.5}$ can remain suspended in the atmosphere for days and/or weeks and can be transported long distances.

The principal health effects of airborne particulate matter are on the respiratory system. Short-term exposures to high $PM_{2.5}$ and PM_{10} levels are associated with increased hospital admissions and emergency room visits as well as premature mortality; increased respiratory symptoms are also associated with short-term exposures to high PM_{10} levels. Long-term exposures to high $PM_{2.5}$ levels are associated with development of chronic respiratory disease and premature mortality. According to the USEPA, some people are much more sensitive than others to breathing PM_{10} and $PM_{2.5}$. People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worse illnesses; people with bronchitis can expect aggravated symptoms; and children may experience decline in lung function due to breathing in PM_{10} and $PM_{2.5}$. Other groups considered sensitive include smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths (USEPA 2014).

2.1.1.4 Carbon Monoxide

Carbon monoxide (CO) is a colorless and odorless gas which, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High CO concentrations can cause headaches, aggravate cardiovascular disease, and impair central nervous system functions. CO concentrations can vary greatly over comparatively short distances. Relatively high concentrations are typically found near congested intersections; along heavily used roadways carrying slow moving traffic; and at or near ground level. Even under the most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within a relatively short distance (i.e., up to 600 feet or 185 meters) of heavily traveled roadways. Overall, CO emissions are decreasing as a

result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973.

2.1.1.5 *Sulfur Dioxide*

Sulfur oxides (SO_x) constitute a class of compounds of which sulfur dioxide (SO₂) and sulfur trioxide (SO₃) are of greatest importance. Ninety-five percent of pollution-related SO_x emissions are in the form of SO₂. SO_x emissions are typically examined when assessing potential air quality impacts of SO₂. The primary contributor of SO_x emissions is fossil fuel combustion for generating electric power. Industrial processes, such as nonferrous metal smelting, also contribute to SO_x emissions. SO_x is also formed during combustion of motor fuels; however, most of the sulfur has been removed from fuels, greatly reducing SO_x emissions from vehicles.

SO₂ combines easily with water vapor, forming aerosols of sulfurous acid (H₂SO₃), a colorless, mildly corrosive liquid. This liquid may then combine with oxygen in the air, forming the even more irritating and corrosive sulfuric acid (H₂SO₄). Peak levels of SO₂ in the air can cause temporary breathing difficulty for people with asthma who are active outdoors. Longer-term exposures to high levels of SO₂ gas and particles cause respiratory illness and aggravate existing heart disease. SO₂ reacts with other chemicals in the air to form tiny sulfate particles, which are measured as PM_{2.5}.

2.1.1.6 *Lead*

Lead is a stable compound that persists and accumulates both in the environment and in animals. In humans, it affects the body's blood-forming (or hematopoietic), nervous, and renal systems. In addition, lead has been shown to affect the normal functions of the reproductive, endocrine, hepatic, cardiovascular, immunological and gastrointestinal systems, although there is significant individual variability in response to lead exposure. Since 1975, lead emissions have been in decline due, in part, to the introduction of catalyst-equipped vehicles and the use of unleaded gasoline. In general, an analysis of lead is limited to projects that emit significant quantities of the pollutant (i.e., lead smelters and battery manufacturers) and are not applied to residential or commercial development, or infrastructure projects.

2.1.2 Toxic Air Contaminants

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. TACs are different than the "criteria" pollutants previously discussed because ambient air quality standards have not been established for TACs. TACs occurring at extremely low levels may still cause health effects, and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and by chronic (i.e., of long duration) and acute (i.e., severe but of short duration) adverse effects on human health.

Diesel engines emit a complex mixture of air pollutants, composed of gaseous and solid material. The solid emissions in diesel exhaust are known as diesel particulate matter (DPM). In 1998,

California identified DPM as a TAC based on its potential to cause cancer, premature death, and other health problems (e.g., asthma attacks and other respiratory symptoms). Those most vulnerable are children whose lungs are still developing and the elderly who may have other serious health problems. Overall, diesel engine emissions are responsible for the majority of California's known cancer risk from outdoor air pollutants. Diesel engines also contribute to California's PM_{2.5} air quality problems. In addition, diesel soot causes visibility reduction (California Air Resources Board [CARB] 2011a).

Carcinogenic risks (i.e., cancer risks) are estimated as the incremental probability that an individual will develop cancer over his/her lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a probability (e.g., 10 in 1 million). A risk level of 1 in 1 million implies a likelihood that up to 1 person out of 1 million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the specific concentration over 70 years (an assumed lifetime). This would be in addition to those cancer cases that would normally occur in an unexposed population of 1 million people (USEPA 2011). The Hazard Index (HI) expresses the potential for chemicals to result in non-cancer-related health impacts. HIs are expressed using decimal notation (e.g., 0.001). A calculated HI exposure of less than 1.0 will likely not result in adverse non-cancer-related health effects over a lifetime of exposure. Conversely, an HI greater than 1.0 does not necessarily mean that adverse effects will occur (USEPA 2015a).

2.2 REGULATORY SETTING AND AIR QUALITY STANDARDS

Federal and state ambient air quality standards have been set to protect the most sensitive persons from illness or discomfort. Residential areas, schools, playgrounds, child care centers, athletic facilities, hospitals, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes are especially likely to include persons sensitive to air pollutants.

2.2.1 Federal

The USEPA is responsible for setting and enforcing the NAAQS for criteria pollutants. The standards are shown in Table 1, *California and National Ambient Air Quality Standards*, which also includes California standards. The USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The USEPA's air quality mandates are drawn primarily from the Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments made by Congress were in 1990. As part of its enforcement responsibilities, the USEPA requires each state with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain and maintain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution by using a combination of performance standards and market-based programs within the SIP identified timeframe.

2.2.2 South Coast Air Quality Management District

The Project is located in Riverside County (County). Air quality in the non-desert portion of Riverside County is regulated by the SCAQMD. As a regional agency, the SCAQMD works

directly with the Southern California Association of Governments (SCAG), County transportation commissions, and local governments and cooperates actively with all federal and state government agencies. The SCAQMD develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary.

The SCAQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources. It has responded to this requirement by preparing a sequence of Air Quality Management Plans.

Table 1
CALIFORNIA AND NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards	
			Primary^a	Secondary^b
Ozone	1 Hour	0.09 ppm (180 $\mu\text{g}/\text{m}^3$)	—	—
	8 Hour	0.070 ppm (137 $\mu\text{g}/\text{m}^3$)	0.070 ppm (137 $\mu\text{g}/\text{m}^3$)	Same as Primary
PM ₁₀	24 Hour	50 $\mu\text{g}/\text{m}^3$	150 $\mu\text{g}/\text{m}^3$	Same as Primary
	AAM	20 $\mu\text{g}/\text{m}^3$	—	Same as Primary
PM _{2.5}	24 Hour	—	35 $\mu\text{g}/\text{m}^3$	Same as Primary
	AAM	12 $\mu\text{g}/\text{m}^3$	12.0 $\mu\text{g}/\text{m}^3$	15 $\mu\text{g}/\text{m}^3$
CO	1 Hour	20 ppm (23 mg/ m^3)	35 ppm (40 mg/ m^3)	—
	8 Hour	9.0 ppm (10 mg/ m^3)	9 ppm (10 mg/ m^3)	—
NO ₂	1 Hour	0.18 ppm (339 $\mu\text{g}/\text{m}^3$)	100 ppb (188 $\mu\text{g}/\text{m}^3$)	—
	AAM	0.030 ppm (57 $\mu\text{g}/\text{m}^3$)	0.053 ppm (100 $\mu\text{g}/\text{m}^3$)	Same as Primary
SO ₂	1 Hour	0.25 ppm (655 $\mu\text{g}/\text{m}^3$)	75 ppb (196 $\mu\text{g}/\text{m}^3$)	—
	3 Hour	—	—	0.5 ppm (1300 $\mu\text{g}/\text{m}^3$)
	24 Hour	0.04 ppm (105 $\mu\text{g}/\text{m}^3$)	—	—
Lead	30 Day Avg.	1.5 $\mu\text{g}/\text{m}^3$	—	—
	Calendar Quarter	—	1.5 $\mu\text{g}/\text{m}^3$	Same as Primary
	Rolling 3-Month Avg.	—	0.15 $\mu\text{g}/\text{m}^3$	Same as Primary
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility \geq 10 miles (0.07 per km – \geq 30 miles for Lake Tahoe)	No National Standards	
Sulfates	24 Hour	25 $\mu\text{g}/\text{m}^3$		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 $\mu\text{g}/\text{m}^3$)		
Vinyl Chloride	24 Hour	0.01 ppm (26 $\mu\text{g}/\text{m}^3$)		

Source: CARB 2015.

O₃: ozone; ppm: parts per million; ppb: parts per billion; $\mu\text{g}/\text{m}^3$: micrograms per cubic meter; PM¹⁰: large particulate matter; AAM: Annual Arithmetic Mean; PM_{2.5}: fine particulate matter; CO: carbon monoxide; mg/ m^3 : milligrams per cubic meter; NO₂: nitrogen dioxide; SO₂: sulfur dioxide; km: kilometer; —: No Standard.

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

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

Note: More detailed information in the data presented in this table can be found at the CARB website (www.arb.ca.gov).

On March 3, 2017, the SCAQMD adopted the 2016 AQMP, which is a regional and multi-agency effort (SCAQMD, CARB, SCAG, and USEPA). The 2016 AQMP represents a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures. The plan seeks to achieve multiple goals in partnership with other entities promoting reductions in criteria pollutants, greenhouse gases, and toxic risk, as well as efficiencies in energy use, transportation, and goods movement (SCAQMD 2017). The 2016 AQMP developed integrated strategies and measures to meet the following NAAQS:

- 8-hour ozone (75 ppb) by 2032
- Annual PM_{2.5} (12 µg/m³) by 2021-2025
- 8-hour ozone (80 ppb) by 2024
- 1-hour ozone (120 ppb) by 2023
- 24-hour PM_{2.5} (35 µg/m³) by 2019

2.3 CLIMATE AND METEOROLOGY

The Project site is located in the SCAB, which consists of all or part of four counties – Los Angeles, San Bernardino, Riverside, and Orange. The distinctive climate of the SCAB is determined by its terrain and geographic location. The SCAB is a coastal plain with connecting broad valleys and low hills. It is bound by the Pacific Ocean to the southwest and high mountains around the rest of its perimeter. The general region lies in the semi-permanent high pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light, average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds. Winds in the project area are usually driven by the dominant land/sea breeze circulation system. Regional wind patterns are dominated by daytime onshore sea breezes. At night, the wind generally slows and reverses direction traveling toward the sea. Local canyons can also alter wind direction, with wind tending to flow parallel to the canyons. The vertical dispersion of air pollutants in the SCAB is hampered by the presence of persistent temperature inversions. High pressure systems, such as the semi-permanent high pressure zone in which the SCAB is located, are characterized by an upper layer of dry air that warms as it descends, restricting the mobility of cooler marine-influenced air near the ground surface, and resulting in the formation of subsidence inversions. Such inversions restrict the vertical dispersion of air pollutants released into the marine layer and, together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog. The basin-wide occurrence of inversions at 3,500 feet above mean sea level or less averages 191 days per year (SCAQMD 1993).

The annual average maximum temperature as measured at the Lake Elsinore climatic station, approximately 13 miles northwest of the Project site, is 80.6°Farenheit (°F). The highest monthly average maximum temperature (98.1°F) occurs in August, and the lowest monthly average minimum temperature (36.4°F) occurs in January. The average annual precipitation is 12.01 inches (Western Regional Climate Center [WRCC] 2015).

2.4 EXISTING AIR QUALITY

2.4.1 Attainment Designations

Based on monitored air pollutant concentrations, the USEPA designates an area's status in attaining the NAAQS. Table 2, *Attainment Status of Criteria Pollutants in the South Coast Air Basin*, summarizes the attainment status in the SCAB for the criteria pollutants. Table 2 also includes state attainment designations. When an area has been reclassified from a nonattainment to an attainment area for a federal standard, the status is identified as "maintenance," and there must be a plan and measures that will keep the region in attainment for the following 10 years. The Project area is a federal nonattainment area for ozone and PM_{2.5}, and a state nonattainment area for ozone, PM₁₀, and PM_{2.5}, as shown in Table 2.

Table 2
ATTAINMENT STATUS OF CRITERIA POLLUTANTS
IN THE SOUTH COAST AIR BASIN

Pollutant	State	Federal
Ozone (1 hour)	Nonattainment	No Standard
Ozone (8 hour)	Nonattainment	Nonattainment
PM ₁₀	Nonattainment	Attainment
PM _{2.5}	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO ₂	Attainment	Attainment
SO ₂	Attainment	Attainment
Lead	Attainment	Attainment
All others	Attainment/Unclassified	No Standards

Source: CARB 2014; USEPA 2015b

2.4.2 Toxic Air Contaminants

The SCAQMD has conducted a series of in-depth analyses of TACs and their resulting health risks within the SCAB called the Multiple Air Toxics Exposure Studies (MATES). These studies show that due to improved DPM emissions control technologies and increasingly stringent DPM emissions regulations, the cancer risk incidence in the eight years between the MATES II and MATES III studies declined by approximately 15 percent even as population and business growth occurred throughout the region (SCAQMD 2008a). Additionally, MATES IV shows that cancer risk has decreased more than 50 percent between MATES III and MATES IV (SCAQMD 2015b).

MATES IV is the most comprehensive dataset documenting the ambient air toxic levels and health risks associated with the SCAB emissions. MATES IV estimates the average excess cancer risk level from exposure to TACs is approximately 367 in 1 million basin-wide. These model estimates were based on monitoring data collected at 10 fixed sites within the SCAB. DPM is included in this cancer risk along with all other TAC sources. DPM accounts for 80 percent of the total risk shown in MATES-IV.

3.0 METHODS AND SIGNIFICANCE CRITERIA

3.1 MODELING METHODS

Criteria pollutant and ozone precursor emissions from Project construction and operation are assessed using the California Emission Estimator Model (CalEEMod), Version 2016.3.4² (SCAQMD 2016b). CalEEMod is a computer model developed by SCAQMD with the input of several air quality management and pollution control districts to estimate criteria air pollutant emissions from various urban land uses (SCAQMD 2016b). CalEEMod has the ability to calculate both mobile (i.e., vehicular) and area source or stationary source emissions. CalEEMod allows land use selections that include project land use types, sizes, and metric specifics.

3.1.1 Construction Emission Assumptions

CalEEMod incorporates CARB's EMFAC2014 model for on-road vehicle emissions and the OFFROAD2011 model for off-road vehicle emissions (CARB 2015 and 2011b). CalEEMod is designed to model construction emissions for land development projects and allows for the input of project-specific information, such as the number of equipment, hours of operations, duration of construction activities, and selection of emission control measures. The analysis assessed maximum daily emissions from individual construction activities, including site preparation, grading, building construction, paving, and architectural coating.

Construction would require heavy equipment during site preparation, mass grading, building construction, and paving. Construction equipment estimates are based on default values in CalEEMod and input from the Project Applicant. All off-road construction equipment would meet the minimum application of USEPA Tier 3 engines. Table 3, *Construction Equipment Assumptions*, presents a summary of the assumed equipment that would be involved in each stage of construction.

Table 3
CONSTRUCTION EQUIPMENT ASSUMPTIONS

Construction Activity	Equipment	Quantity		
		Phase 1	Phase 2	Phase 3
Site Preparation	Rubber Tired Dozers	0	3	3
	Tractors/Loaders/Backhoes	4	4	4
Grading	Excavators	2	2	2
	Rubber Tired Dozers	1	1	1
	Graders	1	1	1
	Tractors/Loaders/Backhoes	2	2	2
	Scrapers	2	2	2
Underground Utilities	Excavators	1	1	1
	Tractors/Loaders/Backhoes	2	2	2
	Trenchers	1	1	1

Table 3 (cont.)
CONSTRUCTION EQUIPMENT ASSUMPTIONS

Construction Activity	Equipment	Quantity		
		Phase 1	Phase 2	Phase 3
Building Construction	Cranes	1	1	1
	Forklifts	3	3	3
	Generator Sets	1	1	1
	Tractors/Loaders/Backhoes	3	3	3
	Welders	1	1	1
Paving	Pavers	2	2	2
	Paving Equipment	2	2	2
	Rollers	2	2	2
Architectural Coating	Air Compressor	1	1	1

Source: CalEEMod (output data, including equipment horsepower, is provided in Appendix A).

