

3.3.1 INTRODUCTION

This section covers the topic of air quality, describing existing conditions at and surrounding the project site, summarizing relevant regulations and policies, and analyzing the anticipated impacts of implementing the Proposed Action.

Sources of information used in this analysis include:

- Sierra Vista Specific Plan EIR prepared by the City of Roseville (City of Roseville 2010);
- Westbrook Specific Plan Amendment Initial Study, prepared by the City of Roseville (City of Roseville 2012); and
- Westbrook Amendment to the Sierra Vista Specific Plan Air Quality and Climate Change Analysis prepared by Ascent Environmental (Ascent 2012).

3.3.2 AFFECTED ENVIRONMENT

3.3.2.1 Regional Setting

The California Air Resources Board (CARB) has divided California into regional air basins according to topographic features. The proposed project is located in the City of Roseville, which is located in the Placer County portion of the Sacramento Valley Air Basin (the Air Basin). This portion of the Air Basin is under the jurisdiction of the Placer County Air Pollution Control District (Air District) for issues related to air quality planning. The Air District works in conjunction with the Sacramento Metropolitan Air Quality Management District (SMAQMD) and other air pollution control districts within the Air Basin to address air quality in the region.

The primary factors that determine air quality in any region are the locations of air pollutant sources, the amount of pollutants emitted, and meteorological and topographical conditions affecting their dispersion. Atmospheric conditions, including wind speed, wind direction, and air temperature gradients, interact with the physical features of the landscape to determine the movement and dispersal of air pollutants.

The Air Basin includes Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba Counties; the western urbanized portion of Placer County; and the eastern portion of Solano County. The Air Basin occupies 15,040 square miles and has a population of more than 2 million people. The Air Basin is bounded by the North Coast Ranges on the west and Northern Sierra Nevada Mountains on the east. The intervening terrain is flat and is often described as a bowl-shaped valley.

The Sacramento Valley Air Basin has a Mediterranean climate, characterized by hot, dry summers and mild, rainy winters. During the year, the temperature may range from 20 to 115 degrees Fahrenheit with summer highs usually in the 90s and winter lows occasionally below freezing. Average annual rainfall is about 20 inches with snowfall being very rare. The prevailing winds are moderate in strength and vary from moist breezes from the south to dry land flows from the north (SMAQMD 2009).

The mountains surrounding the Sacramento Valley create a barrier to airflow, which can trap air pollutants in the valley when meteorological conditions are right and a temperature inversion exists. The highest frequency of air stagnation events occur in the autumn and early winter when large high-pressure cells lie over the valley. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduces the influx of outside air and allows air pollutants to become concentrated in the air. The surface concentrations of pollutants are highest when these conditions are combined with smoke from agricultural burning or when temperature inversions trap cool air, fog, and pollutants near the ground.

The ozone season (May through October) in the Sacramento Valley is characterized by stagnant morning air or light winds with the Delta sea breeze arriving in the afternoon out of the southwest. Usually the evening breeze transports the airborne pollutants to the north out of the Sacramento Valley. During about half of the days from July to September; however, a phenomenon called the “Schultz Eddy” prevents this from occurring. Instead of allowing for the prevailing wind patterns to move north carrying the pollutants out of the valley, the Schultz Eddy causes the wind pattern and pollutants to circle back southward preventing dispersion and increasing the likelihood of federal and state air quality standards violations (SMAQMD 2009).

3.3.2.2 Ambient Air Quality Standards

Both the federal government and the State of California have established ambient air quality standards for several different pollutants. The USEPA sets National Ambient Air Quality Standards for the following seven pollutants: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), sulfur dioxide (SO₂), respirable particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), and lead. These seven pollutants are commonly referred to as *criteria pollutants*. California Ambient Air Quality Standards have also been adopted for these pollutants, as well as for sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. California standards are generally stricter than national standards. Each of the criteria pollutants that are relevant to the Proposed Action and that are of concern in the Air Basin are briefly described below. While reactive organic gases (ROGs) are not considered to be criteria air pollutants, they are widely emitted from land development projects and undergo photochemical reactions in the atmosphere to form O₃; therefore, ROGs are also relevant to the Proposed Action and are of concern in the area (USEPA n.d.c).

- Ozone (O₃). O₃ is a gas that is formed when ROGs and oxides of nitrogen (NO_x), both byproducts of internal combustion engine exhaust and other sources, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.
- Reactive Organic Gases (ROGs). ROGs are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary air pollutants, including ozone. ROGs are also referred to as reactive organic compounds (ROCs) or volatile organic compounds (VOCs). ROGs themselves are not criteria pollutants; however, they contribute to formation of O₃.

- Nitrogen Dioxide (NO₂). NO₂ is a reddish-brown, highly reactive gas that is formed in the ambient air through the oxidation of nitric oxide (NO). NO₂ is also a byproduct of fuel combustion. The principal form of NO_x produced by combustion is NO, but NO reacts quickly to form NO₂, creating the mixture of NO and NO₂ referred to as NO_x. NO₂ acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO_x is only potentially irritating. NO₂ absorbs blue light, the result of which is a brownish-red cast to the atmosphere and reduced visibility.
- Carbon Monoxide (CO). CO is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during winter mornings, with little to no wind, when surface-based inversions trap the pollutant at ground levels. CO is emitted directly from internal combustion engines. 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.
- 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. When SO₂ oxidizes in the atmosphere, it forms sulfates (SO₄).
- Respirable Particulate Matter (PM₁₀). PM₁₀ consists of suspended particles or droplets 10 micrometers or smaller in diameter. Some sources of PM₁₀, like pollen and windstorms, are naturally occurring. However, in populated areas, most PM₁₀ is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.
- Fine Particulate Matter (PM_{2.5}). PM_{2.5} is suspended particulate matter that is 2.5 micrometers or smaller in diameter. The sources of PM_{2.5} include fuel combustion from automobiles, power plants, wood burning, industrial processes, and diesel-powered vehicles such as buses and trucks. These fine particles are also formed in the atmosphere when gases such as sulfur dioxide, NO_x, and ROG_s are transformed in the air by chemical reactions.

A summary of state and federal ambient air quality standards and the effects of the exceedance of these standards on health are shown in **Table 3.3-1, Ambient Air Quality Standards**. For some pollutants, separate standards have been set for different periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values, such as protection of crops, protection of materials, or avoidance of nuisance conditions.

