

4.3.1 INTRODUCTION

This section identifies the categories and types of emission sources resulting from the Project, provides an estimate of pollutant emissions for the Project and predicts the potential impacts from the Project. The purpose is also to recommend mitigation measures to avoid or lessen the significance of potential impacts. Information presented in this section is based upon the 2003 *Riverside County General Plan* (GPA No. 618), the *Riverside County General Plan EIR No. 441* (2003), applicable Riverside County Ordinances, *Air Quality Impact Assessment Technical Report* prepared by PCR Services Corporation (Appendix C), the *Southwest Area Plan*, proposed Temecula Valley Wine Country Policy Area (2011), Wine Country zones of Ordinance No. 348, and the *Temecula Valley Wine Country Design Guidelines*. Refer to Appendix C for detailed air quality modeling assumptions and results.

4.3.2 EXISTING CONDITIONS

EXISTING AIR QUALITY

The Project area covers approximately 18,990 acres of land located in the South Coast Air Basin (“Basin”). The Basin is surrounded by mountains trapping the air and its pollutants in the valleys or basins below. This area includes all of Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties. Bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, the Basin is an area of high air pollution potential. The regional climate within the Basin is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. Air quality within the Basin is influenced by a wide range of emissions sources—such as dense population centers, heavy vehicular traffic, and industry.

The annual average temperature varies throughout the Basin, ranging from the low to mid 60s to over 100 degrees during the summer, measured in Fahrenheit (°F). Riverside County is located in the inland, eastern portion of the Basin and experiences more variation in temperature than the coastal areas. The annual average temperature in the Basin region of the County is approximately 60°F, although temperatures can often exceed 90°F. Typically the hottest months are July and August, and the coldest months are December and January.

The majority of annual rainfall in the Basin occurs between December and March. Summer rainfall is minimal and generally limited to scattered thundershowers in coastal regions. The annual average total of rainfall in the County is 9.1 inches.

The Basin experiences a persistent temperature inversion, which is characterized by increasing temperature with increasing altitude. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. Aside from a persistent temperature inversion, the vertical dispersion of air contaminants in the Basin is also affected by wind conditions. The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. Conversely, on days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air

pollutants generated in urbanized areas in the Basin are transported eastward, predominantly into Riverside and San Bernardino Counties. Santa Ana winds, which are strong and dry north or northeasterly winds that occur during the fall and winter months, disperse air contaminants differently through the Basin, generally resulting in worse air conditions in the western parts of the Basin. Santa Ana conditions tend to last for several days at a time.

The Basin has very low average wind speeds; the dominant daily wind pattern is an onshore 8 to 12 miles per hour (mph) during the day and offshore 3 to 5 mph winds during the night. These wind patterns are disrupted occasionally by winter storms or strong northeasterly Santa Ana winds from the mountains and deserts northeast of the Basin.

AIR POLLUTANTS

Description of Pollutants

Air pollutant emissions within the Basin are generated from stationary, mobile, and natural sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at an identified location and are usually associated with manufacturing and industry. Examples are boilers or combustion equipment that produce electricity or generate heat. Area sources are widely distributed and produce many small emissions. Examples of area sources include residential and commercial water heaters, painting operations, portable generators, lawn mowers, agricultural fields, landfills, and consumer products such as barbeque lighter fluid and hair spray. Construction activities that create fugitive dust such as excavation and grading also contribute to area source emissions. Mobile sources refer to emissions from on- and off-road motor vehicles, including tailpipe and evaporative emissions. Onroad sources may be legally operated on roadways and highways. Off-road sources include aircraft, trains, and construction equipment. Mobile sources account for the majority of the air pollutant emissions within the Basin. Air pollutants can also be generated by the natural environment such as when fine dust particles are pulled off the ground surface and suspended in the air during high winds.

To protect the public health and welfare, the federal and state governments have identified five criteria air pollutants, a host of air toxics, and have established ambient air quality standards through the Federal Clean Air Act and the California Clean Air Act. The air pollutants for which federal and state standards have been promulgated and which are most relevant to air quality planning and regulation in the air basins include ozone, carbon monoxide, suspended particulate matter, sulfur dioxide, and lead.

Air pollutants are typically classified as primary or secondary pollutants. Carbon monoxide (CO), nitrogen dioxide (NO₂), particulate matter (PM), sulfur dioxide (SO₂), and lead (Pb) are considered primary pollutants, because they are emitted directly into the atmosphere. Ozone (O₃) is considered a secondary pollutant, because it is formed through a photochemical reaction in the atmosphere with volatile organic compounds (VOCs) and nitrogen oxides (NO_x) which in the presence of sunlight produces O₃. Both the federal and state governments have established ambient air quality standards for outdoor concentrations of various pollutants in order to protect public health. The national and state ambient air quality standards have been set at levels whose concentrations could be generally harmful to human health and welfare and to protect the most-sensitive persons from illness or discomfort with a margin of safety.

While ambient air quality standards have been developed specifically for O₃ and NO_x, there is no state or federal ambient air quality standard for VOCs. VOCs include many compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, methane, among others. While the state and federal entities have not established ambient attainment levels for VOCs, they have for O₃. Because VOCs react with NO_x through photochemical reactions to form ozone, air districts, including SCAQMD, have provided VOC significance thresholds for project-level analysis in order to further limit the levels of VOCs available in the atmosphere that can be converted to ozone.

Ozone: Ozone is a gas that is formed when VOCs, which can also be referred to as reactive organic gases (ROG), and NO_x, both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Meteorological conditions that are needed to produce high concentrations of ozone are direct sunshine, early morning stagnation in source areas, high ground surface temperatures, strong and low morning inversions, greatly restricted vertical mixing during the day, and daytime subsidence that strengthens the inversion layer. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable.

Carbon Monoxide (CO): CO is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during the winter morning, with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, and motor vehicles operating at slow speeds are the primary source of CO in the Basin, the highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

Respirable Particulate Matter (PM₁₀) and Fine Particulate Matter (PM_{2.5}): PM₁₀ and PM_{2.5} are extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter, respectively. Some sources of particulate matter, like pollen and windstorms, are naturally occurring. However, in populated areas, most particulate matter is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.

Sulfur Dioxide (SO₂): SO₂ is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal, and from chemical processes occurring at chemical plants and refineries. Although SO₂ concentrations have been reduced to levels well below state and national standards, further reductions are desirable, because SO₂ is a precursor to sulfates which can also affect human health. SO₂ converts rapidly to sulfates within California due to regional meteorological features. Sulfates are a particulate formed through the photochemical oxidation of SO₂.

Lead: Lead occurs in the atmosphere as particulate matter. The combustion of leaded gasoline is the primary source of airborne lead in the Basin. The use of leaded gasoline is no longer permitted for on-road motor vehicles; therefore, most lead combustion emissions are currently associated with off-road vehicles such as racecars and some jet fuels. Other sources of lead occur in the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and secondary lead smelters.

Toxic Air Contaminants: Toxic Air Contaminants (TACs) are a diverse group of air pollutants that can affect human health, but have not had ambient air quality standards established for them. This is not because they are fundamentally different from the pollutants discussed above, but because their effects

tend to be local rather than regional. The California Air Resources Board (CARB) has designated nearly 200 compounds as TACs. Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to a relatively few compounds, the most important being particulate matter from diesel-fueled engines.

Health Effects of Air Pollutants

Ozone: Individuals exercising outdoors, children, and people with pre-existing lung disease, such as asthma and chronic pulmonary lung disease, are considered to be most susceptible to ozone effects. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated ozone levels are associated with increased school absences. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in high ozone communities. Ozone exposure under exercising conditions is known to increase the severity of the responses described above. Animal studies suggest that exposure to a combination of pollutants that includes ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.

Reactive Organic Gases: Reactive organic gases are carbon-containing compounds that typically evaporate into the air where they can react with other chemicals. VOCs contribute to the formation of smog, and in some cases may themselves be toxic. Because of the number of compounds that are included in the term VOC, the health effects of the individual gases are not discussed in this document. VOCs often have an odor and some examples including chemicals in gasoline, alcohol and the solvents used in paints.

Nitrogen Dioxide: Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to NO₂ at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO₂ in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. In animals, exposure to levels of NO₂ considerably higher than ambient concentrations results in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO₂.

Carbon Monoxide: Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of worsening oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport and competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and

blood vessels, and patients with chronic hypoxemia (oxygen deficiency) as seen at high altitudes. Reduction in birth weight and impaired neurobehavioral development have been observed in animals chronically exposed to CO, resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels; these include pre-term births and heart abnormalities.

Particulate Matter: A consistent correlation between elevated ambient fine particulate matter (PM₁₀ and PM_{2.5}) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in life span, and an increased mortality from lung cancer. Daily fluctuations in PM_{2.5} concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long-term exposure to particulate matter. The elderly, people with pre-existing respiratory or cardiovascular disease, and children appear to be more susceptible to the effects of high levels of PM₁₀ and PM_{2.5}.

Sulfur Dioxide: A few minutes of exposure to low levels of SO₂ can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO₂. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO₂. Animal studies suggest that despite SO₂ being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO₂ levels. In these studies, efforts to separate the effects of SO₂ from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor. The effects of sulfate exposure at levels above the standard include the aggravation of asthmatic symptoms, an increased risk of cardio-pulmonary disease, and a decrease in respiratory function.

Lead: Fetuses, infants, and children are more sensitive than others to the adverse effects of exposure to Pb. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased Pb levels are associated with increased blood pressure. Pb poisoning can cause anemia, lethargy, seizures, and death; although it appears that there are no direct effects of Pb on the respiratory system. Pb can be stored in the bone from early age environmental exposure, and elevated blood Pb levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of Pb because of previous environmental Pb exposure of their mothers.

Odors: The science of odor as a health concern is still new. Merely identifying the hundreds of VOCs that cause offensive odors poses a big challenge. Odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that

might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

EXISTING REGIONAL AIR QUALITY EMISSIONS

Measurements of ambient concentrations of criteria pollutants are used by the United States Environmental Protection Agency (EPA) and CARB to assess and classify the air quality of each air basin, county, or, in some cases, a specific developed area. The classification is determined by comparing monitoring data with national and California air quality standards. If a pollutant concentration in an area is lower than the standard, the area is classified as being in “attainment.” If the pollutant exceeds the standard, the area is in marginal, moderate, serious, severe, or extreme “nonattainment,” depending on the magnitude of the air quality standard exceedance. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated “unclassified.”

South Coast Air Basin

At the federal level, the Basin is designated as an extreme nonattainment area for ozone and a serious nonattainment area for PM₁₀. The area is also a federal-level nonattainment area for PM_{2.5}. The federal status of the Basin for CO was recently upgraded to a “serious maintenance area” from nonattainment, and the Basin is in attainment for NO₂ and SO₂.

At the state level, the Basin is also designated as an extreme nonattainment area for ozone and a nonattainment area for PM_{2.5} and PM₁₀. It is in attainment for the state CO standard, and it is in attainment for both state ambient air quality standards for SO₂, and NO₂, a subcategory of NO_x. In an effort to monitor the various concentrations of air pollutants throughout the basin, the SCAQMD has divided the region into 38 source receptor areas in which 32 monitoring stations operate. The portion of the County of Riverside located in the Basin that the Project is located is SRA 26.

Ambient air pollutant concentrations within the Riverside County portion of the Basin are monitored by five monitoring stations including the stations in Corona/Norco, Rubidoux, Magnolia, Perris Valley, and Lake Elsinore. Table 4.3-1, *Ambient Air Quality Standards for Criteria Pollutants – South Coast Air Basin*, above, identifies the national and state ambient air quality standards for relevant air pollutants and provides a summary of highest ambient air quality measured at the five monitoring stations between 2007 and 2009. As identified in the table, the state one-hour standard for ozone was exceeded 184 times during the three-year period. The national eight-hour ozone standard was exceeded 217 times, and the state eight-hour standard was exceeded 270 times during this same period. The State 24-hr standard for PM₁₀ was exceeded 123 times between 2007 and 2009, while the PM_{2.5} federal 24-hr standard was exceeded 63 times. There were no exceedances observed for CO, NO_x, or SO₂ during this three-year period.

Toxic Air Contaminants

TACs are airborne substances that are capable of causing chronic (i.e., of long duration) and acute (i.e., severe but short duration) adverse effects on human health. They 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.