The construction schedule was determined by using CalEEMod defaults, input from the Project Applicant, and standard assumptions for similarly sized projects, taking into consideration the size of the Project in order to estimate necessary construction activities and length of days per construction activity. For example, an underground utilities phase was added to the model to account for necessary Project trenching and utility installation. As shown in Table 4, *Anticipated Construction Schedule*, Project development was assumed to start in August 2017 and projected to end December 2022.

The quantity, duration, and the intensity of construction activity have an effect on the amount of construction emissions and their related pollutant concentrations that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of (1) a more modern and cleaner-burning construction equipment fleet mix than incorporated in the CalEEMod, and/or (2) a less intensive buildup schedule (i.e., fewer daily emissions occurring over a longer time interval). A complete listing of the assumptions used in the analysis and model output are provided in Appendix A of this report.

Table 4
ANTICIPATED CONSTRUCTION SCHEDULE

Construction Activity	Construction Period		
	Start	End	Working Days
Phase 1 – Winery and Hotel			
Site Preparation	08/01/2017	08/21/2017	15
Grading	08/22/2017	12/21/2017	88
Underground Utilities	12/22/2017	08/21/2018	173
Building Construction	02/01/2018	11/30/2019	477
Architectural Coating	10/20/2019	05/15/2020	150
Paving	12/01/2019	02/21/2020	60
Phase 2 – Winery Estates			
Site Preparation	01/01/2018	01/12/2018	10
Grading	01/15/2018	04/06/2018	60
Underground Utilities	04/09/2018	09/21/2018	120
Building Construction	09/24/2018	09/25/2020	525
Architectural Coating	11/09/2020	12/18/2020	30
Paving	09/28/2020	11/06/2020	30
Phase 3 – Single Family Residential Ranch Lots			
Site Preparation	05/06/2019	05/24/2019	15
Grading	05/25/2019	11/22/2019	130
Underground Utilities	11/25/2019	09/25/2020	220
Building Construction	09/28/2020	10/07/2022	530
Architectural Coating	11/21/2022	12/30/2022	30
Paving	10/10/2022	11/18/2022	30

Source: CalEEMod (output data, including equipment horsepower, is provided in Appendix A).

Earth-disturbing activities such as site preparation, grading, and vehicle travel on unpaved roads during construction of the Project would generate fugitive dust emissions, including emissions of PM₁₀ and PM_{2.5}. Emissions calculations assume application of water during grading and a 15-miles per hour (mph) speed limit on unpaved surfaces in compliance with SCAQMD Rule 403, Fugitive Dust. Based on CalEEMod, Version 2016.3.42, the control efficiency for watering two times per day is 55 percent. The Project proposes balanced grading activity, which means that no soil would be transported off-site for disposal nor would soil be transported on-site for use in construction activities.

The Project would conform to the VOC limits included in SCAQMD Rule 1113, Architectural Coatings. According to Rule 1113, coatings must have a VOC content less than or equal to 50 grams per liter. For modeling the Project's emissions in CalEEMod, conformance with these rules was assumed. The quantities of coatings that would be applied to the interior and exterior of the new buildings were estimated according to CalEEMod default assumptions. A complete listing of the assumptions used in the analysis and model output are provided in Appendix A of this report.

3.1.2 Operational Emission Assumptions

CalEEMod estimates Project-generated, long-term regional area-source and mobile-source emissions of criteria air pollutants and ozone precursors. Operational emissions from area sources include the combustion of natural gas for heating and hot water, engine emissions from landscape maintenance equipment, and VOC emissions from consumer products and repainting of buildings. Per the SCAQMD Rule 445, no wood-burning devices (e.g., fireplaces and woodstoves) shall be permanently installed into any new development (SCAQMD 2008b). Any fireplaces installed in project buildings are assumed to use natural gas

Operational emissions from mobile source emissions are associated with Project-related vehicle trip generation. Based on the Traffic Impact Analysis ([TIA]; Fehr and Peers 2017), at full buildout the Project would generate 4,082 average daily trips (ADTs) on the weekdays and 4,847 ADTs on the weekends. The design of the Project includes mixed uses, specifically a hotel and a winery, that would result in internalization trip reductions—some hotel guests would also patronize the winery. The location of the project in an area with other wineries would result in pass-by trip reductions—some patrons visiting other area wineries would visit the Project during the same trip. According to the TIA, internalization would reduce hotel trip generation by 20 percent and pass-by would reduce winery trip generation by 33 percent. These reductions are accounted for in the estimated Project trip generation. The Project would be built in such a way as to include features that work to minimize vehicle miles traveled (VMT). The Project includes multiple land use types. Having different types of land uses near one another can decrease VMT since trips between land use types are shorter and may be accommodated by non-auto modes of transport. As such, mobile source emission estimates included the measure LUT 3, Increased Diversity, as described in the California Air Pollution Control Officers Association (CAPCOA) Quantifying Greenhouse Gas Mitigation Measures.

CalEEMod default motor vehicle emission rates are based on CARB's EMFAC state-wide emission factors for the Riverside County region which are incorporated into CalEEMod. Default vehicle speeds, trip lengths, trip purpose, and trip type percentages were used. Model output data sheets are included in Appendix A.

Emissions of ethanol, a reactive organic compound, occur during the fermentation and aging/storage step in the wine making process. Ethanol emissions were estimated using the Santa Barbara County Air Pollution Control District's *Annual Winery Emissions Spreadsheet* (SBCAPCD 2016). The spreadsheet calculates ethanol emissions based on annual wine production. It is expected that the Project will produce up to 50,000 cases of wine annually.

3.1.3 Localized Significance Threshold Methodology

As part of the SCAQMD's environmental justice program, more attention has been focused on localized air quality effects. In addition to the California Environmental Quality Act (CEQA) significance thresholds for mass daily emissions and regional conditions, the SCAQMD has established thresholds for ambient air quality (Table 5, *SCAQMD Thresholds of Significance*) to address localized impacts. Also, while regional impact analysis is based on attaining or maintaining regional emissions standards, localized impact analysis compares the concentration of a pollutant at a receptor site to a health-based standard.

SCAQMD staff then developed localized significance threshold (LST) methodology and mass rate look-up tables by source receptor area (SRA) that can be used by public agencies to determine whether a project may generate significant adverse localized air quality impacts. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard; they are developed based on the ambient concentrations of that pollutant for each SRA (SCAQMD 2009). The LST methodology translates the concentration standards into emissions thresholds that are a function of project site area, source to receptor distance, and the location within the SCAB. The LST methodology is recommended to be limited to projects of five acres or less and to avoid the need for complex dispersion modeling. For projects that exceed five acres, such as the proposed Project, the five-acre LST look-up values can be used as a screening tool to determine which pollutants require detailed analysis (MacMillan 2011). This approach is conservative as it assumes that all on-site emissions would occur within a five-acre area and over-predicts potential localized impacts (i.e., more pollutant emissions occurring within a smaller area and within closer proximity to potential sensitive receptors). If a project exceeds the LST look-up values, then the SCAQMD recommends that project-specific localized air quality modeling be performed.

3.1.4 Carbon Monoxide Concentration Assumptions

In order to ensure that the California Ambient Air Quality Standards (CAAQS) and NAAQS for CO are not violated, the SCAQMD recommends that projects with a potential to generate heavy volumes of traffic and that can lead to high levels of CO use modeling to determine the potential to create a CO “hot spot.” A CO “hot spot” is a localized concentration of CO that is above the state or federal 1-hour or 8-hour ambient air standards. A localized high CO level is associated with traffic congestion and idling or slow-moving vehicles, which are conditions resulting from substantial traffic congestion associated with intersections that operate at level of service (LOS) E or F. If a project poses a potential for a CO hot spot, a quantitative analysis is required.

3.2 SIGNIFICANCE CRITERIA

The following significance criteria are included in Appendix G of the State CEQA Guidelines.

Threshold 1: Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Threshold 2: Would the Project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

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

Threshold 4: Would the Project expose sensitive receptors to pollutant concentrations?

Threshold 5: Would the Project create objectionable odors affecting a substantial number of people?

Appendix G of the State CEQA Guidelines states that the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. The SCAQMD has established significance thresholds to assess the regional and localized impacts of project-related air pollutant emissions. The significance thresholds are updated, as needed, to appropriately represent the most current technical information and attainment status in the SCAB. Table 5 presents the most current significance thresholds including regional daily thresholds for short-term construction and long term operational emissions; maximum incremental cancer risk and hazard indices for TACs; and maximum ambient concentrations for exposure of sensitive receptors to localized pollutants. A project with daily emission rates, risk values, or concentrations below these thresholds is generally considered to have a less than significant effect on air quality.

Table 5 SCAQMD THRESHOLDS OF SIGNIFICANCE		
Mass Daily Thresholds (lbs/day)		
Pollutant	Construction	Operation
VOC	75	55
NO _x	100	55
CO	550	550
PM ₁₀	150	150
PM _{2.5}	55	55
SO _x	150	150
Lead	3	3
Toxic Air Contaminants		
TACs ^a	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to Rule 402	
Ambient Air Quality for Criteria Pollutants^b		
NO ₂	1-hour average ≥ 0.18 ppm Annual average ≥ 0.03 ppm	
CO	1-hour average ≥ 20.0 ppm (state) 8-hour average ≥ 9.0 ppm (state/federal)	
PM ₁₀	24-hour average $\geq 10.4 \mu\text{g}/\text{m}^3$ (construction) 24-hour average $\geq 2.5 \mu\text{g}/\text{m}^3$ (operation) Annual average $\geq 1.0 \mu\text{g}/\text{m}^3$	
PM _{2.5}	24-hour average $\geq 10.4 \mu\text{g}/\text{m}^3$ (construction) 24-hour average $\geq 2.5 \mu\text{g}/\text{m}^3$ (operation)	

Source: SCAQMD 2015c.

lbs/day: pounds per day; VOC: volatile organic compound; NO_x: nitrogen oxides; CO: carbon monoxide;

PM₁₀: respirable particulate matter with a diameter of 10 microns or less;

PM_{2.5}: fine particulate matter with a diameter of 2.5 microns or less; SO_x: sulfur oxides; TACs: toxic air contaminants;

NO₂: nitrogen dioxide; ppm: parts per million; $\mu\text{g}/\text{m}^3$: micrograms per cubic meter.

^a Toxic air contaminants (TACs; carcinogenic and noncarcinogenic)

^b Ambient air quality threshold based on SCAQMD Rule 402

4.0 PROJECT IMPACT ANALYSIS

This section evaluates potential direct and cumulative impacts of the proposed Project related to the air pollutant emissions.

4.1 CONSISTENCY WITH AIR QUALITY PLANS

The two principal criteria for conformance to the AQMP are (1) whether a project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards and (2) whether a project would exceed the assumptions in the AQMP (SCAQMD 1993).

As described under Section 4.2 below, pollutant emissions from the proposed Project would be less than the SCAQMD thresholds and would not result in a significant impact. Further, the proposed Project does not involve a change in General Plan designation or zoning and, therefore, would not exceed the assumptions in the AQMP. No conflict with the 2016 AQMP would occur with the proposed Project.

4.2 CONFORMANCE TO FEDERAL AND STATE AIR QUALITY STANDARDS

The Project would generate criteria pollutants in the short term during construction and the long term during operation. To determine whether a project would result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation, a project's emissions are evaluated based on the quantitative emission thresholds established by the SCAQMD (as shown in Table 5).

4.2.1 Construction

4.2.1.1 Project Emissions

This Project's construction emissions were estimated using the CalEEMod model as described in Section 3.1, Modeling Methods. Project-specific input was based on general information provided in Section 1.0, Introduction, and default model settings to estimate reasonable worst-case conditions as described in Section 3.1.1, Construction Emission Assumptions. As depicted in Table 4, construction activities are anticipated to overlap occasionally between 2018 and 2020. Additional details of phasing, selection of construction equipment, areas to be paved, and other input parameters, including CalEEMod data, are included in Appendix A.

4.2.1.2 Regional Construction Emissions

The results of the calculations for Project construction are shown in Table 6, *Maximum Daily Construction Emissions*. Maximum daily emissions are shown for each phase of the project, as well as the worst-case daily emissions which include overlapping phases and construction activities. The data are presented as the maximum anticipated daily emissions for comparison with the SCAQMD mass daily thresholds.

Based on the assumed construction schedule, the maximum daily emissions of ROGs would occur during the application of architectural coatings in Phase 3. The maximum daily emissions of NO_x, CO, and SO_x would occur when the building construction and architectural coating activities of Phase 1 would overlap with the building construction activity of Phase 2 and grading of Phase 3. Maximum daily emissions for particulate matter (PM₁₀ and PM_{2.5}) would occur when building construction of Phase 1 and Phase 2 would overlap with the grading of Phase 3.

Table 6 MAXIMUM DAILY CONSTRUCTION EMISSIONS						
Construction Activity	Pollutant Emissions (pounds per day)					
	ROG	NO_x	CO	SO_x	PM₁₀	PM_{2.5}
Phase 1 – Winery and Hotel						
Site Preparation	<0.5	6.98	9.83	<0.5	0.60	0.52
Grading	1.65	30.07	37.64	<0.5	5.43	2.98
Underground Utilities	<0.5	7.86	11.61	<0.5	0.61	0.52
Building Construction	1.75	21.84	25.28	<0.5	2.97	1.51
Paving	0.64	11.35	17.84	<0.5	0.78	0.65
Architectural Coating	21.99	1.46	2.88	<0.5	<0.5	<0.5
Phase 1 Maximum Daily Emissions	23.65	30.07	37.64	<0.5	5.43	2.98
Phase 2 – Winery Estates						
Site Preparation	1.04	19.14	23.68	<0.5	9.28	5.47
Grading	1.64	30.06	37.53	<0.5	5.84	3.02
Underground Utilities	<0.5	7.85	11.55	<0.5	0.61	0.52
Building Construction	0.72	14.50	18.21	<0.5	1.00	0.93
Paving	0.64	11.34	17.79	<0.5	0.78	0.65
Architectural Coating	7.57	1.36	1.87	<0.5	<0.5	<0.5
Phase 2 Maximum Daily Emissions	7.57	30.06	37.53	<0.5	9.28	5.47
Phase 3 – Single Family Residential Ranch Lots						
Site Preparation	1.03	19.13	23.61	<0.5	9.28	5.47
Grading	1.63	30.05	37.44	<0.5	5.43	2.98
Underground Utilities	<0.5	7.85	11.51	<0.5	0.61	0.52
Building Construction	0.83	15.13	18.93	<0.5	1.26	1.00
Paving	0.63	11.33	17.71	<0.5	0.78	0.65
Architectural Coating	28.61	1.37	1.97	<0.5	<0.5	<0.5
Phase 3 Maximum Daily Emissions	28.61	37.89	48.95	<0.5	9.28	5.47
Maximum Daily Emissions From Overlapping Phases	28.61	65.95	81.20	<0.5	13.23	7.90
<i>SCAQMD Regional Thresholds</i>	75	100	550	150	150	55
Significant Impact?	No	No	No	No	No	No

Source: CalEEMod (output data is provided in Appendix A).

As shown in Table 6, emissions of all criteria pollutants related to Project construction would be below the SCAQMD's significance thresholds. Thus, direct impacts from criteria pollutants generated during construction would be less than significant.

4.2.1.3 Ambient Air Quality – Local Significance Thresholds

Local pollutant concentrations were calculated using the SCAQMD LST methodology described in Section 3.1.3, *Localized Significance Threshold Methodology*. Activities at each overlapping phase would occur far enough apart such that they would not share sensitive receptors; therefore, localized emissions are not summed the same way regional emissions are. The applicable thresholds are taken from the LST tables for a five-acre project site located in SRA 27, Anza Area, with sensitive receptors within 100 meters (328 feet) of activity. The results of the LST calculations are shown in Table 7, *Maximum Daily Local Construction Emissions*.