**Table 3.3-1
Ambient Air Quality Standards**

Air Pollutant	Concentration/Averaging Time		Most Relevant Health Effects
	State Standard (California Ambient Air Quality Standards)	Federal Primary Standard (National Ambient Air Quality Standards)	
Ozone	0.09 ppm, 1-hr. avg. 0.070 ppm, 8-hr avg.	0.075 ppm, 8-hr avg. (three-year average of annual 4 th -highest daily maximum)	(a) Pulmonary function decrements and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; and (f) Property damage
Nitrogen Dioxide ¹	0.18 ppm, 1-hr avg. 0.030 ppm, annual arithmetic mean	0.100 ppm, 1-hr avg. (three-year avg. of the 98 th percentile of the daily maximum 1-hour avg.) 0.053 ppm, annual arithmetic mean	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extrapulmonary biochemical and cellular changes and pulmonary structural changes; and (c) Contribution to atmospheric discoloration
Carbon Monoxide	20 ppm, 1-hr avg. 9.0 ppm, 8-hr avg.	35 ppm, 1-hr avg. (not to be exceeded more than once per year) 9 ppm, 8-hr avg. (not to be exceeded more than once per year)	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and (d) Possible increased risk to fetuses
Sulfur Dioxide ²	0.25 ppm, 1-hr. avg. 0.04 ppm, 24-hr avg.	0.075 ppm, 1-hr avg. (three-year avg. of the 99 th percentile)	Bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma
Respirable Particulate Matter (PM ₁₀)	50 µg/m ³ , 24-hr avg. 20 µg/m ³ , annual arithmetic mean	150 µg/m ³ , 24-hr avg. (not to be exceeded more than once per year on average over three years)	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; and (c) Increased risk of premature death from heart or lung diseases in the elderly
Fine Particulate Matter (PM _{2.5})	12 µg/m ³ , annual arithmetic mean	35 µg/m ³ , 24-hr avg. (three-year average of 98 th percentile) 15 µg/m ³ , annual arithmetic mean (three-year average)	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; and (c) Increased risk of premature death from heart or lung diseases in the elderly
Lead ³	1.5 µg/m ³ , 30-day avg.	1.5 µg/m ³ , calendar quarter 0.15 µg/m ³ , three-month rolling average	(a) Increased body burden; and (b) Impairment of blood formation and nerve conduction

Air Pollutant	Concentration/Averaging Time		Most Relevant Health Effects
	State Standard (California Ambient Air Quality Standards)	Federal Primary Standard (National Ambient Air Quality Standards)	
Visibility-Reducing Particles	Reduction of visual range to less than 10 miles at relative humidity less than 70%, 8-hour avg. (10:00 AM–6:00 PM)	None	Visibility impairment on days when relative humidity is less than 70 percent.
Sulfates	25 µg/m ³ , 24-hr avg.	None	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; and (f) Property damage
Hydrogen Sulfide	0.03 ppm, 1-hr avg.	None	Odor annoyance
Vinyl Chloride ³	0.01 ppm, 24-hr avg.	None	Known carcinogen

Source: South Coast Air Quality Management District, Final Program Environmental Impact Report for the 2007 Air Quality Management Plan, (2007) Table 3.1-1, p. 3.1-3.

µg/m³ = microgram per cubic meter.

ppm = parts per million by volume.

¹ On January 25, 2010, the USEPA promulgated a new 1-hour NO₂ standard. The new 1-hour standard is 0.100 parts per million (188 micrograms per cubic meter [µg/m³]) and became effective on April 12, 2010.

² On June 3, 2010, the USEPA issued a new 1-hour SO₂ standard. The new 1-hour standard is 0.075 parts per million (196 µg/m³). The USEPA also revoked the existing 24-hour and annual standards citing a lack of evidence of specific health impacts from long-term exposures. The new 1-hour standard becomes effective 60 days after publication in the Federal Register.

³ CARB has identified lead and vinyl chloride as “toxic air contaminants” with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

The USEPA and CARB designate air basins or portions of air basins and counties as being in “attainment” or “nonattainment” for each of the criteria pollutants. Nonattainment areas are ranked (marginal, moderate, serious, severe, or extreme) according to the degree of nonattainment. Areas that do not meet the standards shown in **Table 3.3-1** are classified as nonattainment areas. The National Ambient Air Quality Standards (other than O₃, PM₁₀, PM_{2.5}, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The National Ambient Air Quality Standards for O₃, PM₁₀, and PM_{2.5} are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards are not to be exceeded during a three-year period. **Table 3.3-2, Placer County Attainment Status**, presents the status of the Placer County portion of Air Basin with respect to the attainment of federal and state standards.

The determination of whether an area meets the state and federal standards is based on air quality monitoring data. Some areas are unclassified, which means there is insufficient monitoring data for determining attainment or nonattainment. Unclassified areas are typically treated as being in attainment. Because the attainment/nonattainment designation is pollutant specific, an area may be classified as nonattainment for one pollutant and attainment for another. Similarly, because the state and federal

standards differ, an area could be classified as attainment for the federal standards of a pollutant and as nonattainment for the state standards of the same pollutant.

**Table 3.3-2
Placer County Attainment Status (Western Portion of County)**

Pollutant	Federal Standards	State Standards
Ozone 1-hour	No federal standard	Nonattainment/Serious
Ozone 8-hour	Nonattainment/Severe-15 ¹	Nonattainment
Nitrogen Dioxide	Attainment	Attainment
Carbon Monoxide	Unclassified/Attainment	Unclassified/Attainment
Sulfur Dioxide	Unclassified/Attainment	Attainment
PM10	Attainment	Nonattainment
PM2.5	Nonattainment	Attainment
Lead	Unclassified	Attainment
Hydrogen Sulfide	No federal standards	Unclassified
Sulfates	No federal standards	Attainment
Visibility-Reducing Particulates	No federal standards	Unclassified

Sources:

California Air Resources Board, "Area Designations Maps/State and National," <http://www.arb.ca.gov/degis/adm/adm.htm>. 2012.

U.S. Environmental Protection Agency, "Air Quality Maps," <http://www.epa.gov/region9/air/maps/index.html>. 2012

¹ A formal request for voluntary reclassification from "serious" to "severe" for the 8-hour ozone nonattainment area with an associated attainment deadline of June 15, 2019, was submitted by CARB to the USEPA on February 14, 2008. The USEPA approved the reclassification request on April 15, 2010.

3.3.2.3 Toxic Air Contaminants

In addition to criteria pollutants, CARB periodically assesses the health impacts and ambient levels of toxic air contaminants (TACs) in California. The USEPA assesses health impacts for hazardous air pollutants. A TAC is defined by California Health and Safety Code Section 397655:

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

As noted in the definition above, all USEPA hazardous air pollutants are considered to be TACs. CARB has assessed inhalation cancer risk for the state and has provided risk maps based on the Assessment System for Population Exposure Nationwide (ASPEN) dispersion model (USEPA n.d.a). The ASPEN model is used in the USEPA's National Air Toxics Assessment study (USEPA n.d.b). The 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 (e.g., direct or ingestion). Based on CARB's assessment, the largest contributor to inhalation cancer risk is diesel emissions, which is consistent with the result of other

studies, such as the South Coast Air Quality Management District's Multiple Air Toxics Exposure Study III (South Coast Air Quality Management District 2008).

In 2004, CARB conducted a health risk assessment of airborne particulate matter emissions from diesel-fueled locomotives at the Union Pacific J.R. Davis Yard located in Roseville, California. The study found that the background cancer risk for the broader Sacramento region was 360 in 1 million for diesel particulate matter and 520 in 1 million for all toxic air contaminants (CARB 2004).