Table 4.3-1
Ambient Air Quality Standards for Criteria Pollutants – South Coast Air Basin

Air Pollutant Monitored	Year			
	2007	2008	2009	2010 ^a
Ozone (O₃)				
Maximum 1-hour concentration (ppm)	0.139	0.146	0.128	0.122
# of days exceeding state 0.09 ppm 1-hr standard	66	65	53	46
Maximum 8-hour concentration (ppm)	0.116	0.118	0.108	0.107
# of days exceeding national 0.075 ppm 8-hr standard	73	77	67	50
# of days exceeding state 0.07 ppm 8-hour standard	88	94	88	77
Nitrogen Dioxide (NO₂)				
Maximum 1-hour concentration (ppm)	0.07	0.09	0.08	0.062
# of days exceeding state 0.18 ppm 1-hr standard	0	0	0	0
Annual average (ppm)	0.0206	0.0258	0.0200	0.015
# of days exceeding state 0.03 ppm annual average	0	0	0	N/A
# of days exceeding national 0.0534 ppm annual average	0	0	0	N/A
Carbon Monoxide (CO)				
Maximum 1-hour concentration (ppm)	4	7	3	N/A
# of days exceeding national 35.0 ppm 1-hr standard	0	0	0	N/A
# of days exceeding state 20.0 ppm 1-hr standard	0	0	0	N/A
Maximum 8-hour concentration (ppm)	2.9	2.0	2.4	1.94
# of days exceeding national 9.0 ppm 8-hr standard	0	0	0	0
# of days exceeding state 9.0 ppm 8-hr standard	0	0	0	0
Suspended Particulates (PM₁₀)				
Maximum 24-hour concentration (µg/m ³)	142	135	108	89
# of days exceeding national 150 µg/m ³ 24-hour standard	0	0	0	0
# of days exceeding state 50.0 µg/m ³ 24-hour standard	41	49	33	23
Annual average concentration (µg/m ³)	68.5	57.4	53.4	42.3
Suspended Particulates (PM_{2.5})				
Maximum 24-hr concentration (µg/m ³)	75.7	57.7	49.3	54.2
# of days exceeding national 35 µg/m ³ 24-hour standard	33	14	16	8
Sulfur Dioxide (SO₂)^a				
Maximum 24-hr concentration (ppm)	0.002	0.003	0.003	N/A
# of days exceeding state 0.04 ppm 24-hr standard	0	0	0	N/A
Notes: ppm: parts per million; mg/m ³ : micrograms per cubic meter.				
^a 2010 values were obtained from CARB's iADAM: Air Quality Data Statistics database and may contain unverified or missing data.				
Source: South Coast Air Quality Management District, www.aqmd.gov/smog/historicaldata.htm , accessed August 2011.				
California Air Resources Board, http://www.arb.ca.gov/adam/ , accessed November 2011.				

Lifetime cancer risk is defined as the increased chance of contracting cancer over a 70-year period as a result of exposure to a toxic substance or substances. It is the product of the estimated daily exposure of each suspected carcinogen by its respective cancer unit risk. The end result represents a worst-case estimate of cancer risk. The CARB has produced a series of estimated inhalation cancer risk maps based on modeled levels of outdoor composite toxic pollutant levels. The 2010 estimated map indicates that the majority of the County is exposed to an inhalation cancer risk of less than 250 persons per million.

These risk maps depict inhalation cancer risk due to modeled outdoor toxic pollutant levels, and do not account for cancer risk due to other types of exposure. The largest contributors to inhalation cancer risk are diesel engines.

Sensitive Receptors

Sensitive receptors are populations that are more susceptible to the effects of air pollution than are the population at large. While the ambient air quality standards are designed to protect public health and are generally regarded as conservative for healthy adults, there is greater concern to protect adults who are ill or have long-term respiratory problems, and young children whose lungs are not fully developed. According to ARB, sensitive receptors include children less than 14 years of age, the elderly over 65 years of age, athletes, and people with cardiovascular and chronic respiratory diseases. The SCAQMD identifies the following as locations that may contain a high concentration of sensitive receptors; long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, childcare centers, and athletic facilities.

4.3.3 REGULATORY FRAMEWORK

Air quality within the County is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality within the air basins are discussed below.

EXISTING FEDERAL REGULATIONS

U.S. Environmental Protection Agency

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the EPA to establish National Ambient Air Quality Standards (NAAQS), with states retaining the option to adopt more stringent standards or to include other specific pollutants. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those “sensitive receptors” most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The CAA (and its subsequent amendments) requires each State to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The SIP is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The EPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

EXISTING STATE REGULATIONS

California Air Resources Board

The CARB, a part of the California EPA (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets state ambient air quality standards (California Ambient Air Quality Standards, or CAAQS), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California's SIP, and works closely with the federal government and the local air districts.

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is a council of governments for Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. It is a regional planning agency and serves as a forum for regional issues relating to transportation, the economy and community development, and the environment. Although SCAG is not an air quality management agency, it is responsible for developing transportation, land use, and energy conservation measures that affect air quality. SCAG's Regional Comprehensive Plan and Guide (RCPG) provide growth forecasts that are used in the development of air quality-related land use and transportation control strategies by the SCAQMD. The RCPG is a framework for decision-making for local governments, assisting them in meeting federal and state mandates for growth management, mobility, and environmental standards, while maintaining consistency with regional goals regarding growth and changes through the year 2015, and beyond. Policies within the RCPG include consideration of air quality, land use, transportation, and economic relationships by all levels of government.

South Coast Air Quality Management District

The SCAQMD is the agency principally responsible for comprehensive air pollution control within the Basin. To that end, the SCAQMD, works directly with SCAG, county transportation commissions, local governments, and cooperates actively with all federal and state government agencies. The SCAQMD develops rules and regulations, establishes permitting requirements, inspects emissions sources, and enforces such measures through educational programs or fines, when necessary.

SCAQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and natural sources. It has responded to this requirement by preparing a series of Air Quality Management Plans (AQMPs). The most recent of these was adopted by the Governing Board of SCAQMD on June 1, 2007. This AQMP, referred to as the 2007 AQMP, was prepared to comply with the federal and state Clean Air Acts and amendments, to accommodate growth, to reduce the high pollutant levels in the basins, to meet FAAQS and CAAQS, and to minimize the fiscal impact that pollution control measures have on the local economy. It identifies the control measures that will be implemented to reduce major sources of pollutants. These planning efforts have substantially decreased the population's exposure to unhealthful levels of pollutants, even while substantial population growth has occurred within its jurisdictional boundaries.

EXISTING COUNTY REGULATIONS

The following County ordinances and Board of Supervisors Policies address impacts related to air quality change:

Ordinance No. 706: Mobile Source Air Pollution Reduction Programs (Funding)

This ordinance supports the SCAQMD's imposition of the vehicle registration fee and brings the County into compliance with the requirements of the Health and Safety Code in order to receive fee revenues for the purpose of implementing programs to reduce air pollution from motor vehicles.

Ordinance No. 726: Transportation Demand Management for New Development

This ordinance sets the following goals related to efficiently utilizing the existing and planned transportation system and reducing vehicle emissions:

- Reduce vehicle trips generated by new development by 12 percent commencing in 1994, by 20 percent commencing in 2000, and by 30 percent commencing in 2006.
- Reduce overall projected 1994 vehicle trips emanating from the County of Riverside by 7 percent.
- Relieve traffic congestion in an effort to improve air quality.
- Produce an efficient transportation demand management system which utilizes the existing system to its best potential.
- Maintain or achieve minimum level of service "C" for all new development projects.
- The ordinance further requires that proposed projects prepare a Traffic Impact Analysis, which must include a Transportation Demand Management Plan describing the proposed trip level and outlining proposed transportation demand management measures for the project to achieve the trip level proposed.

Ordinance No. 748: Mitigation of Traffic Congestion Through Signalization

This ordinance adopts and sets forth policies, regulations and fees relating to the funding and installation of traffic signals that are a part of the mitigation of the cumulative environmental impacts of traffic congestion generated by new developments and land use changes.

Ordinance No. 659: Development Impact Fee (DIF) Program for Residential Development

The Development Impact Fee (DIF), established by this ordinance, shall be paid for each residential unit, development project, or a portion thereof to be constructed in order to assist in providing revenue to acquire or construct public facilities, purchase regional parkland, and preserve habitat and open space. Constructing public facilities and preserving open space associated with new developments is necessary to promote public health, safety, comfort, and welfare. Specifically, air pollutants are mitigated by promoting the location of public facilities and preservation of open space in close proximity to new developments, thus reducing vehicle travel.

EXISTING COUNTY GENERAL PLAN POLICIES

The following existing and proposed General Plan policies address impacts related to air quality

Land Use (LU) Element Policies

Policy LU 1.5: The County shall participate in regional efforts to address issues of mobility, transportation, traffic congestion, economic development, air and water quality, and watershed and habitat management with cities, local and regional agencies, stakeholders, Indian nations, and surrounding jurisdictions.

Policy LU 2.1: Accommodate land use development in accordance with the patterns and distribution of use and density depicted on the General Plan Land Use Map (Figure LU-1) and the Area Plan Land Use Maps, in accordance with the following:

- a. Provide a land use mix at the countywide and area plan levels based on projected need and supported by evaluation of impacts to the environment, economy, infrastructure, and services.
- b. Accommodate a range of community types and character, from agricultural and rural enclaves to urban and suburban communities.
- c. Provide for a broad range of land uses, intensities, and densities, including a range of residential, commercial, business, industry, open space, recreation, and public facilities uses.
- d. Concentrate growth near community centers that provide a mixture of commercial, employment, entertainment, recreation, civic, and cultural uses to the greatest extent possible.
- e. Concentrate growth near or within existing urban and suburban areas to maintain the rural and open space character of Riverside County to the greatest extent possible.
- f. Site development to capitalize upon multi-modal transportation opportunities and promote compatible land use arrangements that reduce reliance on the automobile.
- g. Prevent inappropriate development in areas that are environmentally sensitive or subject to severe natural hazards.

Policy LU 4.1: Require that new developments be located and designed to visually enhance, not degrade the character of the surrounding area through consideration of the following concepts:

- a. Compliance with the design standards of the appropriate area plan land use category.
- b. Require that structures be constructed in accordance with the requirements of the County's zoning, building, and other pertinent codes and regulations.
- c. Require that an appropriate landscape plan be submitted and implemented for development projects subject to discretionary review.
- d. Require that new development utilize drought tolerant landscaping and incorporate adequate drought-conscious irrigation systems.
- e. Pursue energy efficiency through street configuration, building orientation, and landscaping to capitalize on shading and facilitate solar energy, as provided for in Title 24 of the California Administrative Code.

- f. Incorporate water conservation techniques, such as groundwater recharge basins, use of porous pavement, drought tolerant landscaping, and water recycling, as appropriate.
- g. Encourage innovative and creative design concepts.
- h. Encourage the provision of public art.
- i. Include consistent and well-designed signage that is integrated with the building's architectural character.
- j. Provide safe and convenient vehicular access and reciprocal access between adjacent commercial uses.
- k. Locate site entries and storage bays to minimize conflicts with adjacent residential neighborhoods.
- l. Mitigate noise, odor, lighting, and other impacts on surrounding properties.
- m. Provide and maintain landscaping in open spaces and parking lots.
- n. Include extensive landscaping.
- o. Preserve natural features, such as unique natural terrain, drainage ways, and native vegetation, wherever possible, particularly where they provide continuity with more extensive regional systems.
- p. Require that new development be designed to provide adequate space for pedestrian connectivity and access, recreational trails, vehicular access and parking, supporting functions, open space, and other pertinent elements.
- q. Design parking lots and structures to be functionally and visually integrated and connected.
- r. Site buildings access points along sidewalks, pedestrian areas, and bicycle routes, and include amenities that encourage pedestrian activity.
- s. Establish safe and frequent pedestrian crossings.
- t. Create a human-scale ground floor environment that includes public open areas that separate pedestrian space from auto traffic or where mixed, it does so with special regard to pedestrian safety.

Policy LU 7.12: Improve the relationship and ratio between jobs and housing so that residents have an opportunity to live and work within the County.

Policy LU 10.1: Provide sufficient commercial and industrial development opportunities in order to increase local employment levels and thereby minimize long-distance commuting.

Policy LU 10.3: Accommodate the development of community centers and concentrations of development to reduce reliance on the automobile and help improve air quality.

Policy LU 10.4: Provide options to the automobile in communities, such as transit, bicycle and pedestrian trails, to help improve air quality.

Policy LU 12.1: Provide land use arrangements that reduce reliance on the automobile and improve opportunities for pedestrian, bicycle, and transit use in order to minimize congestion and air pollution.

Policy LU 12.2: Locate employment and service uses in areas that are easily accessible to existing or planned transportation facilities.

Policy LU 12.3: Locate transit stations in community centers and at places of public, employment, entertainment, recreation, and residential concentrations.

Policy LU 12.4: Incorporate safe and direct multi-modal linkages in the design and development of projects, as appropriate.