Table 7 MAXIMUM DAILY LOCAL CONSTRUCTION EMISSIONS				
Construction Activity	Pollutant Emissions (pounds per day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Phase 1 – Winery and Hotel				
Site Preparation	6.94	9.37	<0.5	<0.5
Grading	29.98	36.72	5.20	2.92
Underground Utilities	7.81	11.15	<0.5	<0.5
Building Construction	14.23	17.87	0.90	0.90
Paving	11.30	17.30	0.61	0.61
Architectural Coating	1.36	1.83	<0.5	<0.5
Phase 1 Maximum Daily Local Emissions	29.98	36.72	5.20	2.92
Phase 2 – Winery Estates				
Site Preparation	19.07	22.96	9.08	5.42
Grading	29.98	36.72	5.62	2.96
Underground Utilities	7.81	11.15	<0.5	<0.5
Building Construction	14.23	17.87	0.90	0.90
Paving	11.30	17.30	0.61	0.61
Architectural Coating	1.36	1.83	<0.5	<0.5
Phase 2 Maximum Daily Local Emissions	29.98	36.72	9.08	5.42
Phase 3 – Single Family Residential Ranch Lots				
Site Preparation	19.07	22.96	9.08	5.42
Grading	29.98	36.72	5.20	2.92
Underground Utilities	7.81	11.15	<0.5	<0.5
Building Construction	14.23	17.87	0.90	0.90
Paving	11.30	17.30	0.61	0.61
Architectural Coating	1.36	1.83	<0.5	<0.5
Phase 3 Maximum Daily Local Emissions	29.98	36.72	9.08	5.42
Maximum Daily Emissions	29.98	36.72	9.08	5.42
<i>SCAQMD Localized Thresholds</i>	520	4,282	59	16
<i>Significant Impact?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Source: CalEEMod (output data is provided in Appendix A).

As shown in Table 7, emissions of all criteria pollutants related to Project construction would be below the SCAQMD's localized significance thresholds. Thus, local impacts from criteria pollutants generated during construction would be less than significant.

4.2.2 Operation

Evaluation of operational emissions is analyzed based on the increase of emissions from the proposed Project, as discussed in Section 3.1, *Methodology*, and Section 3.1.2, *Operation Emission Assumptions*. As illustrated in Table 8, *Operation Daily Maximum Emissions*, the increase of daily maximum operational emissions related to the Project would be below the SCAQMD's significance criteria for all criteria pollutants and would not result in a significant direct impact related to operational emissions. No mitigation would be required.

Source	Pollutant Emissions (pounds per day)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Area	<u>36.64</u> 11.7	<u>2.081.5</u>	<u>56.788.6</u>	<0.5	<u>7.38</u> <u><0.5</u>	<u>7.38</u> <u><0.5</u>
Energy	<u><0.50.6</u>	<u>3.365.3</u>	<u>2.604.2</u>	<0.5	<0.5	<0.5
Mobile	<u>5.836.4</u>	<u>41.2445.4</u>	<u>55.9072.0</u>	<0.5	<u>19.5627.</u> 9	<u>5.337.6</u>
Wine Fermentation and Aging	11	-	-	-	-	-
TOTAL DAILY EMISSIONS	<u>53.84</u> 29.7	<u>46.6852.2</u>	<u>115.2884.7</u>	<0.5	<u>27.228.5</u>	<u>12.977.6</u>
<i>SCAQMD Regional Thresholds</i>	55	55	550	150	150	55
Significant Impact?	No	No	No	No	No	No

Source: CalEEMod (output data is provided in Appendix A).

4.2.3 Construction and Operation Overlap

Due to the anticipated construction schedule of the three phases, it is likely that operation of one or more phases may coincide with construction of other phases. Based on the construction schedule in Table 4, two worst-case scenarios (with concurrent operation and construction) were identified. As shown in Table 9, the first scenario assumes that Phase 1 (Winery and Hotel) would be operational concurrent with construction activities of Phase 2 (Winery Estates) and Phase 3 (Single-family Residential; SFR). In this scenario, the highest emissions would occur during the paving activity of Phase 2 and the building construction activity of Phase 3, with the only exception being that ROG emissions would be highest during the architectural coatings phase of Phase 2.

The second scenario assumes Phase 1 (Winery and Hotel) and Phase 2 (Winery Estates) would be operational concurrent with construction activities of Phase 3 (SFR). In this scenario, the highest emissions would occur during the building construction activity of Phase 3, with the only exception being that ROG emissions would be highest during the application of the architectural coatings of Phase 3.

The combined construction and operational emissions would be below the significance threshold for all criteria pollutants and would, therefore, be less than significant. No mitigation measures would be required.

Table 9
CONCURRENT OPERATION AND CONSTRUCTION
DAILY MAXIMUM EMISSIONS

Phase	Pollutant Emissions (pounds per day)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Scenario 1						
Phase 1 Operations	25.02	47.94	62.08	<0.5	16.07	4.63
Phase 2 Construction*	7.57	11.34	17.79	<0.5	0.78	0.65
Phase 3 Construction	0.83	15.13	18.93	<0.5	1.26	1.00
Scenario 1 Maximum Daily Emissions	33.43	74.41	98.79	<0.5	18.11	6.28
Scenario 2						
Phase 1 Operations	25.02	47.94	62.08	<0.5	16.07	4.63
Phase 2 Operations	7.78	14.90	32.73	<0.5	8.27	3.40
Phase 3 Construction	28.61	15.04	18.84	<0.5	1.26	1.00
Scenario 2 Maximum Daily Emissions	61.41	77.88	113.64	<0.5	25.60	9.03
Maximum Daily Emissions From Overlapping Phases	61.41	77.88	113.64	<0.5	25.60	9.03
<i>SCAQMD Regional Thresholds</i>	75	100	550	150	150	55
Significant Impact?	No	No	No	No	No	No

Source: CalEEMod (output data is provided in Appendix A).

*ROG emissions would be highest during the architectural coating phase, whereas the rest of the emissions would be highest during the paving phase.

Note: Totals represent the sum of unrounded values.

4.3 CUMULATIVELY CONSIDERABLE NET INCREASE OF NONATTAINMENT CRITERIA POLLUTANTS

The region is a federal and/or state nonattainment area for PM₁₀, PM_{2.5}, and ozone. The Project would contribute particulates and the ozone precursors VOC and NO_x to the area during short-term Project construction. As described in Section 4.2.1, regional emissions during construction would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Construction emissions would be less than the SCAQMD CEQA significance thresholds (Table 6). Therefore, regional construction emissions would not be cumulatively considerable, and the impact would be less than significant.

With respect to local impacts, cumulative construction particulate impacts are considered when projects may be within a few hundred yards of each other. No projects have been identified in the vicinity of the Project site that would be under construction concurrently with the proposed Project. Further, as shown in Table 7, local emissions from the proposed Project would be less than the screening thresholds. Therefore, local construction emissions would not be cumulatively considerable, and the impact would be less than significant.

Long-term emissions, as shown above in Table 8, would be well below regional thresholds, and, therefore, not cumulatively considerable. The long-term cumulative impact would be less than significant.

4.4 IMPACTS TO SENSITIVE RECEPTORS

The SCAQMD describes sensitive receptors as residences, schools, day-care centers, playgrounds, medical facilities, or other facilities that may house individuals with health conditions (medical patients or elderly persons/athletes/students/children) that may be adversely affected by changes in air quality. Impacts to sensitive receptors are typically analyzed for construction period criteria pollutants, operational period CO hot spots, and exposure to TACs. An analysis of the Project's potential to expose sensitive receptors to these pollutants is provided below.

4.4.1 Criteria Pollutants from On-site Construction

As described in Section 4.2.1, *Construction*, and shown in Table 7, above, Project construction emissions would be below the SCAQMD's LSTs. The Project, therefore, would not expose sensitive receptors to emissions that would exceed the ambient air quality standards.

4.4.2 Carbon Monoxide Hot Spots

Vehicle exhaust is the primary source of CO. In an urban setting, the highest CO concentrations are generally found within close proximity to congested intersections. Under typical meteorological conditions, CO concentrations tend to decrease as distance from the emissions source (i.e., congested intersection) increase. Project-generated traffic has the potential of contributing to localized "hot spots" of CO off site. Because CO is a byproduct of incomplete combustion, exhaust emissions are worse when fossil-fueled vehicles are operated inefficiently, such as in stop-and-go traffic or through heavily congested intersections, where the LOS is severely degraded.

The CARB also recommends evaluation of the potential for the formation of locally high concentrations of CO, known as CO hot spots. A CO hot spot is a localized concentration of CO that is above the state or national 1-hour or 8-hour CO ambient air standards. To verify that the project would not cause or contribute to a violation of the 1-hour and 8-hour CO standards, an evaluation of the potential for CO hot spots at nearby intersections was conducted.

The TIA (Fehr and Peers 2017) evaluated whether there would be a change in the LOS at the intersections affected by the proposed Project. The potential for CO hot spots was evaluated based on the results of the TIA. The Transportation Project-Level Carbon Monoxide Protocol (California Department of Transportation [Caltrans] 1998) was followed to determine whether a CO hot spot is likely to form due to project-generated traffic. In accordance with the Protocol, CO hot spots are typically evaluated when: (a) the LOS of an intersection decreases to an LOS E or worse; (b) signalization and/or channelization is added to an intersection; and (c) sensitive receptors such as residences, schools, hospitals, etc., are located in the vicinity of the affected intersection or roadway segment.

According to the TIA, eight intersections operating at LOS E or F under the Existing Plus Ambient Growth Condition would result in an increase in delay from the Project: Rancho California Road at Margarita Road in the PM peak hour; Rancho California Road at I-15 Southbound Ramp, Rancho California Road at Calle Contento, and Rancho California Road at Monte De Oro Road in the PM and weekend peak hours; Rancho California Road at La Serena Road, Rancho California Road at Anza Road, Rancho California Road at Glen Oaks Road, and Anza Road at Temecula Parkway (SR-79) in the weekend peak hour (Fehr and Peers 2017). Therefore, consistent with the CO Protocol, these findings indicate that further screening is required. Although the SCAQMD has not, various air quality agencies in California have developed conservative screening methods. The screening methods of the Sacramento Metropolitan Air Quality Management District (SMAQMD) are used for this Project because ambient CO concentrations within the SMAQMD jurisdiction are higher than for the Project area, as measured by CARB, resulting in a more conservative analysis. The SMAQMD states that a project would not result in a significant impact to local CO concentrations if it meets all of the below criteria:

- The affected intersection carries less than 31,600 vehicles per hour;
- The project does not contribute traffic to a tunnel, parking garage, bridge underpass, urban street canyon, below-grade roadway, or other location where horizontal or vertical mixing of air would be substantially limited; and
- The affected intersection, which includes a mix of vehicle types, is not anticipated to be substantially different from the County average, as identified by EMFAC or CalEEMod models (SMAQMD 2009).

The greatest traffic volume at the affected intersections is estimated to be 5,758 vehicles at the intersection of Rancho California Road and Margarita Road during the PM peak hour (Fehr and Peers 2017). The intersection is not located in a tunnel, urban canyon, or similar area that would limit the mixing of air, nor is the vehicle mix anticipated to be substantially different than the County average. There would be no potential for a CO hot spot or exceedance of state or federal CO ambient air quality standards because the maximum traffic volume would be substantially less than the 31,600 vehicles per hour screening level; the congested intersection is located where mixing of air would not be limited; and the vehicle mix would not be uncommon. The impact would be less than significant and no mitigation measures are required.

4.4.3 Exposure to Toxic Air Contaminants

Construction activities would result in short-term, Project-generated emissions of diesel PM from the exhaust of off-road, heavy-duty diesel equipment. CARB identified diesel PM as a TAC in 1998. The dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Thus, the risks estimated for a maximally exposed individual (MEI) are higher if a fixed exposure occurs over a longer time period. According to the Office of Environmental Health Hazard Assessment, Health Risk Assessments (HRAs), which determine the exposure of sensitive receptors to TAC emissions, should be based on a

70-year exposure; however, such assessments should be limited to the period/duration of activities associated with the Project.

There would be relatively few pieces of off-road, heavy-duty diesel equipment in operation, and the construction period would be relatively short, especially when compared to 70 years. Combined with the highly dispersive properties of diesel PM and additional reductions in exhaust emissions from improved equipment, construction-related emissions would not expose sensitive receptors to substantial emissions of TACs. The impact would be less than significant.

In terms of long-term operations, the proposed Project does not include new sources of TACs and, therefore, would not generate substantial emissions of TACs.

4.5 ODORS

Project construction equipment and activities would generate odors. Primary construction odor sources include diesel exhaust emissions from equipment operating on site. There may be situations where construction activity odors would be noticeable by nearby residents, but these odors would not be unfamiliar or necessarily objectionable. The odors would be temporary and would dissipate rapidly from the source with an increase in distance. Therefore, the impacts would be short-term, would not be objectionable to a substantial number of people, and would be less than significant.

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting activities, refineries, landfills, dairies, and fiberglass molding operations. Though the Project does include agricultural and food processing land uses, they would not result in unfamiliar odors that substantially differ from those already produced by similar land uses in the existing vicinity. Impacts associated with odor sources are considered less than significant.

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6.0 LIST OF PREPARERS

Preparers:

Victor Ortiz, Air Quality Specialist

Amy Mila de la Roca, Air Quality Specialist

Joanne M. Dramko, AICP, Senior Air Quality Specialist (Quality Assurance Reviewer)

Andrea Bitterling, Project Manager

HELIX Environmental Planning, Inc.

7578 El Cajon Blvd.

La Mesa, CA 91942

Appendix A

CalEEMod Output

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

12 Oaks Phase 1 - Winery and Hotel
Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	33.40	1000sqft	0.77	33,402.00	0
Arena	54.45	1000sqft	15.25	54,446.00	0
Hotel	251.00	Room	8.37	237,927.00	0
Regional Shopping Center	26.64	1000sqft	0.61	26,641.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.4	Precipitation Freq (Days)	28
Climate Zone	10			Operational Year	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

Project Characteristics -

Land Use - 251 rm hotel, 33k sqft winery, 54k sqft event center, 26k sqft marketplace on 25 acres

Construction Phase - Assumptions provided by Project Applicant

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Assumptions provided by Project Applicant

Off-road Equipment - Assumptions provided by Project Applicant

Grading -

Vehicle Trips - Fehr&Peers2016

Water And Wastewater - The Maximum Allowable Water Allowance (MAWA) for the site is 153,125,094 gallons/year

Construction Off-road Equipment Mitigation - Rule 403

Energy Mitigation - CalEEMod default is 2008 T24. 2013 is 25% improved over 2008. 2016 is 28% improved over 2013. $(1-25)*(1-28)=54\% - 46\%$ improvement

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstructionPhase	NumDays	20.00	150.00
tblConstructionPhase	NumDays	370.00	477.00
tblConstructionPhase	NumDays	35.00	88.00
tblConstructionPhase	NumDays	20.00	60.00
tblConstructionPhase	NumDays	10.00	15.00
tblFleetMix	FleetMixLandUseSubType	General Light Industry	Arena

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

tblFleetMix	FleetMixLandUseSubType	Arena	General Light Industry
tblLandUse	BuildingSpaceSquareFeet	33,400.00	33,402.00
tblLandUse	BuildingSpaceSquareFeet	54,450.00	54,446.00
tblLandUse	BuildingSpaceSquareFeet	364,452.00	237,927.00
tblLandUse	BuildingSpaceSquareFeet	26,640.00	26,641.00
tblLandUse	LandUseSquareFeet	33,400.00	33,402.00
tblLandUse	LandUseSquareFeet	54,450.00	54,446.00
tblLandUse	LandUseSquareFeet	364,452.00	237,927.00
tblLandUse	LandUseSquareFeet	26,640.00	26,641.00
tblLandUse	LotAcreage	17.50	15.25
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblVehicleTrips	ST_TR	10.71	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	8.19	6.69
tblVehicleTrips	ST_TR	49.97	57.43
tblVehicleTrips	SU_TR	10.71	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	5.95	6.69
tblVehicleTrips	SU_TR	25.24	57.43
tblVehicleTrips	WD_TR	10.71	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	8.17	5.69
tblVehicleTrips	WD_TR	42.70	38.29
tblWater	IndoorWaterUseRate	23,455,432.90	0.00
tblWater	OutdoorWaterUseRate	1,497,155.29	0.00
tblWater	OutdoorWaterUseRate	0.00	153,125,094.00

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

tblWater	OutdoorWaterUseRate	707,451.03	0.00
tblWater	OutdoorWaterUseRate	1,209,437.02	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					
2017	5.8788	68.0306	39.6981	0.0642	8.8969	3.0741	11.9710	3.6558	2.8282	6.4840	0.0000	6,561.614 5	6,561.614 5	1.9512	0.0000	6,610.393 4
2018	5.0879	43.4702	35.9846	0.0729	2.1040	2.4027	4.5067	0.5664	2.2428	2.8092	0.0000	7,296.041 6	7,296.041 6	1.3009	0.0000	7,328.563 9
2019	25.5458	30.1101	26.7086	0.0624	2.3163	1.4814	3.7977	0.6227	1.4011	2.0239	0.0000	6,196.972 1	6,196.972 1	0.8462	0.0000	6,218.128 4
2020	23.5973	15.8864	17.9187	0.0301	0.4918	0.8667	1.3585	0.1304	0.8063	0.9367	0.0000	2,924.005 2	2,924.005 2	0.7466	0.0000	2,942.670 7
Maximum	25.5458	68.0306	39.6981	0.0729	8.8969	3.0741	11.9710	3.6558	2.8282	6.4840	0.0000	7,296.041 6	7,296.041 6	1.9512	0.0000	7,328.563 9