3.3.2.4 Ambient Air Monitoring

CARB has established and maintains a network of sampling stations in conjunction with local air pollution control districts (APCDs) and air quality management districts (AQMDs), private contractors, and the National Park Service. The monitoring station network provides air quality monitoring data, including real-time meteorological data and ambient pollutant levels, as well as historical data. The network in the Air Basin consists of 12 monitoring stations. The closest monitoring station to the project is located at 151 North Sunrise Boulevard in Roseville, located just over 6 miles east of the project site. This station monitors ambient pollutant concentrations of O₃, NO₂, PM₁₀, and PM_{2.5}. The nearest station to the project site that monitors CO and SO₂ is located at 7823 Blackfoot Way in North Highlands, approximately 5 miles to the south of the project site.

Table 3.3-3, Ambient Pollutant Concentrations Registered Nearest to the Project Site, at the end of this section, lists the measured ambient pollutant concentrations and the exceedances of state and federal standards that have occurred at the above mentioned monitoring stations from 2008 through 2010, the most recent years for which data are available. As shown, the monitoring station in Roseville has registered values above state and federal standards for O₃, the state standard for PM₁₀, and the federal standard for PM_{2.5}. The standards for CO, NO₂, SO₂, lead, and sulfate have not been exceeded anywhere within the basin for several years. Values for lead and sulfate are not presented in the table since ambient concentrations are well below the state standards. Hydrogen sulfide, vinyl chloride, and visibility reducing particles were not monitored by CARB or the SMAQMD in the Air Basin during the period from 2008 to 2010.

3.3.3 REGULATORY FRAMEWORK – APPLICABLE LAWS, REGULATIONS, PLANS, AND POLICIES

Air quality within Placer County is addressed through the efforts of various federal, state, regional, and local government agencies. The agencies primarily responsible for improving the air quality within the County include the USEPA, CARB, Air District, and the Sacramento Area Council of Governments (SACOG). The City of Roseville includes policies in its *General Plan Air Quality Element* that are designed to improve air quality. These agencies, their laws, regulations, rules, plans, and policies as they pertain to air quality and the Proposed Action are discussed below.

3.3.3.1 Federal Laws, Regulations, Plans, and Policies

Clean Air Act

The USEPA is responsible for enforcing the federal Clean Air Act (CAA) and the National Ambient Air Quality Standards. The USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The USEPA also maintains jurisdiction over emission sources beyond state waters (outer continental shelf), and establishes various emissions standards for vehicles sold in states other than California. These standards identify acceptable levels of ambient concentrations for seven criteria pollutants: O₃, CO, NO₂, SO₂, PM₁₀, PM_{2.5}, and lead. The thresholds are considered to be the maximum concentrations of ambient (background) air pollutants determined safe to protect the public health and welfare with an adequate margin of safety.

As part of its enforcement responsibilities, the USEPA requires each state with areas that do not meet the federal standards to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the time frame identified in the SIP. The *Air Quality Attainment Plan* (AQAP), prepared by the Air District in conjunction with other air pollution control districts in the Air Basin, is the regulatory mechanism by which the Air District conforms to USEPA regulations. The Air District provides Triennial Progress Reports (TPRs) on air quality issues addressed by the AQAP, with the latest published in 2009.

The 1990 CAA Amendments were enacted to better protect the public's health and create more efficient methods for lowering pollutant emissions. The major areas of improvement addressed in the amendments include National Ambient Air Quality Standards, air basin designations, automobile/heavy-duty engine emissions, and hazardous air pollutants. The USEPA has designated air basins as being in attainment or nonattainment for each of the seven criteria pollutants. Nonattainment air basins for ozone are further ranked (marginal, moderate, serious, severe, or extreme) according to the degree of nonattainment. CARB is required to describe in its SIP how the state will achieve federal standards by specified dates for each air basin that has failed to attain a National Ambient Air Quality Standards for any criteria pollutant.

The extent of mitigation implementation of a given SIP depends on the severity of the air quality condition within the state or a specific air basin. Western Placer County is classified by the USEPA as in serious nonattainment for the O₃ standard, in nonattainment for the PM_{2.5} standard, and as attainment/unclassified for the other criteria pollutants, as summarized in **Table 3.3-2, Placer County Attainment Status**.

The 1990 CAA Amendments addressed tailpipe emissions from automobiles, heavy-duty engines, and diesel fuel engines. The amendments established more stringent standards for hydrocarbons, NO_x, and CO emissions in order to reduce the ozone and carbon monoxide levels in heavily populated areas.

Under the 1990 CAA Amendments, new fuels were required to be less volatile, contain less sulfur (regarding diesel fuel), and have higher levels of oxygenates (oxygen-containing substances to improve fuel combustion). Due to the lack of a substantial reduction in hazardous emissions under the 1977 CAA, the 1990 CAA Amendments listed 189 hazardous air pollutants (HAPs), which are carcinogenic, mutagenic, and/or reproductive toxicants, to be reduced. The 1990 CAA Amendments regulate major stationary sources and area emissions sources requiring use of Maximum Achievable Control Technology to reduce HAP emissions and their associated health impacts.

3.3.3.2 State Laws, Regulations, Plans, and Policies

California Clean Air Act

The California Clean Air Act (CCAA) established a legal mandate for air basins to achieve the California Ambient Air Quality Standards by the earliest practical date. The California Ambient Air Quality Standards, established by CARB, apply to the same seven criteria pollutants as the National Ambient Air Quality Standards, as well as to sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. California Ambient Air Quality Standards are more stringent than the National Ambient Air Quality Standards, and in the case of PM₁₀ and SO₂, far more stringent.

As a branch of the California Environmental Protection Agency, CARB oversees air quality monitoring, planning, and control throughout California. It is primarily responsible for implementing the CCAA, ensuring conformance with CAA requirements, and for regulating emissions from motor vehicles and consumer products within the state. In addition, CARB sets the California Ambient Air Quality Standards and control measures for TACs. CARB approves the regional air quality management/attainment plans for incorporation into the SIP and is responsible for preparing those portions of the SIP related to mobile source emissions. CARB establishes new standards for vehicles sold in California and for various types of commercially available equipment. It also sets fuel specifications to further reduce vehicular emissions.

CARB also makes area designations for O₃, CO, NO₂, SO₂, PM₁₀, PM_{2.5}, sulfates, lead, hydrogen sulfide, and visibility-reducing particles. Health and Safety Code Section 39607(e) requires CARB to establish and periodically review area designation criteria. These designation criteria provide the basis for CARB to designate areas of the state as attainment, nonattainment, or unclassified according to state standards. In addition, Health and Safety Code Section 39608 requires CARB to use the designation criteria to classify areas of the state and to annually review those area designations.