Circulation (C) Element Policies

Policy C 1.2: Support development of a variety of transportation options for major employment and activity centers including direct access to transit routes, primary arterial highways, bikeways, park-n-ride facilities, and pedestrian facilities.

Policy C 1.7: Encourage and support the development of projects that facilitate and enhance the use of alternative modes of transportation, including pedestrian-oriented retail and activity centers, dedicated bicycle lanes and paths, and mixed-use community centers.

Policy C 4.1: Provide facilities for the safe movement of pedestrians within developments, as specified in the County Ordinances Regulating the Division of Land of the County of Riverside.

Policy C 4.9: Coordinate with all transit operators to ensure that pedestrian facilities are provided along and/or near all transit routes, whenever feasible. New land developments may be required to provide pedestrian facilities due to existing or future planned transit routes even if demand for pedestrian facility is not otherwise warranted.

Policy C 11.2: Incorporate the potential for public transit service in the design of developments that are identified as major trip attractions (i.e., community centers, tourist and employment centers), as indicated in ordinances Regulating the Division of Land of the County of Riverside.

Policy C 11.4: Offer incentives to new development to encourage it to locate in a transit-oriented area such as a community center or along a designated transit corridor near a station.

Policy C 11.5: Accommodate transit through higher densities, innovative design, and right-of-way dedication.

Policy C 11.7: Promote development of transit centers and park-n-rides for use by all transit operators, including development of multi-modal facilities.

Policy C 12.1: Support the development and implementation of the Transit Oasis concept in conjunction with RCTC, local transit operators, and cities.

Policy C 12.2: Support the development of high-speed transit linkages, or express routes, between community centers and other major nodes of activity.

Policy C 12.3: Establish a system of transit priority treatments or dedicated travel lanes to facilitate movement by the Transit Oasis vehicles within community centers and other major nodes of activity, where feasible.

Policy C 17.3: Ensure that the bikeway system incorporates the following:

- a. Interconnection of cities and unincorporated communities;

- b. Provision of lanes to specific destinations such as state or county parks;
- c. Provision for bicycle touring; and
- d. Encouragement of bicycle commuting.

Policy C 17.4: Ensure that alternative modes of motorized transportation, such as buses, trains, etc., plan and provide for transportation of recreational and commuting bicyclists and bicycles on public transportation systems.

Policy C 20.12: Encourage the use of alternative non-motorized transportation and the use of nonpolluting vehicles.

Multipurpose Open Space (OS) Element Policies

Policy OS 12.1: Allow for the development of non-electrical, direct heat uses of geothermal heat and fluids for space, agricultural, and industrial heating in situations and localities where naturally occurring hydrothermal features will not be degraded.

Policy OS 16.1: Continue to implement Title 24 of the State Building Code. Establish mechanisms and incentives to encourage architects and builders to exceed the energy efficiency standards of Title 24.

Policy OS 16.2: Specify energy efficient materials and systems, including shade design technologies, for County buildings.

Policy OS 16.3: Implement public transportation systems that utilize alternative fuels when possible, as well as associated urban design measures that support alternatives to private automobile use.

Air Quality (AQ) Element Policies

Policy AQ 1.1: Promote and participate with regional and local agencies, both public and private, to protect and improve air quality.

Policy AQ 1.2: Support the Southern California Association of Government's (SCAG) Regional Growth Management Plan by developing intergovernmental agreements with appropriate governmental entities, sanitation districts, water districts, and those subregional entities identified in the Regional Growth Management Plan.

Policy AQ 1.4: Coordinate with the SCAQMD to ensure that all elements of air quality plans regarding reduction of air pollutant emissions are being enforced.

Policy AQ 1.5: Establish and implement air quality, land use and circulation measures that improve not only the County's environment but the entire region.

Policy AQ 2.1: Support the County land use planning efforts to assure that sensitive receptors are separated and protected from polluting point sources to the greatest extent possible.

Policy AQ 2.2: Require site plan designs to protect people and land uses sensitive to air pollution through the use of barriers and/or distance from emissions sources when possible.

Policy AQ 2.3: Encourage the use of pollution control measures such as landscaping, vegetation and other materials, which trap particulate matter or control pollution.



4.3 Air Quality

- Policy AQ 3.1: Allow the market place, as much as possible, to determine the most economical approach to relieve congestion and cut emissions.
- Policy AQ 3.2: Seek new cooperative relationships between employers and employees to reduce vehicle miles traveled.
- Policy AQ 3.4: Encourage employee rideshare and transit incentives for employers with more than 25 employees at a single location.
- Policy AQ 4.1: Encourage the use of building materials/methods which reduce emissions.
- Policy AQ 4.2: Encourage the use of efficient heating equipment and other appliances, such as water heaters, swimming pool heaters, cooking equipment, refrigerators, furnaces and boiler units.
- Policy AQ 4.3: Encourage centrally heated facilities to utilize automated time clocks or occupant sensors to control heating.
- Policy AQ 4.4: Require residential building construction to comply with energy use guidelines detailed in Title 24 of the California Administrative Code.
- Policy AQ 4.5: Require stationary pollution sources to minimize the release of toxic pollutants through:
- Design features;
 - Operating procedures;
 - Preventive maintenance;
 - Operator training; and
 - Emergency response planning
- Policy AQ 4.6: Require stationary air pollution sources to comply with applicable air district rules and control measures.
- Policy AQ 4.7: To the greatest extent possible, require every project to mitigate any of its anticipated emissions which exceed allowable emissions as established by the SCAQMD, SoCAB, the Environmental Protection Agency and the California Air Resources Board.
- Policy AQ 4.9: Require compliance with SCAQMD Rules 403 and 403.1, and support appropriate future measures to reduce fugitive dust emanating from construction sites.
- Policy AQ 4.10: Coordinate with the SCAQMD to create a communications plan to alert those conducting grading operations in the County of first, second, and third stage smog alerts, and when wind speeds exceed 25 miles per hour. During these instances all grading operations should be suspended.
- Policy AQ 5.1: Utilize source reduction, recycling and other appropriate measures to reduce the amount of solid waste disposed of in landfills.
- Policy AQ 5.2: Adopt incentives and/or regulations to enact energy conservation requirements for private and public developments.

- Policy AQ 5.4: Encourage the incorporation of energy-efficient design elements, including appropriate site orientation and the use of shade and windbreak trees to reduce fuel consumption for heating and cooling.
- Policy AQ 8.4: Support new mixed-use land use patterns and community centers which encourage community self-sufficiency and containment, and discourage automobile dependency.
- Policy AQ 8.5: Develop community centers in conformance with policies contained in the Land Use Element.
- Policy AQ 8.6: Encourage employment centers in close proximity to residential uses.
- Policy AQ 9.1: Cooperate with local, regional, state and federal jurisdictions to reduce vehicle miles traveled and motor vehicle emissions through job creation.
- Policy AQ 9.2: Attain performance goals and/or VMT reductions which are consistent with SCAG's Growth Management Plan.
- Policy AQ 10.1: Encourage trip reduction plans to promote alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking.
- Policy AQ 10.2: Use incentives, regulations and Transportation Demand Management in cooperation with surrounding jurisdictions when possible to eliminate vehicle trips which would otherwise be made.
- Policy AQ 10.3: Assist merchants in encouraging their customers to shift from single occupancy vehicles to transit, carpools, bicycles, or foot.
- Policy AQ 12.1: Manage traffic flow through signal synchronization, while coordinating with and permitting the free flow of mass transit vehicles, when possible.
- Policy AQ 12.3: Construct and improve traffic signals with channelization and Automated Traffic Surveillance and Control systems at appropriate intersections.
- Policy AQ 12.5: Encourage business owners to schedule deliveries at off-peak traffic periods.
- Policy AQ 14.1: Emphasize the use of high occupancy vehicle lanes, light rail and bus routes, and pedestrian and bicycle facilities when using transportation facility development to improve mobility and air quality.
- Policy AQ 15.1: Identify and monitor sources, enforce existing regulations, and promote stronger controls to reduce particulate matter.
- Policy AQ 16.1: Cooperate with local, regional, state and federal jurisdictions to better control particulate matter.
- Policy AQ 16.3: Collaborate with the SCAQMD to require and/or encourage the adoption of regulations or incentives to limit the amount of time trucks may idle.

- Policy AQ 16.4: Collaborate with the EPA, SCAQMD and warehouse owners and operators to create regulations and programs to reduce the amount of diesel fumes released due to warehousing operations.
- Policy AQ 17.1: Reduce particulate matter from agriculture, construction, demolition, debris hauling, street cleaning, utility maintenance, railroad rights-of-way, and off-road vehicles to the extent possible.
- Policy AQ 17.2: Enforce regulations against illegal fires.
- Policy AQ 17.3: Identify and create a control plan for areas within the County prone to wind erosion of soil.
- Policy AQ 17.4: Adopt incentives, regulations and/or procedures to manage paved and unpaved roads and parking lots so they produce the minimum practicable level of particulates.
- Policy AQ 17.5: Adopt incentives and/or procedures to limit dust from agricultural lands and operations, where applicable.
- Policy AQ 17.6: Reduce emissions from building materials and methods that generate excessive pollutants, through incentives and/or regulations.
- Policy AQ 17.8: Adopt regulations and programs necessary to meet state and federal guidelines for diesel emissions.
- Policy AQ 17.9: Encourage the installation and use of electric service units at truck stops and distribution centers for heating and cooling truck cabs, and particularly for powering refrigeration trucks in lieu of idling of engines for power.
- Policy AQ 17.10: Promote and encourage the use of natural gas and electric vehicles in distribution centers.
- Policy AQ 17.11: Create and implement street-sweeping plans, as appropriate, in areas of the County disproportionately affected by particulate matter pollution.

4.3.4 SIGNIFICANCE THRESHOLD CRITERIA

Appendix G of the State *CEQA Guidelines* provides sample checklist questions for use in an Initial Study to determine a project's potential for environmental impacts. According to the questions contained in Appendix G under Section III, "Air Quality", a project would have a significant impact if it would:

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

The State *CEQA Guidelines* (Section 15064.7) provide that, when available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make determinations of significance. The potential air quality impacts of the Project are, therefore, evaluated according to thresholds developed by SCAQMD in the *CEQA Air Quality Handbook*, *Air Quality Analysis Guidance Handbook*, and subsequent guidance, discussed below. These thresholds generally incorporate the checklist questions contained in Appendix G of the State *CEQA Guidelines*.

Greenhouse Gas Emissions and related “climate change” issues are addressed in Section 4.7, *Greenhouse Gasses*.

AQMP CONSISTENCY

The SCAQMD is required, pursuant to the Clean Air Act to reduce emissions of criteria pollutants for which the Basin is in non-attainment. The Project would be subject to the SCAQMD’s 2007 AQMP. The AQMP contains a comprehensive list of pollution control strategies directed at reducing emissions and achieving ambient air quality standards. These strategies are developed, in part, based on regional population, housing, and employment projections prepared by SCAG.

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties and serves as a forum for regional issues relating to transportation, the economy, community development and the environment. SCAG serves as the federally designated metropolitan planning organization (MPO) for the southern California region. With regard to air quality planning, SCAG has prepared the RCPG, which includes Growth Management and Regional Mobility chapters that form the basis for the land use and transportation control portions of the AQMP, and are utilized in the preparation of air quality forecasts and consistency analysis included in the AQMP. Both the RCPG and AQMP strategy incorporate projections from local planning documents.

A project is consistent with the AQMP if it is consistent with the population, housing and employment assumptions which were used in the development of the AQMP. The 2007 AQMP, the most-recent AQMP adopted by the SCAQMD, incorporates SCAG’s Regional Transportation Plan (RTP) socioeconomic forecast projections of regional population and employment growth.

AMBIENT AIR QUALITY STANDARDS

The SCAQMD has established mass emission thresholds below. It is unlikely that an individual project’s incremental increase in emissions could cause or contribute substantially to an exceedance of applicable ambient air quality standards. Thus, based on these criteria, the Project would have a potentially significant impact if any of the following would occur:

Regional emissions during construction from both direct and indirect sources would exceed any of the following SCAQMD threshold levels:

- 550 pounds per day CO
- 75 pounds per day of VOC
- 100 pounds per day of NO_x
- 150 pounds per day of SO_x
- 150 pounds per day of PM₁₀

- 55 pounds per day of PM_{2.5}¹

Regional emissions during operations from both direct and indirect sources would exceed any of the following SCAQMD threshold levels:

- 550 pounds per day of CO
- 55 pounds per day of VOC
- 55 pounds per day of NO_x
- 150 pounds per day of SO_x
- 150 pounds per day of PM₁₀
- 55 pounds per day of PM_{2.5}

A relatively large number of visitor trips will be originating from San Diego County. As such, an analysis of vehicle emissions was performed for vehicle travel within the San Diego Air Basin). The San Diego Air Pollution Control District (SDAPCD) does not provide quantitative thresholds for determining the significance of construction or mobile source-related impacts. However, the district does specify Air Quality Impact Analysis (AQIA) trigger levels for new or modified stationary sources in Regulation II, Rule 20.2, Table 20-2-1, "AQIA Trigger Levels."