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

2.1 Overall Construction (Maximum Daily Emission)**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					
2017	1.6535	30.0692	37.6381	0.0642	4.1266	1.3009	5.4274	1.6777	1.3008	2.9785	0.0000	6,561.614 5	6,561.614 5	1.9512	0.0000	6,610.393 4
2018	2.1699	29.6923	36.8245	0.0729	2.1040	1.4679	3.5719	0.5664	1.4645	2.0309	0.0000	7,296.041 6	7,296.041 6	1.3009	0.0000	7,328.563 9
2019	23.6515	22.7790	27.4097	0.0624	2.3163	1.0614	3.3778	0.6227	1.0583	1.6810	0.0000	6,196.972 1	6,196.972 1	0.8462	0.0000	6,218.128 4
2020	22.6190	12.7892	20.5632	0.0301	0.4918	0.7074	1.1992	0.1304	0.7072	0.8376	0.0000	2,924.005 2	2,924.005 2	0.7466	0.0000	2,942.670 7
Maximum	23.6515	30.0692	37.6381	0.0729	4.1266	1.4679	5.4274	1.6777	1.4645	2.9785	0.0000	7,296.041 6	7,296.041 6	1.9512	0.0000	7,328.563 9

	ROG	NOx	CO	SO2	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	16.66	39.47	-1.77	0.00	34.55	42.01	37.25	39.76	37.75	38.57	0.00	0.00	0.00	0.00	0.00	0.00

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

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	7.8765	3.5000e-004	0.0377	0.0000			1.4000e-004	1.4000e-004		1.4000e-004	0.0800	0.0800	2.2000e-004			0.0854	
Energy	0.5101	4.6372	3.8953	0.0278			0.3524	0.3524		0.3524	5,564.6605	5,564.6605	0.1067	0.1020	5,597.7285		
Mobile	5.7528	45.1094	59.6574	0.2185	15.6051	0.2475	15.8526	4.1762	0.2338	4.4100	22,287.1355	22,287.1355	1.5389			22,325.6084	
Total	14.1393	49.7469	63.5903	0.2463	15.6051	0.6000	16.2051	4.1762	0.5864	4.7626	27,851.8760	27,851.8760	1.6458	0.1020		27,923.4223	

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	7.8765	3.5000e-004	0.0377	0.0000			1.4000e-004	1.4000e-004		1.4000e-004	0.0800	0.0800	2.2000e-004			0.0854	
Energy	0.3117	2.8339	2.3805	0.0170			0.2154	0.2154		0.2154	3,400.6655	3,400.6655	0.0652	0.0624	3,420.8739		
Mobile	5.7528	45.1094	59.6574	0.2185	15.6051	0.2475	15.8526	4.1762	0.2338	4.4100	22,287.1355	22,287.1355	1.5389			22,325.6084	
Total	13.9410	47.9436	62.0755	0.2355	15.6051	0.4630	16.0681	4.1762	0.4493	4.6255	25,687.8810	25,687.8810	1.6043	0.0624		25,746.5678	

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	1.40	3.63	2.38	4.39	0.00	22.84	0.85	0.00	23.37	2.88	0.00	7.77	7.77	2.52	38.88	7.80

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	8/1/2017	8/21/2017	5	15	
2	Grading	Grading	8/22/2017	12/21/2017	5	88	
3	Underground Utilities	Trenching	12/22/2017	8/21/2018	5	173	
4	Building Construction	Building Construction	2/1/2018	11/30/2019	5	477	
5	Architectural Coating	Architectural Coating	10/20/2019	5/15/2020	5	150	
6	Paving	Paving	12/1/2019	2/21/2020	5	60	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 220

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 528,624; Non-Residential Outdoor: 176,208; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	0	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
Underground Utilities	Excavators	1	8.00	158	0.38
Underground Utilities	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Underground Utilities	Trenchers	1	8.00	78	0.50

Trips and VMT

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

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	4	10.00	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	145.00	58.00	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	29.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilities	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2017**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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.2672	12.1755	9.5754	0.0124		0.9157	0.9157		0.8424	0.8424		1,273.059 8	1,273.059 8	0.3901		1,282.811 4
Total	1.2672	12.1755	9.5754	0.0124	0.0000	0.9157	0.9157	0.0000	0.8424	0.8424		1,273.059 8	1,273.059 8	0.3901		1,282.811 4

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.2 Site Preparation - 2017**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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0652	0.0455	0.4578	1.0900e-003	0.1118	7.2000e-004	0.1125	0.0296	6.6000e-004	0.0303	108.3641	108.3641	3.5500e-003			108.4528	
Total	0.0652	0.0455	0.4578	1.0900e-003	0.1118	7.2000e-004	0.1125	0.0296	6.6000e-004	0.0303		108.3641	108.3641	3.5500e-003		108.4528	

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	0.3038	6.9376	9.3683	0.0124		0.4861	0.4861		0.4861	0.4861	0.0000	1,273.0598	1,273.0598	0.3901		1,282.8114	
Total	0.3038	6.9376	9.3683	0.0124	0.0000	0.4861	0.4861	0.0000	0.4861	0.4861	0.0000	1,273.0598	1,273.0598	0.3901		1,282.8114	

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.2 Site Preparation - 2017**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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0652	0.0455	0.4578	1.0900e-003	0.1118	7.2000e-004	0.1125	0.0296	6.6000e-004	0.0303	108.3641	108.3641	3.5500e-003			108.4528	
Total	0.0652	0.0455	0.4578	1.0900e-003	0.1118	7.2000e-004	0.1125	0.0296	6.6000e-004	0.0303		108.3641	108.3641	3.5500e-003		108.4528	

3.3 Grading - 2017**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	5.7483	67.9396	38.7826	0.0620		3.0727	3.0727		2.8269	2.8269		6,344.8863	6,344.8863	1.9441		6,393.4879	
Total	5.7483	67.9396	38.7826	0.0620	8.6733	3.0727	11.7460	3.5965	2.8269	6.4234		6,344.8863	6,344.8863	1.9441		6,393.4879	

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.3 Grading - 2017**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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.1305	0.0910	0.9155	2.1800e-003	0.2236	1.4300e-003	0.2250	0.0593	1.3200e-003	0.0606	216.7282	216.7282	7.1000e-003	216.9056			
Total	0.1305	0.0910	0.9155	2.1800e-003	0.2236	1.4300e-003	0.2250	0.0593	1.3200e-003	0.0606		216.7282	216.7282	7.1000e-003		216.9056	

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					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184	0.0000	0.0000	6,344.8863	6,344.8863	1.9441	6,393.4878	
Off-Road	1.5231	29.9782	36.7226	0.0620		1.2994	1.2994		1.2994	1.2994	0.0000						
Total	1.5231	29.9782	36.7226	0.0620	3.9030	1.2994	5.2024	1.6184	1.2994	2.9179	0.0000	6,344.8863	6,344.8863	1.9441		6,393.4878	

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.3 Grading - 2017**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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.1305	0.0910	0.9155	2.1800e-003	0.2236	1.4300e-003	0.2250	0.0593	1.3200e-003	0.0606	216.7282	216.7282	7.1000e-003	216.9056			
Total	0.1305	0.0910	0.9155	2.1800e-003	0.2236	1.4300e-003	0.2250	0.0593	1.3200e-003	0.0606	216.7282	216.7282	7.1000e-003	216.9056			

3.4 Underground Utilities - 2017**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	1.5107	14.5994	10.8538	0.0148		1.0105	1.0105		0.9296	0.9296	1,509.718 2	1,509.718 2	0.4626		1,521.282 6		
Total	1.5107	14.5994	10.8538	0.0148		1.0105	1.0105		0.9296	0.9296	1,509.718 2	1,509.718 2	0.4626		1,521.282 6		

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.4 Underground Utilities - 2017**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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0652	0.0455	0.4578	1.0900e-003	0.1118	7.2000e-004	0.1125	0.0296	6.6000e-004	0.0303	108.3641	108.3641	3.5500e-003			108.4528	
Total	0.0652	0.0455	0.4578	1.0900e-003	0.1118	7.2000e-004	0.1125	0.0296	6.6000e-004	0.0303	108.3641	108.3641	3.5500e-003			108.4528	

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	0.3615	7.8102	11.1472	0.0148		0.4937	0.4937		0.4937	0.4937	0.0000	1,509.7182	1,509.7182	0.4626		1,521.2826	
Total	0.3615	7.8102	11.1472	0.0148		0.4937	0.4937		0.4937	0.4937	0.0000	1,509.7182	1,509.7182	0.4626		1,521.2826	

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.4 Underground Utilities - 2017**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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0652	0.0455	0.4578	1.0900e-003	0.1118	7.2000e-004	0.1125	0.0296	6.6000e-004	0.0303	108.3641	108.3641	3.5500e-003			108.4528	
Total	0.0652	0.0455	0.4578	1.0900e-003	0.1118	7.2000e-004	0.1125	0.0296	6.6000e-004	0.0303		108.3641	108.3641	3.5500e-003		108.4528	

3.4 Underground Utilities - 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	1.2740	12.4241	10.6006	0.0148		0.8323	0.8323		0.7657	0.7657	1,484.7350	1,484.7350	0.4622			1,496.2905	
Total	1.2740	12.4241	10.6006	0.0148		0.8323	0.8323		0.7657	0.7657		1,484.7350	1,484.7350	0.4622		1,496.2905	

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.4 Underground Utilities - 2018**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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0588	0.0397	0.4020	1.0600e-003	0.1118	7.0000e-004	0.1125	0.0296	6.4000e-004	0.0303	105.2718	105.2718	3.1100e-003			105.3497	
Total	0.0588	0.0397	0.4020	1.0600e-003	0.1118	7.0000e-004	0.1125	0.0296	6.4000e-004	0.0303		105.2718	105.2718	3.1100e-003		105.3497	

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	0.3615	7.8102	11.1472	0.0148		0.4937	0.4937		0.4937	0.4937	0.0000	1,484.7350	1,484.7350	0.4622		1,496.2905	
Total	0.3615	7.8102	11.1472	0.0148		0.4937	0.4937		0.4937	0.4937	0.0000	1,484.7350	1,484.7350	0.4622		1,496.2905	

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.4 Underground Utilities - 2018**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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0588	0.0397	0.4020	1.0600e-003	0.1118	7.0000e-004	0.1125	0.0296	6.4000e-004	0.0303	105.2718	105.2718	3.1100e-003			105.3497	
Total	0.0588	0.0397	0.4020	1.0600e-003	0.1118	7.0000e-004	0.1125	0.0296	6.4000e-004	0.0303		105.2718	105.2718	3.1100e-003		105.3497	

3.5 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	2,620.935 1	2,620.935 1	0.6421			2,636.988 3	
Total	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	2,620.935 1	2,620.935 1	0.6421			2,636.988 3	

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.5 Building Construction - 2018**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	0.0000	0.0000	
Vendor	0.2239	7.0411	1.5724	0.0148	0.3714	0.0598	0.4312	0.1070	0.0572	0.1642	1,558.658 3	1,558.658 3	0.1483		1,562.365 1		
Worker	0.8518	0.5753	5.8291	0.0153	1.6208	0.0101	1.6309	0.4298	9.3300e-003	0.4392	1,526.441 4	1,526.441 4	0.0452		1,527.570 3		
Total	1.0757	7.6164	7.4015	0.0301	1.9922	0.0699	2.0621	0.5368	0.0665	0.6033	3,085.099 7	3,085.099 7	0.1934		3,089.935 5		

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	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000 1	2,620.935 1	2,620.935 1	0.6421		2,636.988 3	
Total	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000 1	2,620.935 1	2,620.935 1	0.6421		2,636.988 3	

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.5 Building Construction - 2018**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	0.0000	0.0000	
Vendor	0.2239	7.0411	1.5724	0.0148	0.3714	0.0598	0.4312	0.1070	0.0572	0.1642	1,558.658 3	1,558.658 3	0.1483	1,562.365 1			
Worker	0.8518	0.5753	5.8291	0.0153	1.6208	0.0101	1.6309	0.4298	9.3300e-003	0.4392	1,526.441 4	1,526.441 4	0.0452	1,527.570 3			
Total	1.0757	7.6164	7.4015	0.0301	1.9922	0.0699	2.0621	0.5368	0.0665	0.6033	3,085.099 7	3,085.099 7	0.1934			3,089.935 5	

3.5 Building Construction - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	2,591.580 2	2,591.580 2	0.6313			2,607.363 5	
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	2,591.580 2	2,591.580 2	0.6313			2,607.363 5	

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.5 Building Construction - 2019**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.2028	6.5873	1.4385	0.0147	0.3714	0.0508	0.4222	0.1069	0.0486	0.1555	1,548.244 1	1,548.244 1	0.1430		1,551.818 2		
Worker	0.7801	0.5072	5.2208	0.0149	1.6208	0.0100	1.6308	0.4298	9.2100e-003	0.4391	1,479.749 9	1,479.749 9	0.0402		1,480.753 7		
Total	0.9829	7.0945	6.6593	0.0295	1.9922	0.0608	2.0530	0.5368	0.0578	0.5946	3,027.994 0	3,027.994 0	0.1831		3,032.571 9		

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	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000 2	2,591.580 2	2,591.580 2	0.6313		2,607.363 5	
Total	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5	

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3.5 Building Construction - 2019**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.2028	6.5873	1.4385	0.0147	0.3714	0.0508	0.4222	0.1069	0.0486	0.1555	1,548.244 1	1,548.244 1	0.1430		1,551.818 2		
Worker	0.7801	0.5072	5.2208	0.0149	1.6208	0.0100	1.6308	0.4298	9.2100e-003	0.4391	1,479.749 9	1,479.749 9	0.0402		1,480.753 7		
Total	0.9829	7.0945	6.6593	0.0295	1.9922	0.0608	2.0530	0.5368	0.0578	0.5946	3,027.994 0	3,027.994 0	0.1831		3,032.571 9		

3.6 Architectural Coating - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Archit. Coating	21.7793						0.0000	0.0000		0.0000	0.0000			0.0000		0.0000	
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	281.4481	281.4481	0.0238		282.0423		
Total	22.0458	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	281.4481	281.4481	0.0238		282.0423		

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.6 Architectural Coating - 2019**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.1560	0.1014	1.0442	2.9700e-003	0.3242	2.0000e-003	0.3262	0.0860	1.8400e-003	0.0878	295.9500	295.9500	8.0300e-003	296.1507			
Total	0.1560	0.1014	1.0442	2.9700e-003	0.3242	2.0000e-003	0.3262	0.0860	1.8400e-003	0.0878	295.9500	295.9500	8.0300e-003	296.1507			

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	21.7793						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000	
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0238		282.0423	
Total	21.8387	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0238		282.0423	

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.6 Architectural Coating - 2019**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.1560	0.1014	1.0442	2.9700e-003	0.3242	2.0000e-003	0.3262	0.0860	1.8400e-003	0.0878	295.9500	295.9500	8.0300e-003	296.1507			
Total	0.1560	0.1014	1.0442	2.9700e-003	0.3242	2.0000e-003	0.3262	0.0860	1.8400e-003	0.0878	295.9500	295.9500	8.0300e-003	296.1507			

3.6 Architectural Coating - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Archit. Coating	21.7793						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000	
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	281.4481	281.4481	0.0218			281.9928	
Total	22.0215	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	281.4481	281.4481	0.0218			281.9928	

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.6 Architectural Coating - 2020**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.1445	0.0903	0.9459	2.8800e-003	0.3242	1.9600e-003	0.3261	0.0860	1.8100e-003	0.0878	286.5884	286.5884	7.1200e-003			286.7663	
Total	0.1445	0.0903	0.9459	2.8800e-003	0.3242	1.9600e-003	0.3261	0.0860	1.8100e-003	0.0878	286.5884	286.5884	7.1200e-003			286.7663	

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	21.7793						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000	
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0218		281.9928	
Total	21.8387	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0218		281.9928	

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.6 Architectural Coating - 2020**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.1445	0.0903	0.9459	2.8800e-003	0.3242	1.9600e-003	0.3261	0.0860	1.8100e-003	0.0878	286.5884	286.5884	7.1200e-003	286.7663			
Total	0.1445	0.0903	0.9459	2.8800e-003	0.3242	1.9600e-003	0.3261	0.0860	1.8100e-003	0.0878	286.5884	286.5884	7.1200e-003	286.7663			