3.3.3.3 Local Plans, Policies, and Ordinances

Sacramento Area Council of Governments

The SACOG is an association of local governments in the Sacramento County region that provides transportation planning and funding for the region. Although SACOG is not an air quality management agency, it is responsible for several air quality planning issues. Specifically, as the designated Metropolitan Planning Organization for the Sacramento region, it is responsible, pursuant to Section 176(c) of the 1990 CAA Amendments, for providing current population, employment, travel, and congestion projections for regional air quality planning efforts.

Placer County Air Pollution Control District

The Air District has jurisdiction over most air quality matters within the Placer County portion of the Air Basin. The Air District regulates most stationary sources of air pollutants in Placer County, maintains ambient air quality monitoring stations at numerous locations, and collaborates in preparation of the air quality management/attainment plans for the area that are required under the CAA and CCAA. The Air District also prepares regular progress reports, the TPRs, which detail the results of efforts to improve air quality within Placer County and the Air Basin.

Sacramento Valley Air Basin Air Quality Plans

As shown in **Table 3.3-2**, the western portion of Placer County is in nonattainment for the federal standards for ozone (8-hour) and PM_{2.5}. Western Placer County is also in nonattainment for the state standards of ozone (1-hour), ozone (8-hour), and PM₁₀. Therefore, the Air District has assisted in preparing attainment plans for the area in order to demonstrate achievement of the state and federal ambient air quality standards for ozone, PM₁₀, and PM_{2.5}. The most recent plans include:

- Air Quality Attainment Plan
- Sacramento Regional Clean Air Plan for the 1-Hour National Ozone Standard
- Sacramento Region Clean Air Plan Update
- Sacramento Regional Nonattainment Area 8-Hour Ozone Rate-of-Progress Plan
- Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan

The Air District must continuously monitor its progress in implementing these attainment plans and must periodically report to CARB and the USEPA. It must also periodically revise its attainment plans to reflect new conditions and requirements in accordance with schedules mandated by the CAA and the CCAA. The following subsections provide an overview of these five plans.

Air Quality Attainment Plan

The CCAA requires nonattainment areas to achieve and maintain the state ambient air quality standards by the earliest practicable date and requires local air districts to develop plans for attaining the state ozone, CO, SO₂, and NO₂ standards. In compliance with the CCAA, the Air District collaborated with other air pollution control districts in the Air Basin to prepare and submit the 1991 Air Quality Attainment Plan.

The CCAA also requires triennial assessments to report the extent of air quality improvement and the amounts of emission reductions achieved from control measures for the preceding three-year period. The Air District Board of Directors adopted the most recent TPR in 2010. The report identifies all feasible measures the Air District planned to study or adopt over the next three years. The report also describes historical trends in air quality, updates emissions inventories, and evaluates the Air District's implementation of air pollution control measures.

Sacramento Regional Clean Air Plan

The Clean Air Plan was adopted in 1994 in compliance with the 1990 Amendments to the federal CAA, which was developed cooperatively with all the districts in the Sacramento Region (El Dorado Air Pollution Control District, Feather River Air Quality Management District, Air District, Sacramento Metropolitan Air Quality Management District, and Yolo-Solano Air Quality Management District). The region could not show that it would meet federal 1-hour ozone standard by 1999; therefore, the deadline was extended to 2005 and the region accepted a designation of severe nonattainment for the federal 1-hour ozone standard, with additional emission requirements on stationary sources. As a severe nonattainment area, the Sacramento Region is required to submit a rate-of-progress milestone evaluation report. The 1999 and 2002 Milestone Reports include compliance demonstrations that the milestone requirement has been met for the Sacramento nonattainment area.

The federal CAA requires the region's transportation plan to conform to the region's ozone standards. Regions with a SIP must analyze the emissions anticipated from transportation plans and transportation improvement programs and ensure that they remain within the SIP's emissions, which is called "demonstrating conformity" with the federal CAA. Regions with a SIP have a "motor vehicle emissions budget" tied to the SIP. Transportation planners must analyze the emissions anticipated from transportation plans and transportation improvement programs and ensure that they remain within the SIP's emissions budget (demonstrating conformity). A conformity lapse for the Sacramento region began October 4, 2004, and an expedited new Clean Air Plan was prepared. The following subsection describes the Clean Air Plan update and plans to meet the 8-hour ozone standard, which the USEPA promulgated in 1997.

Sacramento Region Clean Air Plan Update/Sacramento Regional Nonattainment Area 8-Hour Ozone Rate-of-Progress Plan

The *Sacramento Region Clean Air Plan Update/Sacramento Regional Nonattainment Area 8-Hour Ozone Rate-of-Progress Plan* (8-Hour Ozone Plan) updates the region's Clean Air Plan to address the conformity lapse through updates to the emission inventory and establish new motor vehicle emission budgets. In addition to updating the Clean Air Plan, this Plan also fulfills the federal 8-hour ozone requirements for the 2002–2008 Rate-of-Progress Plan for the Sacramento regional nonattainment area.

In July 1997, USEPA promulgated a new 8-hour standard for ozone. Key aspects of the 8-hour ozone rule are the new designations and nonattainment classifications and the revocation of the 1-hour ozone standard in June 2005. However, the new rule also addresses anti-backsliding provisions in the federal CAA, so 8-hour ozone nonattainment areas remain subject to control measure commitments that applied under the 1-hour ozone standard. The Sacramento region was designated as a serious nonattainment area for the federal 8-hour ozone standard with an attainment deadline of June 2013. The 8-Hour Ozone Plan addresses how the region will meet the federal 8-hour ozone standard by this attainment deadline.

Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan

The 2009 *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* was adopted on December 19, 2008 but has not been approved by the USEPA. The Sacramento region was classified by the USEPA as a serious nonattainment area on June 15, 2004, for the federal 8-hour ozone standard with an attainment deadline of June 15, 2013. However, since the Sacramento region needs to rely on the longer-term emission reduction strategies from state and federal mobile source control programs, the 2013 attainment date cannot be met. Consequently, on February 14, 2008, CARB, on behalf of the air districts in the Sacramento region, submitted a letter to USEPA requesting a voluntary reclassification (bump-up) of the Sacramento federal nonattainment area from a serious to a severe-15 8-hour ozone nonattainment area with an extended attainment deadline of June 15, 2019.¹ The USEPA approved the reclassification request on April 15, 2010. The 8-Hour Ozone Attainment Plan includes the information and analyses to fulfill the federal CAA requirements for demonstrating reasonable further progress and attainment of the 1997 8-hour ozone National Ambient Air Quality Standards for the Sacramento region. The Plan also contains a Reasonable Further Progress (RFP) demonstration. The RFP demonstration shows that existing local, state, and federal controls are sufficient for the Sacramento Metropolitan Area to achieve the required minimum 3 percent per year reduction in ozone-precursor emissions. This RFP also sets the new transportation conformity budget for the Sacramento metropolitan transportation plan area.