- 550 pounds per day of CO
- 75 pounds per day of VOC (based on threshold of significance for VOC from the SCAQMD for the Coachella Valley)
- 250 pounds per day of NO_x
- 250 pounds per day of SO_x
- 100 pounds per day of PM₁₀
- 55 pounds per day of PM_{2.5} (based on threshold of significance from the SCAQMD)

Although these trigger levels do not generally apply to mobile sources or general land development projects, for comparative purposes these levels may be used to evaluate the increased emissions which would be discharged to the SDAB from proposed land development projects.²

LOCALIZED SIGNIFICANCE THRESHOLDS

Localized Significance Thresholds (LSTs) were developed in response to the SCAQMD Governing Board's Environmental Justice Enhancement Initiative (I-4). The LST methodology was provisionally adopted by the SCAQMD Governing Board in October 2003 and formally approved by SCAQMD's Mobile Source Committee in February 2005. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most-stringent applicable NAAQS or CAAQS, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

LSTs, which are voluntary, only apply to CO, NO₂, PM₁₀, and PM_{2.5} emissions during construction and operation at the discretion of the lead agency. Screening-level analysis of LSTs is only recommended for

¹ South Coast Air Quality Management District, *CEQA Air Quality Handbook*, Chapter 6 ("Determining the Air Quality Significance of a Project"), 1993.

² County of San Diego Land Use and Environment Group, *Guidelines for Determining Significance and Report Format and Content Requirements for Air Quality*, Chapter 4.0 (Guidelines for Determining Significance), 2007.

construction activities at project sites that are 5 acres or less. The SCAQMD recommends that operational activities and construction for any project over 5 acres should perform air quality dispersion modeling to assess impacts to nearby sensitive receptors. Individual construction projects allowed under the Project may cover areas greater than 5 acres. In the event that implementing projects within the SCAQMD jurisdiction cover areas more than 5 acres, dispersion modeling would be required for CO₂, NO_x, PM₁₀, and PM_{2.5} emissions during construction and for operational activities. NO_x to NO₂ conversion would be accounted for during the modeling to determine the maximum NO₂ concentrations at the nearest sensitive receptors.

The SCAQMD has developed methodology to assess the potential for localized emissions to cause an exceedance of applicable ambient air quality standards. Impacts would be considered significant if the following would occur:

- Maximum daily localized emissions are greater than the LST, resulting in predicted ambient concentrations in the vicinity of the Project site greater than the most-stringent ambient air quality standards for CO and NO_{2.5}.
- Maximum localized PM₁₀ or PM_{2.5} emissions during construction are greater than the applicable LSTs, resulting in predicted ambient concentrations in the vicinity of the site to exceed 50 µg/m³ over five hours (SCAQMD Rule 403 control requirement).

Based on criteria set forth in the SCAQMD *CEQA Air Quality Handbook*, the Project would have a significant impact with regard to operational emissions if any of the following would occur:

- The Project causes an exceedance of the California 1- or 8-hour CO standards of 20 or 9.0 parts per million (ppm), respectively, at an intersection or roadway within one-quarter mile of a sensitive receptor.

TOXIC AIR CONTAMINANTS

Additionally, the SCAQMD *CEQA Air Quality Handbook* states that the determination of the significance of TACs shall be made on a case-by-case basis, considering the following factors:

- The regulatory framework for the toxic material(s) and process(es) involved;
- The proximity of the TACs to sensitive receptors;
- The quantity, volume and toxicity of the contaminants expected to be emitted;
- The likelihood and potential level of exposure; and
- The degree to which Project design will reduce the risk of exposure.

Based on these guidelines, the Project would have a significant impact from TACs, if:

- On-site stationary sources emit carcinogenic air contaminants or TACs that individually or cumulatively exceed the maximum individual cancer risk of ten in one million or an acute or chronic hazard index of 1.0.6
- Hazardous materials associated with on-site stationary sources result in an accidental release of air toxic emissions or acutely hazardous materials posing a threat to public health and safety.
- The Project would be occupied primarily by sensitive individuals within 0.25 mile of any existing facility that emits air toxic contaminants which could result in a health risk for pollutants identified in District Rule 1401.7.

In addition, the CARB published a draft version of the *Air Quality and Land Use Handbook* on February 17, 2005, to serve as a general guide for considering impacts to sensitive receptors from facilities that emit TAC emissions. The recommendations provided therein are voluntary and do not constitute a requirement or mandate for either land use agencies or local air districts. The goal of the guidance document is to protect sensitive receptors, such as children, the elderly, acutely ill, and chronically ill persons, from exposure to TAC emissions. Some examples of the CARB's siting recommendations include the following: (1) avoid siting sensitive receptors within 500 feet of a freeway, urban road with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day; (2) avoid siting sensitive receptors within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units per day, or where transport refrigeration unit operations exceed 300 hours per week); and (3) avoid siting sensitive receptors within 300 feet of any dry cleaning operation using perchloroethylene, and for operations with two or more machines provide 500 feet. Since the Project introduces potentially sensitive populations to the area, these guidelines will be used in addition the SCAQMD criteria listed above.

ODORS

The SCAQMD *CEQA Air Quality Handbook* contains secondary thresholds consistent with Appendix G CEQA guidelines regarding odors. More specifically, the Project would have a significant impact if it has the potential to create, or be subjected to, an objectionable odor that could impact sensitive receptors.

4.3.5 IMPACT ANALYSIS AND MITIGATION

IMPACT METHODOLOGY

Construction

Construction from the Project's implementing projects has the potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated from construction workers traveling to and from the Project site. In addition, fugitive dust emissions would result from grading, soil movement and construction activities.

Mass daily emissions during construction were calculated using the California Emissions Estimator Model ("CalEEMod") version 2011.1.1, which is an emissions estimation/evaluation model developed in conjunction with SCAQMD and other California Air Districts. CalEEMod was used to assist in quantifying emissions from construction activities associated with the Project's implementing projects for a worst-case build-out year. Construction emissions are associated with construction equipment, construction-related vehicle trips, and off-gas emissions from painting and paving. There are four major construction phases for winery, equestrian, and residential development projects: demolition, site preparation, grading, and building construction. The building construction phase can be broken down into three sub-phases: building construction, architectural painting, and asphalt paving. GHG emissions from these construction phases are largely attributable to fuel use from construction equipment and worker commuting. For analysis purposes, it is assumed that construction of wineries will take approximately two years, with the mix of construction equipment changing based on size. The worst-case construction scenario is anticipated to occur between 2015 and 2020, when four small, five medium and five large wineries will be built. In addition, residential construction, infrastructure (water and sewage pipes, utilities, roads) improvement and demolition of existing houses are expected to occur during this period and were included in the construction emissions analysis. The output values used in this analysis were

adjusted to be project-specific, based on usage rates of construction equipment, type of fuel, and construction schedule. For a complete listing of the construction equipment by phase and construction phase duration assumptions used in this analysis is included within the CalEEMod printout sheets that are provided in Appendix C.

Mobile source emissions, primarily NO_x, would result from the use of construction equipment such as bulldozers, wheeled loaders, and cranes. During the fourth phase, the application of architectural coatings (i.e., paints) and other building materials would release reactive organic compounds. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources. The equipment mix and construction duration for each stage is detailed in Appendix C.

The amount of construction equipment used and the duration of construction activity could have a substantial effect upon the amount of construction emissions, concentrations and the resulting impacts occurring at any one time. As such, the emission forecasts provided 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.

Localized Significance Threshold

SCAQMD also recommends that the potential impacts on localized ambient air concentrations due to project-level construction emissions be evaluated. The LST methodology and associated mass rates are applicable to projects at the project-specific level (such as the Project's implementing projects) and are not applicable to regional projects such as this Project. An LST evaluation requires that anticipated ambient air concentrations, determined using a computer-based air quality dispersion model, be compared to the LST for PM₁₀, PM_{2.5}, NO₂, and CO. Because LSTs are not applicable to regional projects, an LST analysis will not be done for the Project, as project-specific level information is not available. However, prior to implementing project approval, applicants for implementing projects shall be required to conduct an LST analysis.

Operations

Implementation of the Project has the potential to create air quality impacts. The CalEEMod software was also used to compile the mass daily operational emissions estimates from mobile (vehicular traffic), stationary (natural gas usage), and area (landscape equipment), and agricultural (wine production) sources that would occur during long-term Project operations.

There will be a large increase in mobile source emissions as the Project would attract more tourists to Wine Country. Tourists would come from all over Southern California including Orange, Los Angeles, San Bernardino, and San Diego Counties. A Traffic Impact Assessment was prepared for the Project and is based on Institute of Transportation Engineers (ITE) trip generation rates. Project trip generation rates were assumed for tourists and residents going to and from implementing project sites. Vehicle miles traveled were modeled for vehicles traveling within the Project area including pass by trips (winery hopping) and vehicle trips originating outside of the model. Emissions from Project-generated vehicle trips were calculated using an emissions inventory model, which multiplies an estimate of daily vehicle miles traveled by applicable EMFAC2007 emission factors. It was assumed that approximately 63 percent of vehicle miles traveled within the Wine Country originate in the Basin and 37 percent originate in the San Diego Air Basin. Since a relatively large number of visitor trips will be originating from San

Diego County, an analysis of vehicle emissions was performed for vehicle travel within the San Diego Air Basin. Stationary-source and area source emissions were also calculated using CalEEMod default assumptions. The CalEEMod model output and worksheets for calculating regional operational daily emissions are provided in Appendix C.

The consumption of fossil fuels to generate electricity and to provide heating and hot water creates operational emissions. Future fuel consumption rates and water demand are estimated based on square footage of the Project. Natural gas and electricity usage factors derived from the *CEQA Handbook* (1993)³ are used to project fuel consumption rates. Thus, these emission factors are considered conservative and representative.

CO Hot Spots

Motor vehicles are the primary source of pollutants within the Project vicinity. There are no notable stationary sources generating CO emissions in the local area. Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Carbon monoxide is produced in greatest quantities from vehicle combustion and is usually concentrated at or near ground level because it does not readily disperse into the atmosphere. Localized areas where ambient CO concentrations exceed state and/or federal standards are termed CO “hotspots.” These hotspots would exceed the state ambient air quality 1-hour CO standard of 20 parts per million (ppm) or the 8-hour CO standard of 9.0 ppm. The federal 1- and 8-hour standards are 35 and 9 ppm, respectively. Thus, an exceedance condition would occur based on the state standards before the federal standards are exceeded. Therefore, exceedance of the state ambient air quality 1-hour standard or the 8-hour standard for CO would constitute a significant air quality impact. Potential air quality impacts to sensitive receptors are assessed through an analysis of localized CO concentrations.

Toxic Air Contaminants Impacts (Construction and Operation)

Potential TAC impacts are evaluated by conducting a screening-level analysis followed by a more detailed analysis (i.e., dispersion modeling), as necessary. The screening-level analysis consists of reviewing the implementing project’s site plan and project description to identify any new or modified TAC emissions sources. If it is determined that the implementing project would introduce a new source, or modify an existing TAC emissions source, then downwind sensitive receptor locations are identified and site-specific dispersion modeling is conducted to determine project impacts.

Odor Impacts (Construction and Operation)

Potential odor impacts are evaluated by conducting a screening-level analysis followed by a more detailed analysis (i.e., dispersion modeling), as necessary. The screening-level analysis consists of reviewing the implementing project’s site plan and project description to identify any new or modified odor sources. If it is determined that the implementing project would introduce a new odor source, or modify an existing odor source, then downwind sensitive receptor locations are identified and site-specific dispersion modeling is conducted to determine project impacts.

PROJECT DESIGN FEATURES

The following Project Design Features are incorporated into the Project to avoid, reduce or offset potential significant environmental impacts, as reflected in the Project proposal materials, including the

³ South Coast Air Quality Management District, *California Environmental Quality Act Handbook*, 1993.

proposed General Plan Amendment, Zoning Ordinance Amendment, and Temecula Valley Wine Country Design Guidelines:

1. The Project's amendment to County Zoning Ordinance No. 348 will require that the minimum lot size for special occasion facilities be 10 acres in the WC-WE zone, 20 acres in the WC-W zone, and 100 acres in the WC-E zone and a maximum of 5 guests shall be permitted per gross acre for these facilities. This would greatly reduce air quality impacts on neighboring properties.
2. Refer to Aesthetics/Light and Glare, Project Design Features #3, 4, 7, 8, 9 (refer to Chapter 3.0 *Project Description*), which will require large minimum lot sizes from 5 to 20 acres and a minimum vineyard planting or equestrian land requirement of 75%. This will reduce the overall land use density and intensity of the Project site, resulting in fewer average daily trips which will in turn decrease air quality impacts in the Project area and surrounding communities.