3.7 Paving - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	2,257.002	2,257.002	0.7141		2,274.854		
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	5	5	0.0000		0.0000		
Total	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	2,257.002	2,257.002	0.7141		2,274.854		

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.7 Paving - 2019**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0807	0.0525	0.5401	1.5400e-003	0.1677	1.0300e-003	0.1687	0.0445	9.5000e-004	0.0454	153.0776	153.0776	4.1500e-003			153.1814	
Total	0.0807	0.0525	0.5401	1.5400e-003	0.1677	1.0300e-003	0.1687	0.0445	9.5000e-004	0.0454	153.0776	153.0776	4.1500e-003			153.1814	

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	0.5609	11.2952	17.2957	0.0228		0.6093	0.6093		0.6093	0.6093	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548	
Paving	0.0000					0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	
Total	0.5609	11.2952	17.2957	0.0228		0.6093	0.6093		0.6093	0.6093	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548	

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.7 Paving - 2019**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0807	0.0525	0.5401	1.5400e-003	0.1677	1.0300e-003	0.1687	0.0445	9.5000e-004	0.0454	153.0776	153.0776	4.1500e-003			153.1814	
Total	0.0807	0.0525	0.5401	1.5400e-003	0.1677	1.0300e-003	0.1687	0.0445	9.5000e-004	0.0454		153.0776	153.0776	4.1500e-003		153.1814	

3.7 Paving - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	2,207.733 4	2,207.733 4	0.7140			2,225.584 1	
Paving	0.0000					0.0000	0.0000		0.0000	0.0000		0.0000				0.0000	
Total	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	2,207.733 4	2,207.733 4	0.7140			2,225.584 1	

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.7 Paving - 2020**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0748	0.0467	0.4893	1.4900e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454	148.2354	148.2354	3.6800e-003			148.3274	
Total	0.0748	0.0467	0.4893	1.4900e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454	148.2354	148.2354	3.6800e-003			148.3274	

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	0.5609	11.2952	17.2957	0.0228		0.6093	0.6093		0.6093	0.6093	0.0000	2,207.733 4	2,207.733 4	0.7140		2,225.584 1	
Paving	0.0000					0.0000	0.0000		0.0000	0.0000		0.0000		0.7140		0.0000	
Total	0.5609	11.2952	17.2957	0.0228		0.6093	0.6093		0.6093	0.6093	0.0000	2,207.733 4	2,207.733 4	0.7140		2,225.584 1	

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

3.7 Paving - 2020**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0748	0.0467	0.4893	1.4900e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454	148.2354	148.2354	3.6800e-003			148.3274	
Total	0.0748	0.0467	0.4893	1.4900e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454		148.2354	148.2354	3.6800e-003		148.3274	

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	5.7528	45.1094	59.6574	0.2185	15.6051	0.2475	15.8526	4.1762	0.2338	4.4100	22,287.13 55	22,287.13 55	1.5389		22,325.60 84		
Unmitigated	5.7528	45.1094	59.6574	0.2185	15.6051	0.2475	15.8526	4.1762	0.2338	4.4100	22,287.13 55	22,287.13 55	1.5389		22,325.60 84		

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated		Mitigated	
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT	Annual VMT	Annual VMT
Arena	0.00	0.00	0.00				
General Light Industry	0.00	0.00	0.00				
Hotel	1,428.19	1,679.19	1679.19	3,579,028		3,579,028	
Regional Shopping Center	1,020.05	1,529.94	1529.94	2,521,289		2,521,289	
Total	2,448.24	3,209.13	3,209.13	6,100,317		6,100,317	

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.533383	0.039495	0.183627	0.126156	0.018688	0.005561	0.017029	0.066607	0.001345	0.001247	0.004677	0.000974	0.001211
General Light Industry	0.533383	0.039495	0.183627	0.126156	0.018688	0.005561	0.017029	0.066607	0.001345	0.001247	0.004677	0.000974	0.001211
Hotel	0.533383	0.039495	0.183627	0.126156	0.018688	0.005561	0.017029	0.066607	0.001345	0.001247	0.004677	0.000974	0.001211
Regional Shopping Center	0.533383	0.039495	0.183627	0.126156	0.018688	0.005561	0.017029	0.066607	0.001345	0.001247	0.004677	0.000974	0.001211

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.3117	2.8339	2.3805	0.0170		0.2154	0.2154		0.2154	0.2154	3,400.665 5	3,400.665 5	0.0652	0.0624	3,420.873 9	
NaturalGas Unmitigated	0.5101	4.6372	3.8953	0.0278		0.3524	0.3524		0.3524	0.3524	5,564.660 5	5,564.660 5	0.1067	0.1020	5,597.728 5	

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

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					
Arena	4856.88	0.0524	0.4762	0.4000	2.8600e-003		0.0362	0.0362		0.0362	0.0362	571.3978	571.3978	0.0110	0.0105		574.7934
General Light Industry	2979.64	0.0321	0.2921	0.2454	1.7500e-003		0.0222	0.0222		0.0222	0.0222	350.5461	350.5461	6.7200e-003	6.4300e-003		352.6292
Hotel	39300.3	0.4238	3.8530	3.2365	0.0231		0.2928	0.2928		0.2928	0.2928	4,623.5677	4,623.5677	0.0886	0.0848		4,651.0433
Regional Shopping Center	162.766	1.7600e-003	0.0160	0.0134	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	19.1489	19.1489	3.7000e-004	3.5000e-004		19.2627
Total		0.5101	4.6372	3.8953	0.0278		0.3524	0.3524		0.3524	0.3524	5,564.6605	5,564.6605	0.1067	0.1020		5,597.7285

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	3.79812	0.0410	0.3724	0.3128	2.2300e-003		0.0283	0.0283		0.0283	0.0283	446.8380	446.8380	8.5600e-003	8.1900e-003	449.4934	
General Light Industry	2.33011	0.0251	0.2284	0.1919	1.3700e-003		0.0174	0.0174		0.0174	0.0174	274.1300	274.1300	5.2500e-003	5.0300e-003	275.7590	
Hotel	22.6795	0.2446	2.2235	1.8677	0.0133		0.1690	0.1690		0.1690	0.1690	2,668.1720	2,668.1720	0.0511	0.0489	2,684.0277	
Regional Shopping Center	0.0979659	1.0600e-003	9.6000e-003	8.0700e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004	11.5254	11.5254	2.2000e-004	2.1000e-004	11.5939	
Total		0.3117	2.8339	2.3805	0.0170		0.2154	0.2154		0.2154	0.2154	3,400.6655	3,400.6655	0.0652	0.0624	3,420.8739	

6.0 Area Detail**6.1 Mitigation Measures Area**

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	7.8765	3.5000e-004	0.0377	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0800	0.0800	2.2000e-004			0.0854	
Unmitigated	7.8765	3.5000e-004	0.0377	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0800	0.0800	2.2000e-004			0.0854	

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	0.8950					0.0000	0.0000		0.0000	0.0000		0.0000				0.0000
Consumer Products	6.9778					0.0000	0.0000		0.0000	0.0000		0.0000				0.0000
Landscaping	3.5700e-003	3.5000e-004	0.0377	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0800	0.0800	2.2000e-004		0.0854
Total	7.8765	3.5000e-004	0.0377	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0800	0.0800	2.2000e-004		0.0854

12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8950						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000
Consumer Products	6.9778						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000
Landscaping	3.5700e-003	3.5000e-004	0.0377	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0800	0.0800	2.2000e-004		0.0854
Total	7.8765	3.5000e-004	0.0377	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0800	0.0800	2.2000e-004		0.0854

7.0 Water Detail**7.1 Mitigation Measures Water**

Apply Water Conservation Strategy

8.0 Waste Detail**8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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12 Oaks Phase 1 - Winery and Hotel - Riverside-South Coast County, Winter

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

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

12 Oaks Phase 2 - Wine Estate Lots
Riverside-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	20.00	Dwelling Unit	204.00	36,000.00	57

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.4	Precipitation Freq (Days)	28
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

Project Characteristics -

Land Use - 20 wine estate lots (10 acre minimum)

Construction Phase - Estimated schedule received from Applicant

Off-road Equipment - Typical equipment

Off-road Equipment - Typical equipment added

Grading - Acres graded received from Applicant.

Vehicle Trips - ADT obtained from Traffic Study (Fehr & Peers 2016)

Construction Off-road Equipment Mitigation - Tier 3 equipment

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	330.00	30.00
tblConstructionPhase	NumDays	4,650.00	525.00
tblConstructionPhase	NumDays	465.00	60.00
tblConstructionPhase	NumDays	330.00	30.00
tblConstructionPhase	NumDays	180.00	10.00
tblGrading	AcresOfGrading	150.00	202.00
tblLandUse	LotAcreage	6.49	204.00
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	9.91	44.20
tblVehicleTrips	SU_TR	8.62	44.20
tblVehicleTrips	WD_TR	9.52	45.55

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

2.0 Emissions Summary

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

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	5.2076	59.6011	35.8934	0.0641	18.2675	2.6351	20.8456	9.9840	2.4243	12.3560	0.0000	6,454.972 1	6,454.972 1	1.9502	0.0000	6,503.727 2
2019	2.4058	21.3304	17.4654	0.0281	0.0911	1.2921	1.3832	0.0244	1.2148	1.2393	0.0000	2,716.404 1	2,716.404 1	0.6382	0.0000	2,732.359 1
2020	7.7559	19.4125	17.1209	0.0281	0.1677	1.1187	1.2098	0.0445	1.0519	1.0763	0.0000	2,675.248 1	2,675.248 1	0.7177	0.0000	2,690.977 4
Maximum	7.7559	59.6011	35.8934	0.0641	18.2675	2.6351	20.8456	9.9840	2.4243	12.3560	0.0000	6,454.972 1	6,454.972 1	1.9502	0.0000	6,503.727 2

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	1.6406	30.0576	37.5266	0.0641	8.3310	1.3008	9.2784	4.5222	1.3007	5.4695	0.0000	6,454.972 0	6,454.972 0	1.9502	0.0000	6,503.727 2
2019	0.7186	14.4777	18.1754	0.0281	0.0911	0.9058	0.9968	0.0244	0.9057	0.9301	0.0000	2,716.404 1	2,716.404 1	0.6382	0.0000	2,732.359 1
2020	7.5731	14.4526	18.1462	0.0281	0.1677	0.9052	0.9963	0.0445	0.9051	0.9296	0.0000	2,675.248 1	2,675.248 1	0.7177	0.0000	2,690.977 4
Maximum	7.5731	30.0576	37.5266	0.0641	8.3310	1.3008	9.2784	4.5222	1.3007	5.4695	0.0000	6,454.972 0	6,454.972 0	1.9502	0.0000	6,503.727 2

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	35.38	41.21	-4.78	0.00	53.63	38.33	51.91	54.33	33.67	50.05	0.00	0.00	0.00	0.00	0.00	0.00

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

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	6.0657	0.4341	11.8266	0.0260			1.5369	1.5369		1.5369	187.3384	362.9711	550.3094	0.5616	0.0127	568.1380	
Energy	0.0219	0.1875	0.0798	1.2000e-003			0.0152	0.0152		0.0152	0.0152	239.3322	239.3322	4.5900e-003	4.3900e-003	240.7544	
Mobile	1.6995	14.3548	20.8526	0.0864	6.6397	0.0842	6.7240	1.7767	0.0794	1.8561	8,812.516 7	8,812.516 7	0.4847			8,824.634 0	
Total	7.7871	14.9764	32.7589	0.1136	6.6397	1.6363	8.2760	1.7767	1.6314	3.4082	187.3384	9,414.819 9	9,602.158 3	1.0509	0.0171	9,633.526 3	

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	6.0657	0.4341	11.8266	0.0260			1.5369	1.5369		1.5369	187.3384	362.9711	550.3094	0.5616	0.0127	568.1380	
Energy	0.0135	0.1152	0.0490	7.4000e-004			9.3200e-003	9.3200e-003		9.3200e-003	9.3200e-003	147.1204	147.1204	2.8200e-003	2.7000e-003	147.9947	
Mobile	1.6995	14.3548	20.8526	0.0864	6.6397	0.0842	6.7240	1.7767	0.0794	1.8561	8,812.516 7	8,812.516 7	0.4847			8,824.634 0	
Total	7.7787	14.9041	32.7282	0.1132	6.6397	1.6304	8.2701	1.7767	1.6256	3.4023	187.3384	9,322.608 2	9,509.946 5	1.0491	0.0154	9,540.766 6	

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.11	0.48	0.09	0.40	0.00	0.36	0.07	0.00	0.36	0.17	0.00	0.98	0.96	0.17	9.88	0.96

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	1/15/2018	4/6/2018	5	60	
3	Underground Infrastructure	Trenching	4/9/2018	9/21/2018	5	120	
4	Building Construction	Building Construction	9/24/2018	9/25/2020	5	525	
5	Paving	Paving	9/28/2020	11/6/2020	5	30	
6	Architectural Coating	Architectural Coating	11/9/2020	12/18/2020	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 202

Acres of Paving: 0

Residential Indoor: 72,900; Residential Outdoor: 24,300; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

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
Underground Infrastructure	Excavators	1	8.00	158	0.38
Underground Infrastructure	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Underground Infrastructure	Trenchers	1	8.00	78	0.50

Trips and VMT

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

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	7.00	2.00	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	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Underground Infrastructure	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

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	3,831.623 9	3,831.623 9	1.1928			3,861.444 8
Total	4.5627	48.1988	22.4763	0.0380	18.0663	2.5769	20.6432	9.9307	2.3708	12.3014	3,831.623 9	3,831.623 9	1.1928			3,861.444 8

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

3.2 Site Preparation - 2018**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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.1057	0.0714	0.7236	1.9000e-003	0.2012	1.2600e-003	0.2025	0.0534	1.1600e-003	0.0545	189.4893	189.4893	5.6100e-003			189.6294	
Total	0.1057	0.0714	0.7236	1.9000e-003	0.2012	1.2600e-003	0.2025	0.0534	1.1600e-003	0.0545		189.4893	189.4893	5.6100e-003		189.6294	

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					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000	
Off-Road	0.9312	19.0656	22.9600	0.0380		0.9462	0.9462		0.9462	0.9462	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448	
Total	0.9312	19.0656	22.9600	0.0380	8.1298	0.9462	9.0760	4.4688	0.9462	5.4150	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448	

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

3.2 Site Preparation - 2018**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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.1057	0.0714	0.7236	1.9000e-003	0.2012	1.2600e-003	0.2025	0.0534	1.1600e-003	0.0545	189.4893	189.4893	5.6100e-003			189.6294	
Total	0.1057	0.0714	0.7236	1.9000e-003	0.2012	1.2600e-003	0.2025	0.0534	1.1600e-003	0.0545		189.4893	189.4893	5.6100e-003		189.6294	

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					9.5924	0.0000	9.5924	3.6957	0.0000	3.6957			0.0000			0.0000	
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230	6,244.428 4	6,244.428 4	1.9440			6,293.027 8	
Total	5.0901	59.5218	35.0894	0.0620	9.5924	2.6337	12.2262	3.6957	2.4230	6.1188		6,244.428 4	6,244.428 4	1.9440		6,293.027 8	

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

3.3 Grading - 2018**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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.1175	0.0794	0.8040	2.1100e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2900e-003	0.0606	210.5436	210.5436	6.2300e-003	210.6994			
Total	0.1175	0.0794	0.8040	2.1100e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2900e-003	0.0606	210.5436	210.5436	6.2300e-003			210.6994	

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					4.3166	0.0000	4.3166	1.6631	0.0000	1.6631	0.0000	0.0000	6,244.4284	6,244.4284	1.9440	6,293.0278	
Off-Road	1.5231	29.9782	36.7226	0.0620	4.3166	1.2994	1.2994	1.2994	1.2994	1.2994	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278	
Total	1.5231	29.9782	36.7226	0.0620	4.3166	1.2994	5.6160	1.6631	1.2994	2.9625	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278	

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

3.3 Grading - 2018**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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.1175	0.0794	0.8040	2.1100e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2900e-003	0.0606	210.5436	210.5436	6.2300e-003	210.6994			
Total	0.1175	0.0794	0.8040	2.1100e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2900e-003	0.0606	210.5436	210.5436	6.2300e-003	210.6994			