Placer County Air Pollution Control District Rules and Regulations

The Placer County Air Pollution Control District's ("PCAPCD's" or "Air District's") primary means of implementing its attainment plans is through its adopted rules and regulations. The Proposed Action would be subject to the following rules adopted by the Air District that are designed to reduce and control pollutant emissions throughout the Air Basin.

- **Rule 202 (Visible Emissions):** A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three (3) minutes in any one (1) hour which is:
 - As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
 - Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Subsection (A) above.
- **Rule 205 (Nuisance):** A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause to have a natural tendency to cause injury or damage to business or property.

¹ In order to attain by June 15th, the prior year's ozone season would need to be in attainment, making 2018 the attainment demonstration analysis year.

- **Rule 217 (Cutback and Emulsified Asphalt Paving Materials):** A person shall not manufacture for sale nor use for paving, road construction or road maintenance any: rapid cure cutback asphalt; slow cure cutback asphalt containing organic compounds which evaporate at 500 °F or lower as determined by current American Society for Testing and Materials (ASTM) Method D402; medium cure cutback asphalt except as provided in Section 1.2; or emulsified asphalt containing organic compounds which evaporate at 500 °F or lower as determined by current ASTM Method D244, in excess of 3 percent by volume.
- **Rule 218 (Application of Architectural Coatings):** No person shall manufacture, blend, or repackage for sale within the Air District; supply, sell, or offer for sale within Air District; or solicit for application or apply within the Air District, any architectural coating with a volatile organic carbon (VOC) content in excess of the corresponding specified manufacturer's maximum recommendation.
- **Rule 225 (Wood Burning Appliances):** No person shall sell or supply new wood burning appliances unless it is a USEPA phase II Certified wood burning appliance, pellet-fueled wood burning heater, masonry heater, or determined to meet the USEPA standard for particulate matter emissions standards.
- **Rule 228 (Fugitive Dust):**
 - **Visible Emissions Not Allowed Beyond the Boundary Line:** A person shall not cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area (including disturbance as a result of the raising and/or keeping of animals or by vehicle use), such that the presence of such dust remains visible in the atmosphere beyond the boundary line of the emission source.
 - **Visible Emissions from Active Operations:** In addition to the requirements of Rule 202, Visible Emissions, a person shall not cause or allow fugitive dust generated by active operations, an open storage pile, or a disturbed surface area, such that the fugitive dust is of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke as dark or darker in shade as that designated as number 2 on the Ringelmann Chart, as published by the United States Bureau of Mines.
 - **Concentration Limit:** A person shall not cause or allow PM10 levels to exceed 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) (24-hour average) when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other USEPA-approved equivalent method for PM10 monitoring.
 - **Track-Out onto Paved Public Roadways:** Visible roadway dust as a result of active operations, spillage from transport trucks, and the track-out of bulk material onto public paved roadways shall be minimized and removed.
 - The track-out of bulk material onto public paved roadways as a result of operations, or erosion, shall be minimized by the use of track-out and erosion control, minimization, and preventative measures, and removed within 1 hour from adjacent streets such material anytime track-out extends for a cumulative distance of greater than 50 feet onto any paved public road during active operations.
 - All visible roadway dust tracked-out upon public paved roadways as a result of active operations shall be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. Wet sweeping or a High Efficiency Particulate Air filter equipped vacuum device shall be used for roadway dust removal.

- Any material tracked-out, or carried by erosion, and clean-up water, shall be prevented from entering waterways or storm water inlets as required to comply water quality control requirements.
- **Minimum Dust Control Requirements:** The following dust mitigation measures are to be initiated at the start and maintained throughout the duration of the construction or grading activity, including any construction or grading for road construction or maintenance.
 - Unpaved areas subject to vehicle traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered.
 - The speed of any vehicles and equipment traveling across unpaved areas must be no more than 15 miles per hour unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment traveling more than 15 miles per hour from emitting dust exceeding Ringelmann 2 or visible emissions from crossing the project boundary line.
 - Storage piles and disturbed areas not subject to vehicular traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile.
 - Prior to any ground disturbance, including grading, excavating, and land clearing, sufficient water must be applied to the area to be disturbed to prevent emitting dust exceeding Ringelmann 2 and to minimize visible emissions from crossing the boundary line.
 - Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt, from being released or tracked off-site.
 - When wind speeds are high enough to result in dust emissions crossing the boundary line, despite the application of dust mitigation measures, grading and earthmoving operations shall be suspended.
 - No trucks are allowed to transport excavated material off-site unless the trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments, and loads are either covered with tarps; or wetted and loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than 6 inches from the top and that no point of the load extends above the top of the cargo compartment.
- **Wind-Driven Fugitive Dust Control:** A person shall take action(s), such as surface stabilization, establishment of a vegetative cover, or paving, to minimize wind-driven dust from inactive disturbed surface areas.
 - **Rule 501 (General Permit Requirement):** Any person operating an article, machine, equipment or other contrivance, the use of which may cause, eliminate, reduce, or control the issuance of air contaminants, shall first obtain a written permit from the Air Pollution Control Officer. Stationary sources subject to the requirements of Rule 507, Federal Operating Permit Program, must also obtain a Title V permit pursuant to the requirements and procedures of that rule.
 - **Rule 508 (General Conformity):** The conditions of the Code of Federal Regulations, Title 40, Chapter I, Subchapter C, Parts 6 and 51 in effect January 31, 1994, are made part of the Rules and Regulations of the Placer County Air Pollution Control District.

- **Rule 509 (Traffic Conformity):** The conditions of the Code of Federal Regulations, Title 40, Chapter I, Part 51, Subpart T, Sections 51.392 - 51.400, 51.404, 51.410 - 51.450, 51.460, and 51.462, in effect December 27, 1993, are made part of the Rules and Regulations of the Placer County Air Pollution Control District.

City of Roseville

The City of Roseville has included an Air Quality Element within its General Plan, with the following goals and policies:

- Goal 1:** Improve Roseville’s air quality by: a) Achieving and maintaining ambient air quality standards established by the USEPA and CARB; and b) Minimizing public exposure to toxic or hazardous air pollutants and any pollutants that create a public nuisance through irritation to the senses (such as unpleasant odors).
- Goal 2:** Integrate air quality planning with the land use and transportation planning process.
- Goal 3:** Encourage the coordination and integration of all forms of public transport while reducing motor vehicle emissions through a decrease in the average daily trips and vehicle miles traveled and by increasing the commute vehicle occupancy rate by 50 percent to 1.5 or more persons per vehicle.
- Goal 4:** Increase the capacity of the transportation system, including the roadway system and alternate modes of transportation.
- Goal 5:** Provide adequate pedestrian and bikeway facilities for present and future transportation needs.
- Goal 6:** Promote a well-designed and efficient light rail and transit system.
- Goal 7:** While recognizing that the automobile is the primary form of transportation, the City of Roseville should make a commitment to shift from the automobile to other modes of transportation.
- Policy 1:** Cooperate with other agencies to develop a consistent and effective approach to air pollution planning.
- Policy 2:** Work with the Air District to monitor all air pollutants of concern on a continuous basis.
- Policy 3:** Develop consistent and accurate procedures for evaluating the air quality impacts of new projects.
- Policy 4:** As part of the development review process, develop mitigation measures to minimize stationary and area source emissions.
- Policy 5:** Develop transportation systems that minimize vehicle delay and air pollution.
- Policy 6:** Develop consistent and accurate procedures for mitigating transportation emissions from new and existing projects.
- Policy 7:** Encourage alternative modes of transportation including pedestrian, bicycle, and transit.