Southwest Area Plan (Temecula Valley Wine Country Policy Area)

The following proposed policies within the Southwest Area Plan (as proposed by the Project) address air quality impacts:

- SWAP 1.3 Permit wineries that maintain established on site vineyards on 10 acres or more provided that at least:
- 75% of the project site is planted in vineyards;
 - 75% of the grapes utilized in wine production and retail wine sales are grown or raised within the county; and
 - The winery facility has a capacity to produce 3,500 gallons of wine annually.
- SWAP 1.4 Permit limited commercial uses such as wineries, sampling rooms, and retail wine sales establishments on a minimum lot size of ten (10) acres to promote viticulture potential of this region.
- SWAP 1.5 Require a density of ten (10) acres minimum for tentative approval of residential tract and parcel maps after (adoption date) regardless of the underlying land use designation except in the Wine Country – Residential District where a density of five (5) acres minimum shall apply.
- SWAP 1.8 Pending adoption of an updated Air Quality Element and Climate Action Plan (CAP), ensure that new development selects greenhouse gas (GHG) reduction measures from the Option Tables to achieve the County's GHG emission reduction thresholds as set forth in the Greenhouse Gas Reduction Workbook (workbook). Alternatively, new developments may utilize other reduction mechanisms to achieve reduction thresholds as prescribe in the workbook.

Wine Country – Winery District

- SWAP 1.11: Allow incidental commercial uses such as special occasion facilities, hotels, resorts, restaurants and delicatessens in conjunction with wineries as defined in the implementing zones.

Wine Country – Equestrian District

SWAP 1.13 Permit incidental commercial uses such as western stores, polo grounds, or horse racing tracks, petting zoos, event grounds, horse auction facilities, horse show facilities, animal hospitals, restaurants, delicatessens, and special occasion facilities in conjunction with commercial equestrian establishments on lots larger than 10 acres to encourage equestrian tourism in this community.

Wine Country – Residential District

SWAP 1.14 Encourage residential development that complements the Temecula Valley Wine Country Policy Area as described in the Wine Country – Residential (WC-R) Zone.

SWAP 1.15 Encourage tentative approval of residential tract and parcel maps to cluster development in conjunction with on-site vineyards or equestrian land provided that the overall project density yield does not exceed one dwelling unit per five (5) acres. While the lot sizes in a clustered development may vary, require a minimum lot size of 1 acre, with at least 75% of the project area permanently set-aside as vineyards or equestrian land.

IMPACT ANALYSIS AND MITIGATION MEASURES

Impact 4.3-1: Air Quality Management Plan

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

Determination: *Less than Significant with Mitigation*

Wine Country Community Plan Overview of Programmatic Impacts

Compliance with Existing Federal, State and County Regulations

Consistency with the implementation of applicable air quality plans would be ensured or enhanced through adherence or compliance with the following regulations, programs, and policies:

The 2007 Air Quality Management Plan (AQMP) was prepared to accommodate growth, to reduce the high levels of pollutants within areas under the jurisdiction of SCAQMD, to return clean air to the region, and to minimize the impact of reduced air quality on the economy. Projects that are considered to be consistent with the AQMP would not interfere with attainment, because this growth is included in the projections used during the preparation of the AQMP. The 2007 AQMP relies on assumptions and data regarding County of Riverside growth consistent with the applicable zoning under the existing General Plan. The AQMP contains a comprehensive list of pollution control strategies directed at reducing emissions and achieving ambient air quality standards. These strategies are developed, in part, based on regional population, housing, and employment projections prepared by SCAG.

Projects that are consistent with the employment and population projections identified in the Growth Management Chapter of the Regional Comprehensive Plan and Guide (RCPG) prepared by SCAG are considered consistent with the AQMP growth projections, since the Growth Management Chapter forms the basis of the land use and transportation control portions of the AQMP. SCAG's Regional

Comprehensive Plan (RCP) and Guide provide growth forecasts that are used in the development of air quality-related land use and transportation control strategies. The RCP provided control strategies introduce enforceable measures by which area wide reductions in annual vehicle miles traveled can be achieved. The reduction in vehicle miles traveled correlates with a reduction in emissions of criteria pollutants.

The improvements planned under the Project would serve to accommodate anticipated growth within the County of Riverside and southern California. The goals as outlined in the SWAP are as follows: increase viticulture, protect rural lifestyle and equestrian activities, provide commercial tourist activities, and growth is consistent with land use and will provide appropriate levels of public facilities, services, and infrastructure. The implementing projects will result in a net increase of jobs in the area related to wineries, hotels, and commercial interests. The development allowed under the Project, particularly the proposed General Plan policies and zoning ordinance amendment, would be less intensive than development governed by the existing current General Plan and zoning. Therefore, it can be concluded that the Project would be consistent with the projections in the AQMP and RCP. Based on the discussion above, implementation of the Project and proposed zoning changes would result in no significant impact related to implementation of the applicable air quality plans.

Compliance with Existing General Plan Policies

County growth rates for population and vehicle miles traveled under the Project would ensure that Project impacts are compliant with the applicable air quality management and attainment plans for the region. In addition, the implementation following existing policies of the Riverside County General Plan will further contribute to compliance with applicable air quality plans; however, the anticipated contribution of each policy is not quantifiable.

Construction-Related Impacts (of Implementing Projects)

Based on the discussion above, construction-related activities would result in no significant impact related to implementation of the applicable air quality plans. Refer to Impact 4.3-2 for a discussion of construction-related impacts.

Operational Impacts (of Implementing Projects)

Based on the discussion above, operational activities would result in no significant impact related to implementation of the applicable air quality plans. Refer to Impact 4.3-2 for a discussion of operations-related impacts.

Infrastructure Impacts (of Implementing Projects)

Based on the discussion above, infrastructure improvement activities would result in no significant impact related to implementation of the applicable air quality plans. Refer to Impact 4.3-2 for a discussion of infrastructure-related impacts.

Summary of Applicable Existing Regulations and Policies

- a) *General Plan* Policies LU 1.5, 2.1, 4.1, 7.12, 10.1, 10.3, 10.4, and 12.1 through 12.4 specifically address the reduction of air quality impacts through regional land use planning efforts, such as improving the jobs/housing balance, providing alternative transportation options, and increasing local employment.
- b) *General Plan* Policies C 1.2, 1.7, 4.1, 4.9, 11.2, 11.4, 11.5, 11.7, 12.1, 12.2, 12.3, 17.3, 17.4 and

20.12 specifically address the reduction of air quality impacts through regional transportation-related planning efforts, such as supporting a variety of transportation options, providing and/or encouraging pedestrian facilities near transit routes, fostering transit-oriented development, establishing a functional bikeway system, and encourage the use of alternative fuel vehicles.

- c) *General Plan* Policies OS 2.1 through 2.3, 2.5, 10.1, 11.1 through 11.3, 12.1, 16.1, 16.3, 16.7, 16.9, and 16.10 specifically address air quality impact reduction through such efforts as energy efficiency, and alternative fuel transportation systems.
- d) *General Plan* Policies AQ 1.1, 1.2, 1.4, 1.5, 1.7, 2.1, 2.2, 2.3, 3.1, 3.2, 3.4, 4.1 through 4.7, 4.9, 4.10, 5.1, 5.2, 5.4, 8.4 through 8.6, 9.1, 9.2, 10.1 through 10.3, 12.1, 12.3, 12.5, 14.1, 15.1, 16.1, 16.3, 16.4, 17.1 through 17.6 and 17.8 through 17.11 specifically address reductions in air quality impacts through a variety of planning efforts, such as the promotion of natural gas and electric vehicles, creation of control plans for wind erosion of soils, collaboration with SCAQMD to limit truck idling and diesel fume release from warehousing operations, etc.

Mitigation Measure

The Project's implementing projects will increase VMT as they will bring in more tourism, employment, and residential land uses to the area. The following mitigation measures will be required to reduce vehicle miles traveled and the resultant air emissions, as well as furthering compliance with the other applicable air quality management and attainment plans.

The following mitigation measures were incorporated in the *Air Quality Impact Assessment* (Appendix C) emissions calculations and are therefore presented herein as required mitigation. Section 4.7, *Greenhouse Gas Emissions*, of this Draft EIR discusses in more detail how Project Design Features and additional proposed mitigation (GHG-1 through GHG-3) would lessen energy used in future implementing project sites and would reduce residents' reliance on personal automobile. Mitigation Measures GHG-1 through GHG-3, which require each implementing project to meet the County's minimum level of points on the corresponding Option Tables, are anticipated to further reduce emissions, but are not included in the *Air Quality Impact Assessment* as specific mitigation. This is due to the intentional flexibility built into the Option Tables which allows the project proponent to choose the GHG reduction options that are most appropriate to the particular site/project.

In addition, Section 4.14, *Traffic and Circulation*, presents congestion-reducing measures; however, these measures are designed to reduce impacts on the level of service on the Project area and adjacent roadways and intersections, not necessarily to decrease emission levels—though reduced congestion would also produce incidental benefits in that respect.

AQ-1 The County shall require new commercial and industrial implementing projects to develop a trip reduction program that promotes commuter-choices, employer transportation management, guaranteed ride home programs and commuter assistance and outreach-type programs intended to reduce commuter vehicle miles traveled. The program shall be submitted as part of Project's implementing project's discretionary review applications, and in place prior to Certificate of Occupancy.

AQ-2 The County shall condition all implementing projects to implement the Trails and Bikeways Systems map (SWAP Figure 8) of the Project. This map is more conducive to this region's destination places and multiple users' (bikers, equestrian, pedestrians, visitors, etc.) needs.

Hence, changing the focus of land use from automobile-centered transportation would result in a reduction in vehicle miles traveled.

- AQ-3** In addition, the County shall require implementing projects to incorporate bicycle parking areas and horse hitching posts where applicable.
- AQ-4** The County shall require implementing projects to incorporate a comprehensive parking program for private parking lots where applicable, to promote ultra-low or zero emission vehicle parking; provide larger parking spaces that can accommodate vans and limousines; include adequate passenger waiting/loading areas; and provide safe pedestrian/equestrian pathways through parking areas.
- AQ-5** The County shall promote the expanded use of renewable fuel and low-emission vehicles within implementing projects. Implementing projects may earn points in the GHG Mitigation Workbook Option Tables by making low-emissions or electric vehicle use more accessible by including one or both of the following project components: provide preferential parking for ultra-low emission, zero-emission, and alternative-fuel vehicles; and provide electric vehicle charging stations within the development.
- AQ-6** The County shall require implementing projects to prohibit idling of on- and off-road heavy duty diesel vehicles for more than five minutes. This measure shall be implemented by new commercial and industrial projects with loading docks or delivery trucks. Such projects shall be required to post signage at all loading docks and/or delivery areas directing drivers to shut down their trucks after five minutes of idle time. Also, employers who own and operate truck fleets shall be required to inform their drivers of the anti-idling policy.
- AQ-7** The County shall work with the Winegrowers' Association and their partners to promote alternative modes of transportation, such as shuttles, cable-cars, trolley, etc. In addition, where feasible, the County shall work with the local transit provider – RTA – by adding or modifying existing transit service to enhance service near the Project site. This will encourage the use of transit and therefore reduce vehicle miles traveled (VMT). Unincorporated Riverside County hosts one Metrolink transit station; the County shall collaborate with in the neighboring cities to expand connections to this station as well as other Metrolink stations which will increase ridership and decrease vehicle miles traveled (VMT).

Conclusion

The Project contains land use planning policies and programs designed to comply with the implementation of all applicable air quality plans. It complies with existing regulations and plans. Therefore, the Project will result in less than significant impact with mitigation with respect to clean air attainment plans.

Impact 4.3-2: Air Quality Standards

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

Determination: Potentially Significant Impact

Wine Country Community Plan Overview of Programmatic Impacts

The Project site is located within the South Coast Air Basin, and adjacent to the San Diego Air Basin which are characterized by relatively poor air quality. State and federal air quality standards are sometimes exceeded in many parts of the South Coast Air Basin, including those monitoring stations nearest to the Project location. Implementing projects would contribute to local and regional air pollutant emissions.

The SCAQMD has established regional and localized emission thresholds, below which a project's incremental increase is not expected to cause or contribute to an existing or projected Basin-wide or localized air quality violation. Regional impacts are discussed in detail below.