3.4 Underground Infrastructure - 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	1.2740	12.4241	10.6006	0.0148		0.8323	0.8323		0.7657	0.7657	1,484.735 0	1,484.735 0	0.4622		1,496.290 5		
Total	1.2740	12.4241	10.6006	0.0148		0.8323	0.8323		0.7657	0.7657	1,484.735 0	1,484.735 0	0.4622		1,496.290 5		

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

3.4 Underground Infrastructure - 2018**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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0588	0.0397	0.4020	1.0600e-003	0.1118	7.0000e-004	0.1125	0.0296	6.4000e-004	0.0303	105.2718	105.2718	3.1100e-003			105.3497	
Total	0.0588	0.0397	0.4020	1.0600e-003	0.1118	7.0000e-004	0.1125	0.0296	6.4000e-004	0.0303		105.2718	105.2718	3.1100e-003		105.3497	

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	0.3615	7.8102	11.1472	0.0148		0.4937	0.4937		0.4937	0.4937	0.0000	1,484.7350	1,484.7350	0.4622		1,496.2905	
Total	0.3615	7.8102	11.1472	0.0148		0.4937	0.4937		0.4937	0.4937	0.0000	1,484.7350	1,484.7350	0.4622		1,496.2905	

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

3.4 Underground Infrastructure - 2018**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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0588	0.0397	0.4020	1.0600e-003	0.1118	7.0000e-004	0.1125	0.0296	6.4000e-004	0.0303	105.2718	105.2718	3.1100e-003			105.3497	
Total	0.0588	0.0397	0.4020	1.0600e-003	0.1118	7.0000e-004	0.1125	0.0296	6.4000e-004	0.0303		105.2718	105.2718	3.1100e-003		105.3497	

3.5 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	2,620.935 1	2,620.935 1	0.6421			2,636.988 3	
Total	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	2,620.935 1	2,620.935 1	0.6421			2,636.988 3	

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

3.5 Building Construction - 2018**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	0.0000	0.0000	
Vendor	7.7200e-003	0.2428	0.0542	5.1000e-004	0.0128	2.0600e-003	0.0149	3.6900e-003	1.9700e-003	5.6600e-003	53.7468	53.7468	5.1100e-003	53.8747			
Worker	0.0411	0.0278	0.2814	7.4000e-004	0.0782	4.9000e-004	0.0787	0.0208	4.5000e-004	0.0212	73.6903	73.6903	2.1800e-003	73.7448			
Total	0.0488	0.2706	0.3356	1.2500e-003	0.0911	2.5500e-003	0.0936	0.0244	2.4200e-003	0.0269		127.4371	127.4371	7.2900e-003		127.6194	

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	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,620.935	2,620.935	0.6421		2,636.988	
Total	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,620.935	2,620.935	0.6421		2,636.988	

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3.5 Building Construction - 2018**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	0.0000	0.0000	
Vendor	7.7200e-003	0.2428	0.0542	5.1000e-004	0.0128	2.0600e-003	0.0149	3.6900e-003	1.9700e-003	5.6600e-003	53.7468	53.7468	5.1100e-003	53.8747			
Worker	0.0411	0.0278	0.2814	7.4000e-004	0.0782	4.9000e-004	0.0787	0.0208	4.5000e-004	0.0212	73.6903	73.6903	2.1800e-003	73.7448			
Total	0.0488	0.2706	0.3356	1.2500e-003	0.0911	2.5500e-003	0.0936	0.0244	2.4200e-003	0.0269		127.4371	127.4371	7.2900e-003		127.6194	

3.5 Building Construction - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	2,591.5802	2,591.5802	0.6313		2,607.3635		
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	2,591.5802	2,591.5802	0.6313		2,607.3635		

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3.5 Building Construction - 2019**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	6.9900e-003	0.2272	0.0496	5.1000e-004	0.0128	1.7500e-003	0.0146	3.6900e-003	1.6700e-003	5.3600e-003	53.3877	53.3877	4.9300e-003	53.5110			
Worker	0.0377	0.0245	0.2520	7.2000e-004	0.0782	4.8000e-004	0.0787	0.0208	4.4000e-004	0.0212	71.4362	71.4362	1.9400e-003	71.4847			
Total	0.0447	0.2516	0.3016	1.2300e-003	0.0911	2.2300e-003	0.0933	0.0244	2.1100e-003	0.0266	124.8239	124.8239	6.8700e-003		124.9956		

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	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635	
Total	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635	

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3.5 Building Construction - 2019**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	6.9900e-003	0.2272	0.0496	5.1000e-004	0.0128	1.7500e-003	0.0146	3.6900e-003	1.6700e-003	5.3600e-003	53.3877	53.3877	4.9300e-003	53.5110			
Worker	0.0377	0.0245	0.2520	7.2000e-004	0.0782	4.8000e-004	0.0787	0.0208	4.4000e-004	0.0212	71.4362	71.4362	1.9400e-003	71.4847			
Total	0.0447	0.2516	0.3016	1.2300e-003	0.0911	2.2300e-003	0.0933	0.0244	2.1100e-003	0.0266	124.8239	124.8239	6.8700e-003			124.9956	

3.5 Building Construction - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	2,553.063 1	2,553.063 1	0.6229			2,568.634 5	
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	2,553.063 1	2,553.063 1	0.6229			2,568.634 5	

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3.5 Building Construction - 2020**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	5.8800e-003	0.2047	0.0441	5.0000e-004	0.0128	1.1800e-003	0.0140	3.6900e-003	1.1300e-003	4.8200e-003	53.0086	53.0086	4.6000e-003	53.1235			
Worker	0.0349	0.0218	0.2283	6.9000e-004	0.0782	4.7000e-004	0.0787	0.0208	4.4000e-004	0.0212	69.1765	69.1765	1.7200e-003	69.2195			
Total	0.0408	0.2265	0.2724	1.1900e-003	0.0911	1.6500e-003	0.0927	0.0244	1.5700e-003	0.0260	122.1851	122.1851	6.3200e-003			122.3429	

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	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,553.063	2,553.063	0.6229		2,568.634	
Total	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,553.063	2,553.063	0.6229		2,568.634	

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3.5 Building Construction - 2020**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	5.8800e-003	0.2047	0.0441	5.0000e-004	0.0128	1.1800e-003	0.0140	3.6900e-003	1.1300e-003	4.8200e-003	53.0086	53.0086	4.6000e-003	53.1235			
Worker	0.0349	0.0218	0.2283	6.9000e-004	0.0782	4.7000e-004	0.0787	0.0208	4.4000e-004	0.0212	69.1765	69.1765	1.7200e-003	69.2195			
Total	0.0408	0.2265	0.2724	1.1900e-003	0.0911	1.6500e-003	0.0927	0.0244	1.5700e-003	0.0260	122.1851	122.1851	6.3200e-003			122.3429	

3.6 Paving - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	2,207.733 4	2,207.733 4	0.7140			2,225.584 1	
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000		0.0000			0.0000	
Total	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	2,207.733 4	2,207.733 4	0.7140			2,225.584 1	

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3.6 Paving - 2020**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0748	0.0467	0.4893	1.4900e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454	148.2354	148.2354	3.6800e-003			148.3274	
Total	0.0748	0.0467	0.4893	1.4900e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454		148.2354	148.2354	3.6800e-003		148.3274	

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	0.5609	11.2952	17.2957	0.0228		0.6093	0.6093		0.6093	0.6093	0.0000	2,207.733 4	2,207.733 4	0.7140		2,225.584 1	
Paving	0.0000					0.0000	0.0000		0.0000	0.0000		0.0000		0.7140		0.0000	
Total	0.5609	11.2952	17.2957	0.0228		0.6093	0.6093		0.6093	0.6093	0.0000	2,207.733 4	2,207.733 4	0.7140		2,225.584 1	

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

3.6 Paving - 2020**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0748	0.0467	0.4893	1.4900e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454	148.2354	148.2354	3.6800e-003			148.3274	
Total	0.0748	0.0467	0.4893	1.4900e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454		148.2354	148.2354	3.6800e-003		148.3274	

3.7 Architectural Coating - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Archit. Coating	7.5087						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000	
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928	
Total	7.7509	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928	

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

3.7 Architectural Coating - 2020**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	4.9800e-003	3.1100e-003	0.0326	1.0000e-004	0.0112	7.0000e-005	0.0113	2.9600e-003	6.0000e-005	3.0300e-003	9.8824	9.8824	2.5000e-004			9.8885	
Total	4.9800e-003	3.1100e-003	0.0326	1.0000e-004	0.0112	7.0000e-005	0.0113	2.9600e-003	6.0000e-005	3.0300e-003	9.8824	9.8824	2.5000e-004			9.8885	

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	7.5087						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0218		281.9928	
Total	7.5681	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0218		281.9928	

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

3.7 Architectural Coating - 2020**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	4.9800e-003	3.1100e-003	0.0326	1.0000e-004	0.0112	7.0000e-005	0.0113	2.9600e-003	6.0000e-005	3.0300e-003	9.8824	9.8824	2.5000e-004			9.8885	
Total	4.9800e-003	3.1100e-003	0.0326	1.0000e-004	0.0112	7.0000e-005	0.0113	2.9600e-003	6.0000e-005	3.0300e-003	9.8824	9.8824	2.5000e-004			9.8885	

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1.6995	14.3548	20.8526	0.0864	6.6397	0.0842	6.7240	1.7767	0.0794	1.8561	8,812.516 7	8,812.516 7	0.4847			8,824.634 0	
Unmitigated	1.6995	14.3548	20.8526	0.0864	6.6397	0.0842	6.7240	1.7767	0.0794	1.8561	8,812.516 7	8,812.516 7	0.4847			8,824.634 0	

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated		Mitigated	
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT	Annual VMT	Annual VMT
Single Family Housing	911.00	884.00	884.00	3,086,665		3,086,665	
Total	911.00	884.00	884.00	3,086,665		3,086,665	

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	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120

5.0 Energy Detail

Historical Energy Use: N

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0135	0.1152	0.0490	7.4000e-004			9.3200e-003	9.3200e-003	9.3200e-003	9.3200e-003	147.1204	147.1204	2.8200e-003	2.7000e-003	147.9947		
NaturalGas Unmitigated	0.0219	0.1875	0.0798	1.2000e-003			0.0152	0.0152	0.0152	0.0152	239.3322	239.3322	4.5900e-003	4.3900e-003	240.7544		

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	2034.32	0.0219	0.1875	0.0798	1.2000e-003			0.0152	0.0152		0.0152	239.3322	239.3322	4.5900e-003	4.3900e-003	240.7544		
Total		0.0219	0.1875	0.0798	1.2000e-003			0.0152	0.0152		0.0152	239.3322	239.3322	4.5900e-003	4.3900e-003	240.7544		

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	lb/day										lb/day						
Single Family Housing	1.25052	0.0135	0.1152	0.0490	7.4000e-004			9.3200e-003	9.3200e-003	9.3200e-003	9.3200e-003	147.1204	147.1204	2.8200e-003	2.7000e-003	147.9947		
Total		0.0135	0.1152	0.0490	7.4000e-004			9.3200e-003	9.3200e-003	9.3200e-003	9.3200e-003			147.1204	147.1204	2.8200e-003	2.7000e-003	147.9947

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	6.0657	0.4341	11.8266	0.0260			1.5369	1.5369		1.5369	187.3384	362.9711	550.3094	0.5616	0.0127	568.1380
Unmitigated	6.0657	0.4341	11.8266	0.0260			1.5369	1.5369		1.5369	187.3384	362.9711	550.3094	0.5616	0.0127	568.1380

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

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	0.0617					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7128					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	5.2407	0.4150	10.1710	0.0260		1.5278	1.5278		1.5278	1.5278	187.3384	360.0000	547.3384	0.5587	0.0127	565.0945
Landscaping	0.0504	0.0192	1.6555	9.0000e-005		9.1000e-003	9.1000e-003		9.1000e-003	9.1000e-003		2.9711	2.9711	2.9000e-003		3.0435
Total	6.0657	0.4341	11.8266	0.0260		1.5369	1.5369		1.5369	1.5369	187.3384	362.9711	550.3094	0.5616	0.0127	568.1380

12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0617						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000
Consumer Products	0.7128						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000
Hearth	5.2407	0.4150	10.1710	0.0260		1.5278	1.5278		1.5278	1.5278	187.3384	360.0000	547.3384	0.5587	0.0127	565.0945
Landscaping	0.0504	0.0192	1.6555	9.0000e-005		9.1000e-003	9.1000e-003		9.1000e-003	9.1000e-003		2.9711	2.9711	2.9000e-003		3.0435
Total	6.0657	0.4341	11.8266	0.0260		1.5369	1.5369		1.5369	1.5369	187.3384	362.9711	550.3094	0.5616	0.0127	568.1380

7.0 Water Detail**7.1 Mitigation Measures Water**

Apply Water Conservation Strategy

8.0 Waste Detail**8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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12 Oaks Phase 2 - Wine Estate Lots - Riverside-South Coast County, Winter

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

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

12 Oaks Phase 3 - SFR Ranch Lots
Riverside-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	76.00	Dwelling Unit	263.00	136,800.00	217

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.4	Precipitation Freq (Days)	28
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

Project Characteristics -

Land Use - 76 SFR Ranch Lots (1 acre minimum)

Construction Phase - Estimated schedule received from Applicant

Off-road Equipment -

Off-road Equipment - Typical equipment added

Off-road Equipment - Typical equipment added

Grading -

Vehicle Trips - ADT obtained from Traffic Study (Fehr & Peers 2016)

Construction Off-road Equipment Mitigation - Tier 2 equipment

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	330.00	30.00
tblConstructionPhase	NumDays	4,650.00	530.00
tblConstructionPhase	NumDays	465.00	130.00
tblConstructionPhase	NumDays	330.00	30.00
tblConstructionPhase	NumDays	180.00	15.00
tblGrading	AcresOfGrading	325.00	337.50
tblLandUse	LotAcreage	24.68	263.00

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

tblProjectCharacteristics	OperationalYear	2018	2023
tblVehicleTrips	SU_TR	8.62	9.91
tblVehicleTrips	WD_TR	9.52	9.53

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	4.8465	54.5901	34.0969	0.0641	18.2675	2.3916	20.6591	9.9840	2.2003	12.1843	0.0000	6,344.122 9	6,344.122 9	1.9482	0.0000	6,392.827 3
2020	2.2779	20.0889	17.9055	0.0316	0.3530	1.1236	1.4766	0.0948	1.0566	1.1513	0.0000	3,031.920 9	3,031.920 9	0.6479	0.0000	3,048.117 7
2021	2.0464	18.2415	17.5372	0.0315	0.3530	0.9619	1.3149	0.0948	0.9043	0.9991	0.0000	3,021.644 7	3,021.644 7	0.6394	0.0000	3,037.629 7
2022	28.7594	16.3750	17.2513	0.0314	0.3530	0.8120	1.1650	0.0948	0.7639	0.8587	0.0000	3,011.366 8	3,011.366 8	0.7170	0.0000	3,027.212 4
Maximum	28.7594	54.5901	34.0969	0.0641	18.2675	2.3916	20.6591	9.9840	2.2003	12.1843	0.0000	6,344.122 9	6,344.122 9	1.9482	0.0000	6,392.827 3

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

2.1 Overall Construction (Maximum Daily Emission)**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	1.6307	30.0482	37.4427	0.0641	8.3310	1.3008	9.2784	4.5222	1.3007	5.4695	0.0000	6,344.122 9	6,344.122 9	1.9482	0.0000	6,392.827 3
2020	0.8320	15.1289	18.9308	0.0316	0.3530	0.9101	1.2631	0.0948	0.9098	1.0046	0.0000	3,031.920 9	3,031.920 9	0.6479	0.0000	3,048.117 7
2021	0.8194	15.0354	18.8358	0.0315	0.3530	0.9068	1.2598	0.0948	0.9066	1.0014	0.0000	3,021.644 7	3,021.644 7	0.6394	0.0000	3,037.629 7
2022	28.6143	14.9854	18.7617	0.0314	0.3530	0.9065	1.2595	0.0948	0.9063	1.0011	0.0000	3,011.366 8	3,011.366 8	0.7170	0.0000	3,027.212 4
Maximum	28.6143	30.0482	37.4427	0.0641	8.3310	1.3008	9.2784	4.5222	1.3007	5.4695	0.0000	6,344.122 9	6,344.122 9	1.9482	0.0000	6,392.827 3

	ROG	NOx	CO	SO2	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	15.91	31.20	-8.27	0.00	51.41	23.91	46.94	53.19	18.31	44.21	0.00	0.00	0.00	0.00	0.00	0.00