- Policy 8:** Separate air pollution-sensitive land uses from sources of air pollution.
- Policy 9:** Encourage land use policies that maintain and improve air quality.
- Policy 10:** Conserve energy and reduce air emissions by encouraging energy efficient building designs and transportation systems.

3.3.4 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOGY

3.3.4.1 Significance Thresholds

The Air District has adopted thresholds to meet its obligations under both the CAA and the California Environmental Quality Act (CEQA). In accordance with guidance from the Council on Environmental Quality (40 CFR § 1506.2), the U.S. Army Corps of Engineers (USACE) considers local standards when determining the significance of the impacts of a proposed action. Therefore, the USACE has used the thresholds developed by the local Air District to evaluate the impacts of the Proposed Action and its alternatives on air quality.

Criteria Pollutants

The Air District thresholds presented below in **Table 3.3-4, Placer County Air Pollution Control District Significance Thresholds**, are for both construction and operation. If the emission rates of a particular pollutant associated with a proposed project are above these thresholds, the project is judged to potentially have a significant impact on air quality.²

**Table 3.3-4
Placer County Air Pollution Control District Significance Thresholds**

Pollutant	Threshold (lbs per day)
ROG	82
NOx	82
PM10	82
CO	550

Source: Placer County APCD 2010

² The PCAPCD has developed the approach to the assessment of air quality impacts which is based on mass emissions of pollutants and does not require the estimation of pollutant concentrations. The air district (like all other air districts in the state) has developed thresholds of significance that are in pounds per day (or tons per year) that can be used to measure a project's impact on regional air quality. Significance thresholds produced by the air districts are designed to ensure compliance with both NAAQS and CAAQS. The air districts use this approach because pollutants released at one point may be transported throughout the air basin, or even into neighboring air basins. Consequently, the focus of air districts in attaining ambient air standards is on overall basin-wide emissions. The most efficient way to protect regional air quality is to restrict emissions on a mass basis, and therefore guidelines developed by the air districts include significance thresholds using pounds per day as the preferred measure. This is discussed in the Placer County APCD CEQA guidelines (PCAPCD 2012).

Toxic Air Contaminants and Odors

The local Air District does not provide quantitative thresholds for evaluating potential effects associated with toxic air contaminants and odors. However, it provides guidelines as to how those impacts should be evaluated. The Air District recommends the preparation of a human health risk assessment to evaluate whether a project would expose receptors to excessive TAC emissions. With respect to odors, the Air District recommends the evaluation of impacts based on distance between the odor source and the receptors.

Carbon Monoxide

With respect to CO hot spots, the Air District guidelines recommend screening as a first step to determine whether CO hot spots could result from project traffic and in the event that the screening suggests that might be the case, the guidelines recommend CO modeling to estimate CO concentrations which can then be compared to the state CO standard for evaluation of the significance of the impact.

Cumulative Impacts

The contribution of the Proposed Action or an alternative to a cumulative impact would be considered significant if the Proposed Action or an alternative would:

- Result in substantial unmitigated emissions of air pollutants (ozone, PM10, and PM2.5) for which the Air Basin is in nonattainment.

3.3.4.2 Analysis Methodology

This analysis is based primarily on a technical study, the Westbrook Amendment to the Sierra Vista Specific Plan Air Quality and Climate Change Analysis prepared by Ascent Environmental in support of the Westbrook Project Initial Study. The technical study is included in **Appendix 3.3**. The study was independently reviewed by the USACE, and was found to be accurate in its analytical approach and results. The methodology used in the technical study is summarized below.

The study used the URBEMIS2007 Environmental Management Software version 9.2.4 to estimate construction emissions and operational emissions from area and mobile sources associated with the Proposed Action. Construction was assumed to occur over a period of 11 years, beginning in 2014 and completing by 2025. Specific assumptions about construction equipment and scheduling are provided in the technical study, and included in **Appendix 3.3**. Mobile emissions during operation were estimated using default URBEMIS2007 values and trip generation rates provided by a traffic study prepared for the Proposed Action. Emissions from area sources were also estimated using default URBEMIS2007 values. These emissions are primarily associated with combustion of natural gas, operation of landscape maintenance equipment, and evaporative emissions from architectural coatings and consumer products.

Localized CO impacts were analyzed using a tiered screening methodology provided by the Sacramento Metropolitan Air Quality Management District (SMAQMD). This was used since the PCAPCD does not provide a methodology for assessing impacts from CO concentrations and the PCAPCD and SMAQMD commonly work jointly on air quality guidelines and regional planning. The tiered screening

methodology has two tiers. The first tier consists of determining whether intersections impacted by the project traffic would experience a reduction in the level of service (LOS) to E or F, or if the project would add traffic to an intersection already operating at an LOS of E or F. The second tier has the following conditions:

- The project would not result in an affected intersection experiencing more than 31,600 vehicles per hour;
- The project would not contribute traffic to a tunnel, parking garage, bridge underpass, urban street canyon, or below-grade roadway; or other locations where horizontal or vertical mixing of air would be substantially limited; and
- The mix of vehicle types at the intersection is not anticipated to be substantially different from the County average.

Impacts due to exposure to TACs are generally assessed using a Health Risk Assessment (HRA), which quantifies the risk of chronic and acute health impacts, including cancer. This process requires modeling with precise information regarding specific sources and TACs as well as receptor data. As this information is made available, an HRA may be performed for the Proposed Action or components of the action. However, this level of detail is not available to date, so an HRA was not conducted for the Proposed Action and the impacts from TACs were analyzed qualitatively. This was done by identifying sensitive receptors such as schools and residences and comparing their location with either existing or potential sources of TACs, taking into consideration wind patterns in the area. Sources considered include industrial sites, commercial zones, freeways, and other major roadways.

Potential odor impacts were also analyzed qualitatively, examining the relative positions of existing and potential odor sources with receptors in the context of prevailing wind patterns.

Construction and operation emissions for the alternatives were estimated using assumptions about the main sources of emissions. For construction, emissions were assumed to be proportional to acreage under development. Construction emissions for the Proposed Action were multiplied by the ratio of the footprint of each alternative to the Proposed Action. For operations, emissions were assumed to be proportional to the number of residences and the square footage of non-residential buildings. Operational emissions were obtained by multiplying the operational emissions of the Proposed Action by the ratio of the number of residences included in the alternative to the number under the Proposed Action and by the ratio of the square footage of non-residential buildings included in the alternative to the square footage under the Proposed Action. These two values were then averaged to obtain a final estimate of emissions from operation of development under each alternative. This is a reasonable method to estimate emissions for the alternatives as the URBEMIS2007 model estimates emissions based on the size of a project (number and types of dwelling units and building square footage of non-residential space).