There is no practicable way to predict localized or Basin-wide ozone formation resulting from a project's incremental increase in NO_x and VOC emissions. Therefore, mass emission thresholds may be used to predict potential impacts to regional ozone standards.

Construction-Related Impacts (of Implementing Projects)

The SCAQMD has established daily significance thresholds that address pollution sources associated with general construction activities, such as the operation of on-site construction equipment, fugitive dust from site grading activities, and travel by construction workers. Project construction emissions were calculated using the CalEEMod model. The analysis assumed that construction activities would comply with applicable portions of SCAQMD Rule 403 regarding the control of fugitive dust.

Construction emissions are presented in Table 4.3-2, *Regional Unmitigated Construction Emissions*, under conservative assumptions, which imply a default equipment mix and a worst-case construction schedule.⁴ It was assumed that the most-intense building phases would occur between Year 2020 and 2025. Construction emissions presented in Table 4.3-2 represent the worst-case construction scenario that would occur in any given year between 2020 and 2025. As indicated therein, the incremental increase in emissions from construction of the implementing projects would exceed SCAQMD construction regional significance thresholds for VOC, NO_x, CO, PM₁₀ and PM_{2.5}. Therefore, regional construction emissions from the implementing projects would be significant and mitigation measures would be required. Details of this analysis are available in the Appendix C.

Development of the implementing projects would exceed SCAQMD significance thresholds. To reduce project impacts, the mitigation measures listed below will be included where applicable. However, even with the use of required mitigation measures, construction of the implementing projects will still result in potentially unavoidable significant impacts.

Operational Impacts (of Implementing Projects)

To determine impacts from the operation of the implementing projects, the full build-out year of 2035 was analyzed. The incremental increase in regional emissions resulting from operation of 47 small wineries, 37 medium wineries, 21 large wineries and 1,916 dwelling units (residences, bed and

⁴ In order to provide a conservative analysis, it is assumed that all construction activities would be completed in the minimum timeframe feasible. This is of particular importance as construction emissions are directly related to the intensity of construction activities, and significance criteria are established for emissions levels representing the "worst-case day." Actual construction may proceed at a less intensive pace, which would result in lower daily emissions.



4.3 Air Quality

breakfasts, hotels, etc.) and approximately 100 miles of equestrian, bike and hiking trails, would exceed SCAQMD regional emission thresholds for VOC, NO_x, CO, PM₁₀ and PM_{2.5} as shown in Table 4.3-3.

Table 4.3-2
Regional Unmitigated Construction Emissions (Pounds per Day)^a

	VOC	NO _x	CO	SO ₂	PM ₁₀ ^b	PM _{2.5} ^b
Maximum Regional Construction Emissions						
Small Wineries	16	114	61	<1	14	8
Medium Wineries	35	215	115	<1	30	13
Large Wineries	51	286	155	<1	71	19
Residential Uses	19	79	46	<1	7	5
Miscellaneous Demolition	11	86	50	<1	7	4
Infrastructure	21	156	87	<1	26	10
Equestrian Facilities	15	117	66	<1	52	13
Trails Network	2	12	7	<1	1	1
Maximum Regional Emissions	168	1,063	588	<1	209	74
SCAQMD Daily Significance Thresholds	75	100	550	150	150	55
Over/(Under)	93	963	38	(150)	59	19
Exceed Threshold?	Yes	Yes	Yes	No	Yes	Yes
Notes:						
a. Compiled using the CalEEMod emissions inventory model. The equipment mix and use assumption for each phase is provided in the Air Quality Appendix C. Assumes simultaneous construction of 1.5 small wineries, 2 medium and 2 large wineries. Residential construction assumes 10 dwelling units being constructed.						
b. PM ₁₀ and PM _{2.5} emissions estimates are based on compliance with SCAQMD Rule 403 requirements for fugitive dust suppression.						
Sources: <i>Air Quality Impact Assessment Technical Report</i> prepared by PCR Services Corporation (Appendix C)						

Pollutant emissions resulting from operational activities of the implementing projects were calculated using the CalEEMod Model. The additional wineries, equestrian facilities and residential developments proposed for the area will bring in more tourists and people to the area. Therefore, vehicle trips related to the implementing projects are considered an increase from baseline. Mobile source emission calculations were provided by the traffic study for the Project. Area sources and natural gas emissions were calculated with CalEEMod outputs. Electricity emissions calculated outside the CalEEMod model and were based on Southern California Edison Electricity Usage Reports for various wineries of various sizes. Emissions of wine fermentation were calculated for each winery size and estimated production using Santa Barbara Air Pollution Control District Methodology (SBAPCD) and the SBAPCD wine fermentation calculator. Fugitive dust emissions from equestrian operations were calculated based on survey data of existing similar operations. However, with implementation of Best Management Practices (BMPs)⁵ fugitive dust emissions from equestrian uses will be reduced. Per the SCAQMD Rule 403 Agricultural Handbook, guidelines are provided: where there are agricultural operations that have 10 contiguous acres or greater, conservation practices are required.⁶ As such, implementing projects would have a potential significant impact on regional air quality, even with implemented mitigation.

⁵ EPA: Animal Feeding Operations - Best Management Practices (BMPs) <http://www.epa.gov/oecaagct/anafobmp.html>

⁶ Rule 403 Agricultural Handbook: Measures to Reduce Dust from Agricultural Operations in the South Coast Air Basin, SCAQMD, December 1998.

As shown in Table 4.3-3, *Project Operational Stationary and Mobile Source Emissions*, pollutant concentrations resulting from Project operation would exceed SCAQMD localized thresholds. Therefore, localized air quality impacts would be significant. Based on the above discussion and results discussed under criterion d), below, construction and operation of the implementing projects would violate air quality standards or contribute substantially to an existing or projected air quality violation. Therefore, impacts would be potentially significant and unavoidable even with mitigation measures.

In addition to the operational emissions generated within the South Coast Air Basin, some emissions will be generated in the San Diego Air Basin due to visitors driving from San Diego County to the Project area. Therefore, an additional analysis was performed to determine the vehicle emissions generated within San Diego County. It was assumed that approximately 37% of vehicle miles traveling outside of the Project study area would be occurring within San Diego County. As shown in 4.3-4, *Net Increase in San Diego County Regional Mobile Source Emissions*, vehicle emissions resulting from San Diego travel would exceed the SDAPCD AQIA screening threshold for CO. Therefore, mobile operational emissions would exceed significance thresholds for San Diego County and impacts would be significant and unavoidable.

Infrastructure Impacts (of Implementing Projects)

As shown above, emission related to infrastructure improvements are estimated in Table 4.3-2, *Regional Unmitigated Construction Emissions (Pounds per Day)*. These emission calculations presented in Table 4.3-2 represent the worst-case scenario that would occur in any given year between 2020 and 2025. Taken separately from other construction emissions, infrastructure emissions would not incrementally increase emission beyond any SCAQMD regional significant thresholds. Therefore, infrastructure emissions resulting from implementation of the Project would be less than significant. Details of this analysis are available in the Appendix C.

Summary of Applicable Existing Regulations and Policies

- a) *General Plan* Policies LU 1.5, 2.1, 4.1, 7.12, 10.1, 10.3, 10.4, and 12.1 through 12.4 specifically address the reduction of air quality impacts through regional land use planning efforts, such as improving the jobs/housing balance, providing alternative transportation options, and increasing local employment.
- b) *General Plan* Policies C 1.2, 1.7, 4.1, 4.9, 11.2, 11.4, 11.5, 11.7, 12.1, 12.2, 12.3, 17.3, 17.4 and 20.12 specifically address the reduction of air quality impacts through regional transportation-related planning efforts, such as supporting a variety of transportation options, providing and/or encouraging pedestrian facilities near transit routes, fostering transit-oriented development, establishing a functional bikeway system, and encourage the use of alternative fuel vehicles.



Table 4.3-3
Project Operational Stationary and Mobile Source Emissions (Pounds per Day)

	Total Number	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Winery District							
Small Wineries	30	18	9	8	<1	1	1
Medium Wineries	37	45	23	19	3	2	2
Large Wineries	21	51	25	21	<1	2	2
Residential Uses Total (DU)	739	111	15	303	<1	37	37
Equestrian District							
Small Winery	6	4	2	2	<1	<1	<1
Residential Uses Total (DU)	199	30	4	82	<1	10	10
Equestrian Uses	-	<1	<1	<1	<1	120	25
Residential District							
Small Winery	11	7	3	3	<1	<1	<1
Residential Uses Total (DU)	978	147	20	401	0	49	49
Total Stationary Emissions							
		411	100	838	3	220	125
Total Mobile Source Emissions – Weekday							
		332	1,043	2,854	4	59	44
Total Mobile Source Emissions - Weekend							
		570	1,791	4,902	7	101	76
Total Operational Emissions (Stationary + Weekend)							
		981	1,891	5,740	10	321	201
SCAQMD Daily Emissions Significance Threshold							
		55	55	550	150	150	55
Over/(Under)							
		926	1836	5190	(140)	171	146
Exceed Threshold?							
		Yes	Yes	Yes	No	Yes	Yes
Notes: Emissions were calculated using the CalEEMod emissions model. Model output sheets are provided in Appendix A to Appendix C. Numbers may not add up exactly due to rounding. Total number of residential and winery uses were calculated based upon "Draft Wine Contry District: Proposed Zone Comparison Chart" and County of Riverside Temecula Valley Wine Country Draft General Plan Land Use Build-Out Assumptions and Methodology.							
Sources: <i>Air Quality Impact Assessment Technical Report</i> prepared by PCR Services Corporation (Appendix C)							

Table 4.3-4
Net Increase in San Diego County Regional Mobile Source Emissions (Pounds per Day)

Scenario	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Existing	18	28	330	1	6	6
Future Project	81	128	1,498	6	29	27
Total Net	63	100	1169	5	22	21
SDAPCD Significance Threshold^a	137	250	550	250	100	--
Over/(Under)	(74)	(150)	619	(245)	(78)	--
Exceed Threshold?	No	No	Yes	No	No	--
Note: Numbers may not add up exactly due to rounding Mobile source emissions were calculated based upon traffic data obtained from County of Riverside. a. SDAPCD Mass Daily Thresholds: http://www.sandiego.gov/development-services/news/pdf/sdtceqa.pdf						
Source: <i>Air Quality Impact Assessment Technical Report</i> prepared by PCR Services Corporation (Appendix C).						

- a) *General Plan* Policies OS 2.1 through 2.3, 2.5, 10.1, 11.1 through 11.3, 12.1, 16.1, 16.3, 16.7, 16.9, and 16.10 specifically address air quality impact reduction through such efforts as energy efficiency, and alternative fuel transportation systems.
- b) *General Plan* Policies AQ 1.1, 1.2, 1.4, 1.5, 1.7, 2.1, 2.2, 2.3, 3.1, 3.2, 3.4, 4.1 through 4.7, 4.9, 4.10, 5.1, 5.2, 5.4, 8.4 through 8.6, 9.1, 9.2, 10.1 through 10.3, 12.1, 12.3, 12.5, 14.1, 15.1, 16.1, 16.3, 16.4, 17.1 through 17.6 and 17.8 through 17.11 specifically address reductions in air quality impacts through a variety of planning efforts, such as the promotion of natural gas and electric vehicles, creation of control plans for wind erosion of soils, collaboration with SCAQMD to limit truck idling and diesel fume release from warehousing operations, etc.

Mitigation Measure

AQ-8 The County shall require implementing projects to comply with the following SCAQMD Applicable Rule 403 Measures:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for ten days or more).
- Water active sites at least three times daily. (locations where grading is to occur will be thoroughly watered prior to earthmoving).
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered, or should maintain at least two feet of freeboard in accordance with the requirements of California Vehicle Code (CVC) Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).
- Pave construction access roads at least 100 feet onto the site from main road.
- Traffic speeds on all unpaved roads shall be reduced to 15 mph or less.
- Stockpiled dirt may be covered with a tarp to reduce the need for watering or soil stabilizers.

AQ-9 The County shall require implementing projects to comply with the following additional SCAQMD CEQA Air Quality Handbook Dust Control Measures:

- Revegetate disturbed areas as quickly as possible.

- All excavating and grading operations shall be suspended when wind speeds (as instantaneous gusts) exceed 25 mph.
- All streets shall be swept once a day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water).
- Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash trucks and any equipment leaving the site each trip.