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

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	23.0468	1.6492	44.9214	0.0989		5.8402	5.8402		5.8402	5.8402	711.8858	1,379.2900	2,091.1758	2.1338	0.0483	2,158.9204
Energy	0.0834	0.7124	0.3032	4.5500e-003		0.0576	0.0576		0.0576	0.0576		909.4622	909.4622	0.0174	0.0167	914.8667
Mobile	1.0763	7.6128	13.4518	0.0656	5.4880	0.0384	5.5264	1.4682	0.0358	1.5039		6,705.0336	6,705.0336	0.3004		6,712.5423
Total	24.2065	9.9744	58.6763	0.1690	5.4880	5.9362	11.4242	1.4682	5.9336	7.4018	711.8858	8,993.7858	9,705.6716	2.4516	0.0650	9,786.3293

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	23.0468	1.6492	44.9214	0.0989		5.8402	5.8402		5.8402	5.8402	711.8858	1,379.2900	2,091.1758	2.1338	0.0483	2,158.9204
Energy	0.0513	0.4379	0.1864	2.8000e-003		0.0354	0.0354		0.0354	0.0354		559.0576	559.0576	0.0107	0.0103	562.3798
Mobile	1.0763	7.6128	13.4518	0.0656	5.4880	0.0384	5.5264	1.4682	0.0358	1.5039		6,705.0336	6,705.0336	0.3004		6,712.5423
Total	24.1744	9.6999	58.5595	0.1673	5.4880	5.9140	11.4020	1.4682	5.9114	7.3796	711.8858	8,643.3812	9,355.2670	2.4449	0.0586	9,433.8425

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.13	2.75	0.20	1.04	0.00	0.37	0.19	0.00	0.37	0.30	0.00	3.90	3.61	0.27	9.88	3.60

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	5/6/2019	5/24/2019	5	15	
2	Grading	Grading	5/25/2019	11/22/2019	5	130	
3	Underground Infrastructure	Trenching	11/25/2019	9/25/2020	5	220	
4	Building Construction	Building Construction	9/28/2020	10/7/2022	5	530	
5	Paving	Paving	10/10/2022	11/18/2022	5	30	
6	Architectural Coating	Architectural Coating	11/21/2022	12/30/2022	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 337.5

Acres of Paving: 0

Residential Indoor: 277,020; Residential Outdoor: 92,340; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

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
Underground Infrastructure	Excavators	1	8.00	158	0.38
Underground Infrastructure	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Underground Infrastructure	Trenchers	1	8.00	78	0.50
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

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

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
Underground Infrastructure	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	27.00	8.00	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	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	3,766.452 9	3,766.452 9	1.1917			3,796.244 5
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298	3,766.452 9	3,766.452 9	1.1917			3,796.244 5

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

3.2 Site Preparation - 2019**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0968	0.0630	0.6481	1.8400e-003	0.2012	1.2400e-003	0.2024	0.0534	1.1400e-003	0.0545	183.6931	183.6931	4.9800e-003			183.8177	
Total	0.0968	0.0630	0.6481	1.8400e-003	0.2012	1.2400e-003	0.2024	0.0534	1.1400e-003	0.0545		183.6931	183.6931	4.9800e-003		183.8177	

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					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000	
Off-Road	0.9312	19.0656	22.9600	0.0380		0.9462	0.9462		0.9462	0.9462	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445	
Total	0.9312	19.0656	22.9600	0.0380	8.1298	0.9462	9.0760	4.4688	0.9462	5.4150	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445	

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

3.2 Site Preparation - 2019**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0968	0.0630	0.6481	1.8400e-003	0.2012	1.2400e-003	0.2024	0.0534	1.1400e-003	0.0545	183.6931	183.6931	4.9800e-003			183.8177	
Total	0.0968	0.0630	0.6481	1.8400e-003	0.2012	1.2400e-003	0.2024	0.0534	1.1400e-003	0.0545		183.6931	183.6931	4.9800e-003		183.8177	

3.3 Grading - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Fugitive Dust					8.7753	0.0000	8.7753	3.6075	0.0000	3.6075			0.0000			0.0000	
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920	6,140.0195	6,140.0195	1.9426			6,188.5854	
Total	4.7389	54.5202	33.3768	0.0620	8.7753	2.3827	11.1580	3.6075	2.1920	5.7996		6,140.0195	6,140.0195	1.9426		6,188.5854	

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

3.3 Grading - 2019**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.1076	0.0700	0.7201	2.0500e-003	0.2236	1.3800e-003	0.2249	0.0593	1.2700e-003	0.0606	204.1034	204.1034	5.5400e-003			204.2419	
Total	0.1076	0.0700	0.7201	2.0500e-003	0.2236	1.3800e-003	0.2249	0.0593	1.2700e-003	0.0606		204.1034	204.1034	5.5400e-003		204.2419	

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					3.9489	0.0000	3.9489	1.6234	0.0000	1.6234			0.0000			0.0000	
Off-Road	1.5231	29.9782	36.7226	0.0620		1.2994	1.2994		1.2994	1.2994	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854	
Total	1.5231	29.9782	36.7226	0.0620	3.9489	1.2994	5.2483	1.6234	1.2994	2.9228	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854	

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

3.3 Grading - 2019**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.1076	0.0700	0.7201	2.0500e-003	0.2236	1.3800e-003	0.2249	0.0593	1.2700e-003	0.0606	204.1034	204.1034	5.5400e-003			204.2419	
Total	0.1076	0.0700	0.7201	2.0500e-003	0.2236	1.3800e-003	0.2249	0.0593	1.2700e-003	0.0606		204.1034	204.1034	5.5400e-003		204.2419	

3.4 Underground Infrastructure - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	1.1607	11.2739	10.5077	0.0147		0.7376	0.7376		0.6786	0.6786	1,460.062 9	1,460.062 9	0.4620			1,471.611 6	
Total	1.1607	11.2739	10.5077	0.0147		0.7376	0.7376		0.6786	0.6786		1,460.062 9	1,460.062 9	0.4620		1,471.611 6	

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

3.4 Underground Infrastructure - 2019**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0538	0.0350	0.3601	1.0200e-003	0.1118	6.9000e-004	0.1125	0.0296	6.4000e-004	0.0303	102.0517	102.0517	2.7700e-003			102.1209	
Total	0.0538	0.0350	0.3601	1.0200e-003	0.1118	6.9000e-004	0.1125	0.0296	6.4000e-004	0.0303		102.0517	102.0517	2.7700e-003		102.1209	

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	0.3615	7.8102	11.1472	0.0147		0.4937	0.4937		0.4937	0.4937	0.0000	1,460.0629	1,460.0629	0.4620		1,471.6116	
Total	0.3615	7.8102	11.1472	0.0147		0.4937	0.4937		0.4937	0.4937	0.0000	1,460.0629	1,460.0629	0.4620		1,471.6116	

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

3.4 Underground Infrastructure - 2019**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0538	0.0350	0.3601	1.0200e-003	0.1118	6.9000e-004	0.1125	0.0296	6.4000e-004	0.0303	102.0517	102.0517	2.7700e-003			102.1209	
Total	0.0538	0.0350	0.3601	1.0200e-003	0.1118	6.9000e-004	0.1125	0.0296	6.4000e-004	0.0303		102.0517	102.0517	2.7700e-003		102.1209	

3.4 Underground Infrastructure - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	1.0837	10.4195	10.4635	0.0148		0.6674	0.6674		0.6140	0.6140	1,428.467 5	1,428.467 5	0.4620			1,440.017 4	
Total	1.0837	10.4195	10.4635	0.0148		0.6674	0.6674		0.6140	0.6140	1,428.467 5	1,428.467 5	0.4620			1,440.017 4	

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3.4 Underground Infrastructure - 2020**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0498	0.0311	0.3262	9.9000e-004	0.1118	6.8000e-004	0.1125	0.0296	6.2000e-004	0.0303	98.8236	98.8236	2.4500e-003			98.8849	
Total	0.0498	0.0311	0.3262	9.9000e-004	0.1118	6.8000e-004	0.1125	0.0296	6.2000e-004	0.0303	98.8236	98.8236	2.4500e-003			98.8849	

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	0.3615	7.8102	11.1472	0.0148		0.4937	0.4937		0.4937	0.4937	0.0000	1,428.4675	1,428.4675	0.4620		1,440.0174	
Total	0.3615	7.8102	11.1472	0.0148		0.4937	0.4937		0.4937	0.4937	0.0000	1,428.4675	1,428.4675	0.4620		1,440.0174	

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3.4 Underground Infrastructure - 2020**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0498	0.0311	0.3262	9.9000e-004	0.1118	6.8000e-004	0.1125	0.0296	6.2000e-004	0.0303	98.8236	98.8236	2.4500e-003			98.8849	
Total	0.0498	0.0311	0.3262	9.9000e-004	0.1118	6.8000e-004	0.1125	0.0296	6.2000e-004	0.0303		98.8236	98.8236	2.4500e-003		98.8849	

3.5 Building Construction - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	2,553.063 1	2,553.063 1	0.6229			2,568.634 5	
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	2,553.063 1	2,553.063 1	0.6229			2,568.634 5	

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3.5 Building Construction - 2020**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0235	0.8188	0.1763	2.0100e-003	0.0512	4.7400e-003	0.0560	0.0148	4.5300e-003	0.0193	212.0342	212.0342	0.0184	212.4939			
Worker	0.1346	0.0841	0.8807	2.6800e-003	0.3018	1.8300e-003	0.3036	0.0800	1.6800e-003	0.0817	266.8237	266.8237	6.6300e-003	266.9894			
Total	0.1581	0.9029	1.0570	4.6900e-003	0.3530	6.5700e-003	0.3596	0.0948	6.2100e-003	0.1010	478.8579	478.8579	0.0250			479.4833	

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	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,553.063	2,553.063	0.6229		2,568.634	
Total	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,553.063	2,553.063	0.6229		2,568.634	

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

3.5 Building Construction - 2020**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0235	0.8188	0.1763	2.0100e-003	0.0512	4.7400e-003	0.0560	0.0148	4.5300e-003	0.0193	212.0342	212.0342	0.0184	212.4939			
Worker	0.1346	0.0841	0.8807	2.6800e-003	0.3018	1.8300e-003	0.3036	0.0800	1.6800e-003	0.0817	266.8237	266.8237	6.6300e-003	266.9894			
Total	0.1581	0.9029	1.0570	4.6900e-003	0.3530	6.5700e-003	0.3596	0.0948	6.2100e-003	0.1010	478.8579	478.8579	0.0250			479.4833	

3.5 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	2,553.363 9	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	2,553.363 9	0.6160			2,568.764 3	

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

3.5 Building Construction - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0198	0.7339	0.1563	2.0000e-003	0.0512	1.4500e-003	0.0527	0.0148	1.3900e-003	0.0161	210.3786	210.3786	0.0174	210.8142			
Worker	0.1256	0.0754	0.8058	2.5900e-003	0.3018	1.7800e-003	0.3036	0.0800	1.6400e-003	0.0817	257.9023	257.9023	5.9600e-003	258.0513			
Total	0.1455	0.8094	0.9620	4.5900e-003	0.3530	3.2300e-003	0.3563	0.0948	3.0300e-003	0.0978	468.2808	468.2808	0.0234			468.8655	

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	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,553.363 9	2,553.363 9	0.6160		2,568.764 3	
Total	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,553.363 9	2,553.363 9	0.6160		2,568.764 3	

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

3.5 Building Construction - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0198	0.7339	0.1563	2.0000e-003	0.0512	1.4500e-003	0.0527	0.0148	1.3900e-003	0.0161	210.3786	210.3786	0.0174	210.8142			
Worker	0.1256	0.0754	0.8058	2.5900e-003	0.3018	1.7800e-003	0.3036	0.0800	1.6400e-003	0.0817	257.9023	257.9023	5.9600e-003	258.0513			
Total	0.1455	0.8094	0.9620	4.5900e-003	0.3530	3.2300e-003	0.3563	0.0948	3.0300e-003	0.0978	468.2808	468.2808	0.0234	468.8655			

3.5 Building Construction - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	2,554.333 6	2,554.333 6	0.6120		2,569.632 2		
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	2,554.333 6	2,554.333 6	0.6120		2,569.632 2		

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3.5 Building Construction - 2022**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0185	0.6915	0.1459	1.9800e-003	0.0512	1.2200e-003	0.0525	0.0148	1.1700e-003	0.0159	208.5417	208.5417	0.0165	208.9547			
Worker	0.1179	0.0678	0.7421	2.4900e-003	0.3018	1.7300e-003	0.3035	0.0800	1.5900e-003	0.0816	248.4915	248.4915	5.3600e-003	248.6255			
Total	0.1364	0.7593	0.8879	4.4700e-003	0.3530	2.9500e-003	0.3560	0.0948	2.7600e-003	0.0976		457.0332	457.0332	0.0219		457.5802	

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	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322	
Total	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322	

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

3.5 Building Construction - 2022**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0185	0.6915	0.1459	1.9800e-003	0.0512	1.2200e-003	0.0525	0.0148	1.1700e-003	0.0159	208.5417	208.5417	0.0165	208.9547			
Worker	0.1179	0.0678	0.7421	2.4900e-003	0.3018	1.7300e-003	0.3035	0.0800	1.5900e-003	0.0816	248.4915	248.4915	5.3600e-003	248.6255			
Total	0.1364	0.7593	0.8879	4.4700e-003	0.3530	2.9500e-003	0.3560	0.0948	2.7600e-003	0.0976	457.0332	457.0332	0.0219			457.5802	

3.6 Paving - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	2,207.660 3	2,207.660 3	0.7140			2,225.510 4	
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000		0.0000			0.0000	
Total	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	2,207.660 3	2,207.660 3	0.7140			2,225.510 4	

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0655	0.0377	0.4123	1.3800e-003	0.1677	9.6000e-004	0.1686	0.0445	8.9000e-004	0.0454	138.0508	138.0508	2.9800e-003	138.1253			
Total	0.0655	0.0377	0.4123	1.3800e-003	0.1677	9.6000e-004	0.1686	0.0445	8.9000e-004	0.0454	138.0508	138.0508	2.9800e-003			138.1253	

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	0.5609	11.2952	17.2957	0.0228		0.6093	0.6093		0.6093	0.6093	0.0000	2,207.660	2,207.660	0.7140		2,225.510	
Paving	0.0000					0.0000	0.0000		0.0000	0.0000		0.0000				0.0000	
Total	0.5609	11.2952	17.2957	0.0228		0.6093	0.6093		0.6093	0.6093	0.0000	2,207.660	2,207.660	0.7140		2,225.510	

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

3.6 Paving - 2022**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0655	0.0377	0.4123	1.3800e-003	0.1677	9.6000e-004	0.1686	0.0445	8.9000e-004	0.0454	138.0508	138.0508	2.9800e-003		138.1253		
Total	0.0655	0.0377	0.4123	1.3800e-003	0.1677	9.6000e-004	0.1686	0.0445	8.9000e-004	0.0454		138.0508	138.0508	2.9800e-003		138.1253	

3.7 Architectural Coating - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Archit. Coating	28.5331						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000	
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062	
Total	28.7376	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062	

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

3.7 Architectural Coating - 2022**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0218	0.0126	0.1374	4.6000e-004	0.0559	3.2000e-004	0.0562	0.0148	3.0000e-004	0.0151	46.0169	46.0169	9.9000e-004	46.0418			
Total	0.0218	0.0126	0.1374	4.6000e-004	0.0559	3.2000e-004	0.0562	0.0148	3.0000e-004	0.0151		46.0169	46.0169	9.9000e-004		46.0418	

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	28.5331						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000	
Off-Road	0.0594	1.3570	1.8324	2.9700e-003			0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0183		281.9062
Total	28.5925	1.3570	1.8324	2.9700e-003			0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0183		281.9062

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

3.7 Architectural Coating - 2022**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0218	0.0126	0.1374	4.6000e-004	0.0559	3.2000e-004	0.0562	0.0148	3.0000e-004	0.0151	46.0169	46.0169	9.9000e-004			46.0418	
Total	0.0218	0.0126	0.1374	4.6000e-004	0.0559	3.2000e-004	0.0562	0.0148	3.0000e-004	0.0151		46.0169	46.0169	9.9000e-004		46.0418	

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1.0763	7.6128	13.4518	0.0656	5.4880	0.0384	5.5264	1.4682	0.0358	1.5039	6,705.033 6	6,705.033 6	0.3004		6,712.542 3		
Unmitigated	1.0763	7.6128	13.4518	0.0656	5.4880	0.0384	5.5264	1.4682	0.0358	1.5039	6,705.033 6	6,705.033 6	0.3004		6,712.542 3		