3.3.5 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact AQ-1 Emissions Associated with Construction

No Action Alt. Construction of the No Action Alternative would generate emissions of ROG, NO_x, and PM₁₀ that would exceed significance thresholds and therefore would result in a **significant direct** effect on air quality in the Air Basin. Mitigation would reduce emissions, but not to less than significant. A residual **significant** effect would remain after mitigation. **No indirect** effects would occur.

Construction-related emissions can be distinguished as either on-site or off-site. On-site emissions generated during construction principally consist of exhaust emissions (NO_x, sulfur oxides (SO_x), CO, ROG, PM₁₀, and PM_{2.5}) from the operation of heavy-duty construction equipment, fugitive dust (PM₁₀) from excavation and grading, and ROG emissions from asphaltic paving and painting. Off-Site emissions during the construction phase normally consist of exhaust emissions and entrained paved road dust (PM₁₀ and PM_{2.5}) from worker commute trips, material delivery trips, and haul truck trips to and from the construction site.

Construction activities associated with the No Action Alternative would occur over a number of years, with portions of the area being developed in phases. However, the exact timing and duration of these phases is not currently known as they will be determined by market conditions and other factors that are unpredictable over the course of development. The shortest period over which construction of the full No Action Alternative would occur is assumed to be 11 years, from 2014 to 2025. Depending on conditions, construction may be delayed or reduced so that the year of full buildout could be well past 2025. Since emissions rates for construction are evaluated on a maximum rate per day, any extension of the construction schedule would result in emissions that are the same or less than the shortest schedule. Construction emissions are roughly proportional to the land area to be graded as well as the total building area. Consequently, construction emissions for the No Action Alternative (and all other alternatives) were calculated as a ratio of the emissions for the Proposed Action. This ratio was developed by comparing the graded area and building space to be developed under the Proposed Action to the graded area and building space under the No Action Alternative. The estimated construction emissions of criteria pollutants are shown in **Table 3.3-5, Estimated Unmitigated Construction Emissions – Proposed Action and Alternatives**. In the interest of brevity, only the maximum emissions in any construction year are shown in the table.

As construction emissions of ROG and PM₁₀ for the No Action Alternative are above significance thresholds, the No Action Alternative would result in a **significant** effect on air quality in the Air Basin.

Implementation of **Mitigation Measure AQ-1** would reduce air quality effects due to construction. This measure is the same as Mitigation Measure 4.4-1 in the Sierra Vista Specific Plan EIR. The USACE assumes that the City would impose the same mitigation measure on the No Action Alternative to mitigate the impact from construction emissions. The estimated emissions from construction after mitigation are shown in **Table 3.3-6, Estimated Mitigated Construction Emissions – Proposed Action and Alternatives**. After mitigation, emissions of PM10 (and PM2.5) would be greatly reduced. While mitigation would also reduce ROG emissions, it is difficult to quantify the actual reductions. Further, given the magnitude by which the unmitigated emissions exceed the significance thresholds, the USACE considers it unlikely that the reductions would be sufficient to reduce ROG emissions below significance thresholds. ROG emissions are therefore conservatively assumed to remain effectively constant and above significance thresholds. Based on the analysis in this EIS, the USACE finds that a residual **significant** effect on air quality would remain after mitigation. **No indirect** effects would occur.

**Table 3.3-5
Estimated Unmitigated Construction Emissions – Proposed Action and Alternatives**

Maximum Emissions in Any Construction Year	Emissions in Pounds per Day					
	ROG	NO _x	CO	SO _x	PM10	PM2.5
Proposed Action	156	35	64	--	133	29
Alternative 1	150.2	33.7	61.6	--	128.1	27.9
Alternative 2	150.2	33.7	61.6	--	128.1	27.9
Alternative 3	148.8	33.4	61.0	--	126.8	27.7
Alternative 4	100.9	22.6	41.4	--	86.0	18.8
Alternative 5	90.2	20.2	37.0	--	76.9	16.8
Alternative 6 (Off-Site)	220.7	49.5	90.5	--	188.1	41.0
No Action	120.0	26.9	49.2	--	102.3	22.3
Significance Threshold	82	82	550	--	82	--

Source: Ascent Environmental 2012; Impact Sciences, Inc. Emissions calculations are provided in **Appendix 3.3**.

**Table 3.3-6
Estimated Mitigated Construction Emissions – Proposed Action and Alternatives**

Alternative	Maximum Emissions in Any Year, in Pounds per Day					
	ROG	NO _x	CO	SO _x	PM10	PM2.5
Proposed Action	156	30	64	--	34	9
Alternative 1	150.2	28.9	61.6	--	32.7	8.7
Alternative 2	150.2	28.9	61.6	--	32.7	8.7
Alternative 3	148.8	28.6	61.0	--	32.4	8.6
Alternative 4	100.9	19.4	41.4	--	22.0	5.8
Alternative 5	90.2	17.3	37.0	--	19.7	5.2
Alternative 6 (Off-Site)	220.7	42.4	90.5	--	48.1	12.7
No Action	120.0	23.1	49.2	--	26.2	6.9
Significance Threshold	82	82	550	--	82	--

Source: Ascent Environmental 2012; Impact Sciences, Inc. Emissions calculations are provided in **Appendix 3.3**.

Proposed Action, All Alts. Construction of the Proposed Action and all of the alternatives would generate emissions of ROG and PM10 that would exceed significance thresholds. Only Alternative 5 would result in emissions that would not exceed PM10 significance thresholds. These emissions therefore would result in a **significant direct** effect on air quality in the Air Basin. Mitigation would reduce emissions, but not below the significance thresholds. A residual **significant** effect would remain after mitigation. **No indirect** effects would occur.

The estimated construction emissions rates for the Proposed Action and each alternative are shown in **Table 3.3-5**. As shown in the table, construction emissions under the Proposed Action and all alternatives would exceed significance thresholds for ROG. Emissions of PM10 under the Proposed Action and all alternatives except Alternative 5 would exceed the significance threshold. This represents a **significant** effect on air quality in the Air Basin.

Mitigation Measure AQ-1 would reduce the construction emissions under each alternative, as shown in **Table 3.3-6**. As noted above, this measure is the same as Mitigation Measure 4.4-1 in the Sierra Vista Specific Plan EIR and was adopted by the City of Roseville at the time of its approval of the Westbrook project and will be enforced by the City. The USACE assumes that the City of Roseville would impose the same mitigation measure on all of the alternatives to address this effect. As with the No Action Alternative, after mitigation, emissions of PM10 (and PM2.5) would be greatly reduced. However, emissions of ROG would remain above significance thresholds. While mitigation would reduce ROG emissions, it is difficult to quantify the actual reductions. Further, given the magnitude by which the unmitigated emissions exceed the significance thresholds, the USACE considers it unlikely that the reductions would be

sufficient to reduce ROG emissions below significance thresholds. ROG emissions are therefore conservatively assumed to remain effectively constant and above significance thresholds. For these reasons, **Mitigation Measure AQ-1** would not reduce the effect to less than significant. The USACE finds that a residual **significant direct** effect would remain after mitigation. **No indirect** effects would occur.