AQ-10 The County shall require implementing projects to comply with the following Mitigation Measures for Construction Equipment and Vehicles Exhaust Emissions:

- The County shall require implementing projects to select construction equipment to be used on site based on low emission factors (equipment which releases little atmospheric pollutants) and high energy efficiency (equipment which requires less energy to do the same work). Examples of low emission and high energy efficiency equipment include use of EPA Tier 2 (or better) emission compliant construction equipment and use of alternative fueled construction equipment (natural gas) if available.
- The County shall require implementing projects to include a statement on grading plans that all construction equipment will be tuned and maintained in accordance with the manufacturer's specifications.
- The County shall require implementing projects to utilize electric- or diesel-powered equipment, in lieu of gasoline-powered engines, where feasible.
- The County shall require implementing projects to include a statement on grading plans that work crews will shut off equipment when not in use. During smog season (May through October), the overall length of the construction period will be extended, thereby decreasing the size of the area prepared each day, to minimize vehicles and equipment operating at the same time.
- The County shall require implementing projects to time construction activities so as to not interfere with peak hour traffic and minimize obstruction of through traffic lanes adjacent to the site; if necessary, a flag person shall be retained to maintain safety adjacent to existing roadways.
- The County shall require implementing projects to use EPA-rated engines of Tier 3 or better.
- As soon as electric utilities are available at construction sites, the County shall require implementing projects to supply the construction site with electricity from the local utility and all equipment that can be electrically operated shall use the electric utility rather than portable generators.
- The County shall require implementing projects to retain on site dust generated by the development activities, and keep dust to a minimum by following the dust control measures listed below:
 - a) During clearing, grading, earthmoving, excavation, or transportation of cut or fill materials, water trucks or sprinkler systems shall be used to prevent dust from leaving the site and to create a crust after each day's activities cease.
 - b) During construction, water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this would watering at least three times per day which include wetting down such areas in the late morning, mid-day after work is completed for the day, and whenever wind exceeds 15 miles per hour. Soil stabilizers may also be used instead of watering.

- c) Immediately after clearing, grading, earthmoving, or excavation is completed, the entire area of disturbed soil shall be treated until the area is paved or otherwise developed so that dust generation will not occur.
- d) Soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation.
- e) Trucks transporting soil, sand, cut or fill materials, and/or construction debris to or from the site shall be tarped from the point of origin.

AQ-11 Where applicable, the County shall require implementing projects to apply Conservation Management Practices for Confined Animal Facilities:

- 1) Manure Handling
 - a) Cover manure prior to removing material off-site; and
 - b) Spread the manure before 11:00 AM and when wind conditions are less than 25 miles per hour; and
 - c) Utilize coning and drying manure management by removing manure at laying hen houses at least twice per year and maintain a base of no less than 6 inches of dry manure after clean out; or in lieu of complying with conservation management practice (1c) comply with conservation management practice (1d).
 - d) Utilize frequent manure removal by removing the manure from laying hen houses at least every seven days and immediately thin bed dry the material.
- 2) Feedstock Handling
 - a) Utilize a sock or boot on the feed truck auger when filling feed storage bins.
- 3) Disturbed Surfaces
 - a) Maintain at least 70 percent vegetative cover on vacant portions of the facility; or
 - b) Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops (if applicable) in narrow slots or tilled strips; or
 - c) Apply dust suppressants in sufficient concentrations and frequencies to maintain a stabilized surface.
- 4) Unpaved Roads
 - a) Restrict access to private unpaved roads either through signage or physical access restrictions and control vehicular speeds to no more than 15 miles per hour through worker notifications, signage, or any other necessary means; or
 - b) Cover frequently traveled unpaved roads with low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches); or
 - c) Treat unpaved roads with water, mulch, chemical dust suppressants or other cover to maintain a stabilized surface.
- 5) Equipment Parking Access
 - d) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; or
 - e) Apply material with low silt content (i.e., asphalt, concrete, recycled road base, or gravel to a depth of four inches).

AQ-12 Proponents of non-residential implementing projects shall prepare appropriate air quality studies which demonstrate that emissions resulting from project construction and operation do not result in significant localized impacts, or are mitigated to the extent feasible.

Conclusion

Construction of the Project's implementing projects has the potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated from construction workers traveling to and from the Project site. In addition, fugitive dust emissions would result from demolition and construction activities. As shown in Table 4.3-2, *Regional Unmitigated Construction Emissions*, construction-related regional emissions would exceed SCAQMD significance thresholds for VOC, NO_x, CO, PM₁₀ and PM_{2.5}. Therefore, construction impacts resulting from the Project would be potentially significant even with incorporation of the mitigation measures outlined above.

Air pollutant emissions associated with Project's implementing projects operations would be generated by the consumption of natural gas, electricity, water conveyance and agricultural operations and by the consumption of fossil fuels in vehicles. As shown in Table 4.3-3, *Project Operation Stationary and Mobile Source Emissions*, regional emissions associated with the Project would exceed the SCAQMD daily significance thresholds. Also, shown on Table 4.3-4, *Net Increase in San Diego County Regional Mobile Source Emissions*, mobile source emissions from vehicles traveling within San Diego County to and from the Project area will exceed SDAPCD daily significance thresholds for CO. Therefore, operational impacts in the South Coast Air Basin and San Diego Air Basin resulting from the Project would be potentially significant even with incorporation of the mitigation measures outlined above. However, as previously noted, the growth allowed under the Project is less intensive than allowed under current zoning, and is therefore considered consistent with the assumptions of the current AQMP and with applicable air quality plans and policies. Thus, the Project will not jeopardize attainment of clean air standards.

Impact 4.3-3: Sensitive Receptors

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

Determination: *Potentially Significant Impact*

Wine Country Community Plan Overview of Programmatic Impacts

Sensitive Receptors

Some population groups, such as children, the elderly, and acutely ill and chronically ill persons, especially those with cardio-respiratory diseases, are considered more sensitive to air pollution than others. The Project area is located in the unincorporated area of the County of Riverside in an area with primarily agricultural and equestrian uses. Implementing projects will be built on a minimum of one acre of land with most occurring on parcels of at least five and ten acres which would make increase the distances between implementing projects and sensitive receptors.

With regard to localized construction emissions, a qualitative analysis was performed since at this time, it is speculative to assume the timing and location of any individual implementing project. A screening analysis consistent with SCAQMD LST methodology is considered appropriate given the low density of development. Low-density development would allow for houses to be spread out and spaced far from one another. Since impacts from localized construction emissions decrease with distance, low-density

development would provide for a large distance separation between new construction and existing off-site residences or sensitive receptors.

As an example, development in the Project area would be developed on large lots, greater than 10 acres in size, zoned for uses composed of rural residential single-family lots (at least one acre), vineyards and wineries, citrus groves, equestrian uses (including residential uses with equestrian amenities). Minimum zoning standards in the Project area consist of a minimum lot size of 10 acres, with minimum setback requirements of 50 feet (except when located near certain roads a minimum of 300 feet - refer to the Project proposed zoning ordinance amendment). With larger lots and the minimum setback of 50 feet, sensitive receptors would be located at a far distance from construction activities. Because construction activity would not be continuous throughout the build-out period, impacts are not expected to occur simultaneously.

As mentioned previously, LST lookup thresholds are applicable to project sizes of five acres or less. Individual residential development is expected to involve less than five acres of active construction at any time and LST lookup thresholds would be applicable. Since residential uses are required to be built under low-density development (one home per acre) requirements, the minimum spacing between new construction and sensitive receptors is expected to be large. As a result, localized construction emissions from individual residential development are expected to remain below LST lookup thresholds. However, construction activities which are larger than five acres (wineries) will be required to perform a separate detailed analysis to demonstrate that impacts are less than significant with regard to localized construction emissions.

Operational LSTs

Localized operational emissions were analyzed qualitatively, similar to the localized construction emissions analysis as mentioned above. Operational LSTs are designed to evaluate potential impacts from stationary sources of emissions, such as large boilers, turbines/generators or other industrial scale combustion processes. A qualitative analysis was performed since at this time, it is speculative to assume specific stationary sources of pollutant emissions for each individual implementing project. A screening analysis consistent with SCAQMD LST methodology is considered appropriate given the low density of development. Low-density development would allow for houses to be spread out and spaced far from one another.

Single-family residential uses usually contain small-scale stationary sources of emissions such as hot water heaters and emergency generators, which are not likely to result in an exceedance of localized thresholds. Larger facilities, such as wineries, may include industrial equipment for wine production or large emergency generators. Such equipment typically requires obtaining a SCAQMD permit which requires further analysis. Although residential uses would most likely remain below operational LSTs, non-residential projects will require additional analysis for industrial process equipment or large emergency generators, to demonstrate that impacts are less than significant with regard to localized operational emissions.

CO Hotspots Analysis

Because implementing projects are not expected to introduce any substantial stationary sources of on-site emissions (such as industrial boilers or generators), CO is the benchmark pollutant for assessing local area air quality impacts from post-construction operations. Given the nature of the implementing projects (construction of wineries, housing and equestrian needs), vehicle exhaust is the primary source

of CO. In an urban setting the highest CO concentrations are generally found within close proximity to congested intersection locations. 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 hotspots 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 level of service (LOS) is severely degraded. However, CO concentrations in the South Coast Air Basin have steadily declined even though population, car ownership, and vehicle miles traveled (VMT) have increased. The South Coast Air Basin has not experienced an exceedance of applicable AAQs in over ten years and was formally classified as maintenance in 2007. CO formation and attainment was thoroughly analyzed in the SCAQMD's *2003 Air Quality Management Plan (2003 AQMP)* and the *1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan)*. The SCAQMD conducted CO hot-spot analyses for four extremely busy intersections in Los Angeles at the peak morning and afternoon time periods, the busiest of which is Wilshire Boulevard at Veteran Avenue with a daily traffic volume of approximately 100,000 vehicles. The Los Angeles County Metropolitan Transportation Authority found the LOS in the vicinity of this intersection to be Level E at peak morning traffic and Level F at peak afternoon traffic. The roadway emissions modeling did not predict a violation of CO standards at the four studied intersections. The analysis prepared for CO attainment in the South Coast Air Basin by the SCAQMD can be used to assist in evaluating the potential for Project-related CO emissions to result in exceedances.

The busiest of the Project area intersections is Rancho California Road and Ynez Road. According to the traffic study, the maximum daily traffic volume is expected to be 108,000 vehicles. Conditions at the intersection of Rancho California Road and Ynez Road are similar to those experienced at Wilshire Boulevard at Veteran Avenue. Although traffic volumes are slightly higher than those modeled in the SCAQMD study, emission factors will be lower due to the cleaner vehicle emissions standards required in future years. The SCAQMD study used a 2002 emission rate for the CO hotspots analysis while the Project is based on a 2035 emission rate which is expected to emit less CO per vehicle. Modeling by the SCAQMD demonstrated that there would be no local CO hot-spots at those four worst-case intersections. Thus, by comparison, the increased traffic resulting from the implementing projects would not contribute to or cause an exceedance of CO standards. Therefore, the impact from CO would be considered less than significant and Project-related traffic would not result in the exposure of sensitive receptors to substantial pollutant concentrations.

Toxic Air Contaminants

The greatest potential for construction period TAC emissions would be related to diesel particulate emissions associated with heavy equipment operations during grading and excavation activities. In addition, incidental amounts of toxic substances such as oils, solvents, and paints would be used. These substances would comply with all applicable SCAQMD rules for their manufacture and use. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of TACs over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. Given the relatively short-term construction schedule of wineries, equestrian or residential projects, the construction of the implementing projects would not result in a long-term (i.e., 70 years) substantial source of TAC emissions with no residual emissions after construction and corresponding individual cancer risk. As such, Project-related toxic emission impacts during construction would not be significant.



4.3 Air Quality

Some of the implementing projects may require the installation of back-up diesel powered emergency generators. All new generators would be required to comply with applicable SCAQMD rules and regulations and include the Best Available Control Technology (BACT). The installation of equipment with the potential to emit TACs must demonstrate, in accordance with SCAQMD Rule 1401, that no off-site sensitive receptors be exposed to health risks in excess of the significance criteria discussed above. If the installation of new generators results in multiple-generator groups, the installation would also be required to comply with recently promulgated Rule 1472 to ensure that localized risk remains below thresholds. Compliance with Rule 1472, if applicable, together with the limited need for, and operational hours of, this equipment would substantially reduce potential impacts. Impacts would therefore be less than significant.

Because the implementing projects would not introduce any substantial stationary sources of on-site TAC emissions, diesel particulate matter (DPM) from idling vehicles poses the greatest potential of creating an incremental increase in TAC emissions during operation of the implementing projects. In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel PM and other TACs and air pollutants. The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds which are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel fueled commercial vehicles to idle for more than five minutes at any given time. Potential localized air toxic impacts from on-site sources of diesel particulate emissions would be minimal since only a limited number of heavy-duty trucks would access the implementing project sites (deliveries, trash removal, etc.), and the trucks that do visit the site would not idle on the project site for extended periods of time. Based on the limited activity of the TAC sources to be operated, a detailed health risk assessment is not warranted. Potential air toxic impacts to off-site populations would be less than significant.