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated		Mitigated	
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT	Annual VMT	Annual VMT
Single Family Housing	724.28	753.16	753.16	2,503,171		2,503,171	
Total	724.28	753.16	753.16	2,503,171		2,503,171	

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	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898

5.0 Energy Detail

Historical Energy Use: N

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0513	0.4379	0.1864	2.8000e-003			0.0354	0.0354		0.0354	559.0576	559.0576	0.0107	0.0103		562.3798	
NaturalGas Unmitigated	0.0834	0.7124	0.3032	4.5500e-003			0.0576	0.0576		0.0576	909.4622	909.4622	0.0174	0.0167		914.8667	

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	7730.43	0.0834	0.7124	0.3032	4.5500e-003			0.0576	0.0576		0.0576	909.4622	909.4622	0.0174	0.0167		914.8667	
Total		0.0834	0.7124	0.3032	4.5500e-003			0.0576	0.0576		0.0576	909.4622	909.4622	0.0174	0.0167		914.8667	

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5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	4.75199	0.0513	0.4379	0.1864	2.8000e-003		0.0354	0.0354		0.0354	0.0354	559.0576	559.0576	0.0107	0.0103	562.3798	
Total		0.0513	0.4379	0.1864	2.8000e-003		0.0354	0.0354		0.0354	0.0354	559.0576	559.0576	0.0107	0.0103	562.3798	

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	23.0468	1.6492	44.9214	0.0989		5.8402	5.8402		5.8402	5.8402	711.8858	1,379.290	2,091.175	2.1338	0.0483	2,158.920
Unmitigated	23.0468	1.6492	44.9214	0.0989		5.8402	5.8402		5.8402	5.8402	711.8858	1,379.290	2,091.175	2.1338	0.0483	2,158.920

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

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	0.2345						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000
Consumer Products	2.7086						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000
Hearth	19.9147	1.5769	38.6499	0.0986		5.8055	5.8055		5.8055	5.8055	711.8858	1,368.0000	2,079.8858	2.1230	0.0483	2,147.3590
Landscaping	0.1889	0.0723	6.2715	3.3000e-004		0.0347	0.0347		0.0347	0.0347		11.2900	11.2900	0.0109		11.5614
Total	23.0468	1.6492	44.9214	0.0989		5.8402	5.8402		5.8402	5.8402	711.8858	1,379.2900	2,091.1758	2.1338	0.0483	2,158.9204

12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2345						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000
Consumer Products	2.7086						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000
Hearth	19.9147	1.5769	38.6499	0.0986		5.8055	5.8055		5.8055	5.8055	711.8858	1,368.0000	2,079.8858	2.1230	0.0483	2,147.3590
Landscaping	0.1889	0.0723	6.2715	3.3000e-004		0.0347	0.0347		0.0347	0.0347		11.2900	11.2900	0.0109		11.5614
Total	23.0468	1.6492	44.9214	0.0989		5.8402	5.8402		5.8402	5.8402	711.8858	1,379.2900	2,091.1758	2.1338	0.0483	2,158.9204

7.0 Water Detail**7.1 Mitigation Measures Water**

Apply Water Conservation Strategy

8.0 Waste Detail**8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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12 Oaks Phase 3 - SFR Ranch Lots - Riverside-South Coast County, Winter

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

12 Oaks Winery Resort - Buildout - Riverside-South Coast County, Winter

12 Oaks Winery Resort - Buildout
Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	33.40	1000sqft	0.77	33,400.00	0
Arena	54.45	1000sqft	17.50	54,450.00	0
Hotel	251.00	Room	8.37	237,927.00	0
Condo/Townhouse	20.00	Dwelling Unit	1.25	20,000.00	57
Single Family Housing	76.00	Dwelling Unit	24.68	136,800.00	217
Regional Shopping Center	26.64	1000sqft	0.61	26,640.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.4	Precipitation Freq (Days)	28
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

12 Oaks Winery Resort - Buildout - Riverside-South Coast County, Winter

Project Characteristics - Model is for operation emissions only, no construction

Land Use - Hotel sqft adjusted based on data provided by applicant.

Construction Phase - Model is for operations emissions only, no construction.

Off-road Equipment - Model is for operation emissions only, no construction.

Trips and VMT - Model is for operation emissions only, no construction

Vehicle Trips - Fehr&Peers2016

Energy Use -

Water And Wastewater - Winery&Hotel MAWA is 253,014,715 gal/yr

Mobile Land Use Mitigation -

Area Mitigation - No wood burning devices in new construction per SCAQMD Rule 455.

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

12 Oaks Winery Resort - Buildout - Riverside-South Coast County, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	75.00	1.00
tblLandUse	LandUseSquareFeet	364,452.00	237,927.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblTripsAndVMT	WorkerTripNumber	37.00	0.00
tblVehicleTrips	ST_TR	10.71	0.00
tblVehicleTrips	ST_TR	5.67	44.20
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	8.19	6.69
tblVehicleTrips	ST_TR	49.97	57.43
tblVehicleTrips	SU_TR	10.71	0.00
tblVehicleTrips	SU_TR	4.84	44.20
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	5.95	6.69
tblVehicleTrips	SU_TR	25.24	57.43
tblVehicleTrips	SU_TR	8.62	9.91
tblVehicleTrips	WD_TR	10.71	0.00
tblVehicleTrips	WD_TR	5.81	45.55
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	8.17	5.68
tblVehicleTrips	WD_TR	42.70	38.29
tblVehicleTrips	WD_TR	9.52	9.53
tblWater	IndoorWaterUseRate	23,455,432.90	0.00
tblWater	OutdoorWaterUseRate	1,497,155.29	0.00
tblWater	OutdoorWaterUseRate	0.00	253,014,715.00
tblWater	OutdoorWaterUseRate	707,451.03	0.00
tblWater	OutdoorWaterUseRate	1,209,437.02	0.00

12 Oaks Winery Resort - Buildout - Riverside-South Coast County, Winter

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Mitigated Construction

12 Oaks Winery Resort - Buildout - Riverside-South Coast County, Winter

2.2 Overall Operational

12 Oaks Winery Resort - Buildout - Riverside-South Coast County, Winter

Mitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM2.5 Total	PM2.5 Exhaust	PM2.5 Fugitive	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e	
Area																	
Energy	0.5900	5.3192	4.1773	0.0322	0.4077	0.4077	7.3773	899.2242	1,742.341	2,641.565	2.6956	0.0610	2,727.142	6	6		
Mobile	6.4147	45.3817	71.9844	0.3416	0.1999	0.1999	27.7263	7.9848	35.7111	7.4174	7.9712	15.3887	899.2242	43,137.62	44,036.85	4,5425	0.1790
Total	43.6487	52.7844	132.9419	0.4987	27.7263	7.9848	35.7111	7.4174	7.9712	15.3887	899.2242	43,137.62	44,036.85	4,5425	0.1790	44,203.76	69
Category																	
Energy	0.5900	5.3192	4.1773	0.0322	0.4077	0.4077	7.3773	899.2242	1,742.341	2,641.565	2.6956	0.0610	2,727.142	6	6		
Mobile	6.4147	45.3817	71.9844	0.3416	0.1999	0.1999	27.7263	7.9848	35.7111	7.4174	7.9712	15.3887	899.2242	43,137.62	44,036.85	4,5425	0.1790
Total	43.6487	52.7844	132.9419	0.4987	27.7263	7.9848	35.7111	7.4174	7.9712	15.3887	899.2242	43,137.62	44,036.85	4,5425	0.1790	44,203.76	69

Mitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM2.5 Total	PM2.5 Exhaust	PM2.5 Fugitive	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e	
Area																	
Energy	0.5900	5.3192	4.1773	0.0322	0.4077	0.4077	7.3773	899.2242	1,742.341	2,641.565	2.6956	0.0610	2,727.142	6	6		
Mobile	6.4147	45.3817	71.9844	0.3416	0.1999	0.1999	27.7263	7.9848	35.7111	7.4174	7.9712	15.3887	899.2242	43,137.62	44,036.85	4,5425	0.1790
Total	43.6487	52.7844	132.9419	0.4987	27.7263	7.9848	35.7111	7.4174	7.9712	15.3887	899.2242	43,137.62	44,036.85	4,5425	0.1790	44,203.76	69
Category																	
Energy	0.5900	5.3192	4.1773	0.0322	0.4077	0.4077	7.3773	899.2242	1,742.341	2,641.565	2.6956	0.0610	2,727.142	6	6		
Mobile	6.4147	45.3817	71.9844	0.3416	0.1999	0.1999	27.7263	7.9848	35.7111	7.4174	7.9712	15.3887	899.2242	43,137.62	44,036.85	4,5425	0.1790
Total	43.6487	52.7844	132.9419	0.4987	27.7263	7.9848	35.7111	7.4174	7.9712	15.3887	899.2242	43,137.62	44,036.85	4,5425	0.1790	44,203.76	69

12 Oaks Winery Resort - Buildout - Riverside-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	57.25	1.06	36.26	23.14	0.00	90.39	20.21	0.00	90.54	46.90	100.00	-0.24	1.81	58.26	15.35	1.97

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	1/25/2021	1/25/2021	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 317,520; Residential Outdoor: 105,840; Non-Residential Indoor: 528,626; Non-Residential Outdoor: 176,209; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	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
Architectural Coating	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

12 Oaks Winery Resort - Buildout - Riverside-South Coast County, Winter

3.2 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	4,248.047 0						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000
Off-Road	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	4,248.047 0	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000

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							

12 Oaks Winery Resort - Buildout - Riverside-South Coast County, Winter

3.2 Architectural Coating - 2021**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	4,248.0470						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000
Off-Road	0.0000	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	4,248.0470	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000		0.0000

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		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000							

4.0 Operational Detail - Mobile

12 Oaks Winery Resort - Buildout - Riverside-South Coast County, Winter

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	6.4147	45.3817	71.9844	0.3416	27.7263	0.1999	27.9262	7.4174	0.1863	7.6037	34,958.55 25	34,958.55 25	1.7235			35,001.64 09
Unmitigated	6.4147	45.3817	71.9844	0.3416	27.7263	0.1999	27.9262	7.4174	0.1863	7.6037	34,958.55 25	34,958.55 25	1.7235			35,001.64 09

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	0.00	0.00	0.00		
Condo/Townhouse	911.00	884.00	884.00	3,086,665	3,086,665
General Light Industry	0.00	0.00	0.00		
Hotel	1,425.68	1,679.19	1679.19	3,574,750	3,574,750
Regional Shopping Center	1,020.05	1,529.94	1529.94	2,521,289	2,521,289
Single Family Housing	724.28	753.16	753.16	2,503,171	2,503,171
Total	4,081.01	4,846.29	4,846.29	11,685,874	11,685,874

4.3 Trip Type Information

12 Oaks Winery Resort - Buildout - Riverside-South Coast County, Winter

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
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
Arena	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898
Condo/Townhouse	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898
General Light Industry	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898
Hotel	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898
Regional Shopping Center	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898
Single Family Housing	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

12 Oaks Winery Resort - Buildout - Riverside-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.5900	5.3192	4.1773	0.0322		0.4077	0.4077		0.4077	0.4077	6,436.733 1	6,436.733 1	0.1234	0.1180	6,474.983 4	
NaturalGas Unmitigated	0.5900	5.3192	4.1773	0.0322		0.4077	0.4077		0.4077	0.4077	6,436.733 1	6,436.733 1	0.1234	0.1180	6,474.983 4	

12 Oaks Winery Resort - Buildout - Riverside-South Coast County, Winter

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					
Arena	4846.8	0.0523	0.4752	0.3992	2.8500e-003		0.0361	0.0361		0.0361	0.0361	570.2113	570.2113	0.0109	0.0105	573.5998	
Condo/Townhouse	1241.84	0.0134	0.1144	0.0487	7.3000e-004		9.2500e-003	9.2500e-003		9.2500e-003	9.2500e-003	146.0985	146.0985	2.8000e-003	2.6800e-003	146.9667	
General Light Industry	2973.06	0.0321	0.2915	0.2448	1.7500e-003		0.0222	0.0222		0.0222	0.0222	349.7715	349.7715	6.7000e-003	6.4100e-003	351.8500	
Hotel	39117.8	0.4219	3.8351	3.2215	0.0230		0.2915	0.2915		0.2915	0.2915	4,602.0949	4,602.0949	0.0882	0.0844	4,629.4428	
Regional Shopping Center	162.03	1.7500e-003	0.0159	0.0133	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	19.0623	19.0623	3.7000e-004	3.5000e-004	19.1756	
Single Family Housing	6370.71	0.0687	0.5871	0.2498	3.7500e-003		0.0475	0.0475		0.0475	0.0475	749.4947	749.4947	0.0144	0.0137	753.9486	
Total		0.5900	5.3192	4.1773	0.0322		0.4077	0.4077		0.4077	0.4077	6,436.7331	6,436.7331	0.1234	0.1180	6,474.9834	

12 Oaks Winery Resort - Buildout - Riverside-South Coast County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	4.8468	0.0523	0.4752	0.3992	2.8500e-003		0.0361	0.0361		0.0361	0.0361	570.2113	570.2113	0.0109	0.0105	573.5998	
Condo/Townhouse	1.24184	0.0134	0.1144	0.0487	7.3000e-004		9.2500e-003	9.2500e-003		9.2500e-003	9.2500e-003	146.0985	146.0985	2.8000e-003	2.6800e-003	146.9667	
General Light Industry	2.97306	0.0321	0.2915	0.2448	1.7500e-003		0.0222	0.0222		0.0222	0.0222	349.7715	349.7715	6.7000e-003	6.4100e-003	351.8500	
Hotel	39.1178	0.4219	3.8351	3.2215	0.0230		0.2915	0.2915		0.2915	0.2915	4,602.0949	4,602.0949	0.0882	0.0844	4,629.4428	
Regional Shopping Center	0.16203	1.7500e-003	0.0159	0.0133	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	19.0623	19.0623	3.7000e-004	3.5000e-004	19.1756	
Single Family Housing	6.37071	0.0687	0.5871	0.2498	3.7500e-003		0.0475	0.0475		0.0475	0.0475	749.4947	749.4947	0.0144	0.0137	753.9486	
Total		0.5900	5.3192	4.1773	0.0322		0.4077	0.4077		0.4077	0.4077	6,436.7331	6,436.7331	0.1234	0.1180	6,474.9834	

6.0 Area Detail**6.1 Mitigation Measures Area**

Use only Natural Gas Hearths

12 Oaks Winery Resort - Buildout - Riverside-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	11.6562	1.5249	8.5691	9.5700e-003		0.1599	0.1599		0.1599	0.1599	0.0000	1,843.9881	1,843.9881	0.0490	0.0335	1,855.2088
Unmitigated	36.6439	2.0835	56.7802	0.1250		7.3773	7.3773		7.3773	7.3773	899.2242	1,742.3410	2,641.5652	2.6956	0.0610	2,727.1426

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	1.1639					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.0825					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	25.1555	1.9918	48.8210	0.1246		7.3333	7.3333		7.3333	7.3333	899.2242	1,728.0000	2,627.2242	2.6817	0.0610	2,712.4535
Landscaping	0.2421	0.0917	7.9592	4.2000e-004		0.0440	0.0440		0.0440	0.0440		14.3410	14.3410	0.0139		14.6891
Total	36.6439	2.0835	56.7802	0.1250		7.3773	7.3773		7.3773	7.3773	899.2242	1,742.3410	2,641.5652	2.6956	0.0610	2,727.1426

12 Oaks Winery Resort - Buildout - Riverside-South Coast County, Winter

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
SubCategory	lb/day										lb/day						
Architectural Coating	1.1639						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000	
Consumer Products	10.0825						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000	
Hearth	0.1677	1.4332	0.6099	9.1500e-003			0.1159	0.1159		0.1159	0.1159	0.0000	1,829.647 1	1,829.647 1	0.0351	0.0335 7	1,840.519
Landscaping	0.2421	0.0917	7.9592	4.2000e-004			0.0440	0.0440		0.0440	0.0440		14.3410	14.3410	0.0139		14.6891
Total	11.6562	1.5249	8.5691	9.5700e-003			0.1599	0.1599		0.1599	0.1599	0.0000	1,843.988 1	1,843.988 1	0.0490	0.0335	1,855.208 8

7.0 Water Detail**7.1 Mitigation Measures Water**

Apply Water Conservation Strategy

8.0 Waste Detail**8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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12 Oaks Winery Resort - Buildout - Riverside-South Coast County, Winter

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