As mentioned previously, CARB has released guidelines which provide recommendations regarding the siting of new sensitive land uses near potential sources of air toxic emissions (e.g., freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities). Based on the current understanding of existing nearby land uses, new sensitive receptors (future residents) should not be sited within 1,000 feet of a warehouse distribution center (which have extensive heavy-duty truck activity), within 500 feet of a freeway [or similar high traffic roadway (i.e., roads within urbanized areas carrying more than 100,000 vehicles per day)], or within 300 feet of a dry cleaning facility that uses perchloroethylene, among other siting recommendations. Since the Project would not introduce residential uses within the CARB-designated siting distances for potential air toxic sources, the Project would result in a less than significant impact with regard to on-site TAC exposure and no mitigation is required.

The Project area is located in an agricultural area with established vineyards and includes the construction of new wineries and vineyards. Pesticides may be used on the vineyards and their application could result in spray drift (the physical movement of a pesticide through the air at time of application or soon thereafter to any other site other than that intended). Pesticides on orchards and vineyards are primarily applied by airblast; tractor-mounted applicators that blast chemical laterally with air pressure into crops. Studies of drift spray drift from airblast show that the spray decreased rapidly with distance and approached zero at 100 feet downwind. As proposed in the Project area, existing agricultural land uses would be compatible with existing and proposed agricultural operations. There

will be no sensitive receptors located within a 100 feet of the vineyards. Therefore, impacts from drift spray are expected to be less than significant.

Ozone and PM₁₀

Because the implementing projects result in the emission of ozone precursors, the potential impact of increased ozone levels on agriculture was analyzed. Ozone is of concern because it interferes with the ability of plants to produce and store food. This makes the plants more susceptible to disease, insects, and weather by damaging their leaves. Ozone also reduces crop yields, and is, in fact, responsible for 98% of air quality-related crop damage in California.

Due to the large number of agricultural uses within the Project area, construction and operational pollutant emissions from uses within the Project area have the potential to damage crops or reduce yields. Pollutants which have shown potential to damage crops are PM₁₀ and ozone. An agricultural air quality study prepared by CARB and University of California Davis titled *Economic Assessment of Acid Deposition and Ozone Damage on the San Joaquin Valley Agriculture* examined the effects of ozone and PM₁₀ on crops including wine grapes.

It was shown that seven-hour ozone averages which consistently exceed the ambient air quality standard, results an average 10 percent reduced yield. Ozone concentrations however, are affected by pollution transported from many different sources including industrial or vehicle emissions. Ozone formation is a Basin-wide phenomenon. Thus, emissions generated from vehicles operating in the Project area would not necessarily increase ozone concentrations in the local area. Although emissions of precursors would increase with the implementing projects, these emissions are consistent with the growth projections which form the basis of the AQMP, as discussed above. Thus, the South Coast Air Basin is still expected to achieve reasonable progress towards attainment of the ambient air quality standards, and local emissions of O₃ precursors are not expected to cause damage to crops or reduce crop yields in the area.⁷

With regard to fugitive dust (PM₁₀) generated from the implementing projects, most sources are anticipated to be combustion related (vehicles) and fugitive dust from agricultural or construction activities. Fugitive dust is typically heavier than other gaseous pollutants and tends to be deposited into the ground (settling) rather than transported long distances. Deposition of PM₁₀ poses a risk to crops if heavy metals or other toxic contaminants are present. Since a large amount of PM₁₀ emissions from the implementing projects are from soil movement and agricultural activities, contamination of soil due to deposition is not likely to occur. Therefore, agricultural damage due to PM₁₀ emissions is not likely to result in a significant reduction in crop yields.

Total Effect on Sensitive Receptors

In sum, construction and operation of individual implementing project is unlikely to result in localized emissions in excess of the SCAQMD LST thresholds, due in part to the mandated set-backs (distance between active construction and off-site sensitive receptors). Larger scale construction such as wineries, resorts, and other commercial amenities may exceed LST values, and future project-specific analyses are required to demonstrate and mitigate potential localized exceedances of ambient air standards. Large-scale operations which include industrial combustion equipment such as for wine

⁷ Economic Assessment of Acid Deposition and Ozone Damage on the San Joaquin Valley Agriculture. *California Air Resources Board and University of California, Davis, 1993.*

production will also be required to demonstrate that emissions will not result in localized exceedances of ambient air standards.

Even with compliance with existing regulations and policies, and the implementation of mitigation measures described above (AQ-1 through AQ-12), the Project may result in potentially significant and unavoidable impacts.

Construction-related Impacts (of Implementing Projects)

Based on the discussion above, construction-related activities may result in potentially significant impacts related to LST thresholds.

Operational Impacts (of Implementing Projects)

Based on the discussion above, operations-related activities may result in potentially significant impacts related to LST thresholds.

Infrastructure Impacts (of Implementing Projects)

Based on the discussion above, infrastructure improvement activities may result in potentially significant impact related to LST thresholds.

Summary of Applicable Existing Regulations and Policies

- a) *General Plan* Policies LU 1.5, 2.1, 4.1, 7.12, 10.1, 10.3, 10.4, and 12.1 through 12.4 specifically address the reduction of air quality impacts through regional land use planning efforts, such as improving the jobs/housing balance, providing alternative transportation options, and increasing local employment.
- b) *General Plan* Policies C 1.2, 1.7, 4.1, 4.9, 11.2, 11.4, 11.5, 11.7, 12.1, 12.2, 12.3, 17.3, 17.4 and 20.12 specifically address the reduction of air quality impacts through regional transportation-related planning efforts, such as supporting a variety of transportation options, providing and/or encouraging pedestrian facilities near transit routes, fostering transit-oriented development, establishing a functional bikeway system, and encourage the use of alternative fuel vehicles.
- c) *General Plan* Policies OS 2.1 through 2.3, 2.5, 10.1, 11.1 through 11.3, 12.1, 16.1, 16.3, 16.7, 16.9, and 16.10 specifically address air quality impact reduction through such efforts as energy efficiency, and alternative fuel transportation systems.
- d) *General Plan* Policies AQ 1.1, 1.2, 1.4, 1.5, 1.7, 2.1, 2.2, 2.3, 3.1, 3.2, 3.4, 4.1 through 4.7, 4.9, 4.10, 5.1, 5.2, 5.4, 8.4 through 8.6, 9.1, 9.2, 10.1 through 10.3, 12.1, 12.3, 12.5, 14.1, 15.1, 16.1, 16.3, 16.4, 17.1 through 17.6 and 17.8 through 17.11 specifically address reductions in air quality impacts through a variety of planning efforts, such as the promotion of natural gas and electric vehicles, creation of control plans for wind erosion of soils, collaboration with SCAQMD to limit truck idling and diesel fume release from warehousing operations, etc.
- e) Southwest Area Plan Policies 1.8, 1.14, and 1.16 promote the coexistence of winery, equestrian, and residential uses, allow incidental commercial uses such as special occasion facilities, hotels, resorts, restaurants, and delicatessens on larger lots in the Wine Country – Winery District, and permit incidental commercial uses such as western stores, polo grounds, or horse racing tracks, petting zoos, event grounds, horse auction facilities, horse show facilities, animal hospitals, restaurants, delicatessens, and special occasion facilities on larger lots in the Wine Country – Equestrian District.
- f) SCAQMD Rule 1472 is intended to reduce diesel PM emissions from facilities with three or more stationary emergency standby diesel-fueled internal combustion engines.

Mitigation Measure

Refer to Mitigation Measures AQ-1 through AQ-12 above.

Conclusion

As stated above, construction and operations of individual implementing project is unlikely to result in localized emissions in excess of the SCAQMD LST thresholds, due in part to the mandated set-backs (distance between active construction and off-site sensitive receptors). Larger scale construction and operations, such as wineries, resorts, and other commercial amenities, may exceed LST values, and future project-specific analyses are required to demonstrate and mitigate potential localized exceedances of ambient air standards.

As such, even with compliance with existing regulations and policies, and the implementation of mitigation measures described above (AQ-1 through AQ-12), the Project may result in potentially significant and unavoidable impacts.

Impact 4.3-4: Objectionable Odors

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

Determination: *Less than Significant Impact*

Wine Country Community Plan Overview of Programmatic Impacts

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Potential sources that may emit odors during construction activities include the use of architectural coatings and solvents. SCAQMD Rule 1113 limits the amount of volatile organic compounds from architectural coatings and solvents. Via mandatory compliance with SCAQMD Rules, no construction activities or materials are proposed which would create objectionable odors. Therefore, no impact would occur and no mitigation measures would be required.

Potential odors associated with the Project would result from maintenance and cultivation of the vineyards and the wine-making process itself. Objectionable odors associated with the vineyards would result primarily from the use of fertilizers and the wine-making process itself; crushing and fermentation of grapes and decomposition of pomace (grape waste). However, vineyards are currently maintained and operated in the Project area, so the implementing projects would not introduce any new odors beyond what currently exists today; however, these existing odors would be intensified.

Another source of potential odors from the implementing projects would be equestrian uses in the area. Odors would result primarily from horses and their waste. As new equestrian facilities would be built in the Equestrian district which currently has equestrian uses, no new odors beyond what currently exists would be introduced by the implementing projects; however, these existing odors would be intensified. Wastes would be disposed of in accordance with any applicable requirements.

Implementing projects would include agricultural and equestrian uses, which could be a potential for odors. However, those uses currently exist in the area and new projects will have to comply with standard practices to keep odors to a minimum during wine making, pomace storage, horse waste

disposal and trash disposal. In addition, implementing projects would be grouped with like projects; wineries in the Winery District and equestrian in the Equestrian District. In addition, currently operating and future agricultural or equestrian facilities are required to comply with Rule 402, which limits the amount of nuisance odors. Therefore, impacts from objectionable odors are not expected to be significant. Therefore, less than significant impacts are anticipated and no mitigation measures are necessary.

Construction-related Impacts (of Implementing Projects)

Based on the discussion above, construction-related activities would result in less than significant impacts related to odors.

Operational Impacts (of Implementing Projects)

Based on the discussion above, operations-related activities would result in less than significant impacts related to odors.

Infrastructure Impacts (of Implementing Projects)

Based on the discussion above, infrastructure-related activities would result in less than significant impacts related to odors.

Summary of Applicable Existing Regulations and Policies

- a) Southwest Area Plan Policies 1.8, 1.14, and 1.16 promote the coexistence of winery, equestrian, and residential uses, allow incidental commercial uses such as special occasion facilities, hotels, resorts, restaurants, and delicatessens on larger lots in the Wine Country – Winery District, and permit incidental commercial uses such as western stores, polo grounds, or horse racing tracks, petting zoos, event grounds, horse auction facilities, horse show facilities, animal hospitals, restaurants, delicatessens, and special occasion facilities on larger lots in the Wine Country – Equestrian District.
- b) SCAQMD Rule 1113 limits the amount of volatile organic compounds from architectural coatings and solvents.

Mitigation Measure

No additional mitigation is necessary.

Conclusion

Potential future land uses allowed under the Project which may emit objectionable odors currently exist in the area and new implementing projects would have to comply with standard practices to keep odors to a minimum during wine making, pomace storage, horse waste disposal and trash disposal. IN addition, the Project is intended to group similar land uses in order to avoid such land use conflicts. It is, therefore, anticipated that construction and operations under the Project would result in less than significant impacts related to odor.

4.3.6 CUMULATIVE IMPACTS

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

Determination: *Potentially Significant Impact*

The Project would result in the emission of criteria pollutants for which the Project area is in non-attainment during both construction and operation of the new development. A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or state nonattainment pollutant. Both the South Coast Air Basin and San Diego Air Basin are currently in nonattainment for ozone, PM₁₀, and PM_{2.5}. As stated above, the emissions from the implementing projects exceed thresholds for these pollutants, and would contribute to an existing or projected air quality exceedance. This would result in a potentially significant and unavoidable impact.

Even with compliance with existing regulations and policies, and implementation of mitigation measures, the Project would result in potentially significant and unavoidable cumulative impacts.

4.3.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Unavoidable significant impacts have been identified for Project-level and cumulative air quality impacts related to construction and operations activities (i.e., stationary and mobile source emissions) as well as air quality impacts on sensitive receptors. If the County of Riverside approves the Project, the County shall be required to adopt findings of fact in accordance with Section 15091 of the CEQA Guidelines, as well as adopt a Statement of Overriding Considerations in accordance with Section 15093 of the CEQA Guidelines.