Mitigation Measure AQ-1: Dust and Construction Control Measures
(Applicability – No Action, Proposed Action, and All Alternatives)

In accordance with the Placer County Air Pollution Control District (PCAPCD), the Applicant shall comply with all applicable rules and regulations as listed above (e.g., Rule 202, 218 and 228). In addition, prior to the approval of a discretionary permit, the Applicant shall implement the following measures unless superseded by state or other more stringent standards:

The following mitigation measures shall be implemented to reduce short-term construction-related air quality impacts. In addition, dust control measures are required to be implemented by all projects in accordance with the City of Roseville Grading Ordinance, and the PCAPCD Fugitive Dust Rule 228.

- *Applicant shall submit to PCAPCD a Construction Emission/Dust Control Plan within 30 days prior to groundbreaking. The Applicant shall provide evidence that a plan was submitted to PCAPCD to the City. If the PCAPCD does not respond within 20 days, the plan shall be considered approved. The plan must address the minimum requirements found in section 300 and 400 of District Rule 228, Fugitive Dust (www.placer.ca.gov/airpollution/airpolut.htm). The Applicant shall keep a hard or electronic copy of Rule 228, Fugitive Dust on-site for reference.*
- *The Construction Emission/Dust Control Plan shall include a comprehensive inventory (i.e., make, model, year, emission rating) of all heavy-duty off-road equipment (50 horsepower (HP) or greater) that will be used an aggregate of 40 or more hours for the construction project. The project representative shall provide PCAPCD with the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman. The plan shall demonstrate that the heavy-duty (> 50 HP) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average 20 percent NOx reduction and 45 percent particulate reduction compared to the most recent ARB fleet average. PCAPCD shall be contacted for average fleet emission data. Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available. Contractors can access the Sacramento Metropolitan Air Quality Management District's web site to determine if their off-road fleet meets the requirements listed in this measure. (http://www.airquality.org/ceqa/Construction_Mitigation_Calculator.xls)*

The following measures are also included to reduce construction-related ROG, NOx, PM10, and PM2.5 emissions:

- *All construction equipment shall be maintained in good operating condition. Contractor shall ensure that all construction equipment is being properly serviced and maintained as per the manufacturer's specifications. Maintenance records shall be available at the construction site for verification. This measure will reduce combustion emissions of all criteria air pollutants.*
- *Prior to the issuance of any grading permits, the Applicant shall submit construction plans denoting the proposed schedule and projected equipment use. Construction contractors shall provide evidence that low*

emission mobile construction will be used, or that their use was investigated and found to be infeasible for the project. Low emission equipment is defined as meeting the California Air Resources Board's Tier III standards. Contractors shall also conform to any construction measures imposed by the PCAPCD as well as City Planning Staff. This measure will primarily reduce ROG, NO_x, PM₁₀, and PM_{2.5} exhaust emissions.

- *Paints and coating shall be applied either by hand or by high volume, low-pressure spray. This measure will reduce evaporative ROG emissions.*
- *All construction shall comply with the following measures to reduce fugitive dust related emissions of PM₁₀ and PM_{2.5}:*
 - *Maintain a minimum 24-inch freeboard on soil haul trucks or cover payloads using tarps or other suitable means.*
 - *Suspend grading operations during high winds (greater than 15 mph).*
 - *Sweep streets as necessary if silt is carried off-site to adjacent public thoroughfares or occurs as a result of hauling.*
 - *Dispose of surplus excavated material in accordance with local ordinances and use sound engineering practices.*
 - *Schedule activities to minimize the amounts of exposed excavated soil during and after the end of work periods.*
 - *Phase grading into smaller areas to prevent the susceptibility of larger areas to erosion over extended periods of time.*
 - *Pave or apply gravel to any on-site haul roads.*
 - *Reestablish ground cover on the construction site through seeding and water.*
 - *Clean earth moving construction equipment with water or sweep clean, once per day, or as necessary (e.g., when moving on-site), consistent with National Pollutant Discharge Elimination System Best Management Practices and the Roseville Grading Ordinance. Water shall be applied to control dust as needed to prevent dust impacts off-site. Operational water truck(s) shall be on-site, as required, to control fugitive dust. Construction vehicles leaving the site shall be cleaned, as needed, to prevent dust, silt, mud, and dirt from being released or tracked off-site.*
 - *Spread soil binders on unpaved roads and employee/equipment parking areas. Soil binders shall be non-toxic in accordance with state and local regulations. Apply approved chemical soil stabilizers, or vegetated mats, etc. according to manufacturers' specifications, to all-inactive construction areas (previously graded areas which remain inactive for 96 hours).*
 - *Minimize diesel idling time to a maximum of 5 minutes.*
 - *Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary diesel power generators, if feasible.*
 - *An Applicant representative, ARB-certified to perform Visible Emissions Evaluations (VEE), shall routinely (i.e., once per week) evaluate project related off-road and heavy-duty on-road equipment emissions for compliance with this requirement for projects grading more than 20 acres in size, regardless of how many acres are to be disturbed daily.*

- Construction equipment exhaust emissions shall not exceed the PCAPCD Visible Emissions Rule 202. Fugitive dust is not to exceed 40 percent opacity and not go beyond property boundary at any time. Operators of vehicles and equipment found to exceed opacity limits are to be immediately notified and the equipment must be repaired within 72 hours.

The City of Roseville is currently working with the Placer County Pollution Control District to update the standard mitigation measures. The following measures will likely be required at the time specific development is proposed.

- 1a. Prior to approval of Grading/plans the Applicant shall submit a Construction Emission/Dust Control Plan to the Placer County APCD. The plan must be submitted by certified mail, or receive a date stamp or other submittal proof. This plan must address the minimum Administrative Requirements found in section 300 and 400 of APCD Rule 228, Fugitive Dust. The Applicant shall not break ground prior to receiving APCD approval of the Construction Emission/Dust Control Plan. If the Applicant has submittal proof of submittal and no response is received from the District within 20 working days the plan shall be deemed complete, and construction may begin.
- 1b. Include the following standard note on the Improvement/Grading Plan: The prime contractor shall submit to the District a comprehensive inventory (i.e., make, model, year, emission rating) of all the heavy-duty off-road equipment (50 horsepower or greater) that will be used an aggregate of 40 or more hours for the construction project. If any new equipment is added after submission of the inventory, the prime contractor shall contact the APCD prior to the new equipment being utilized. At least three business days prior to the use of subject heavy-duty off-road equipment, the project representative shall provide the District with the anticipated construction timeline including start date, and name and phone number of the property owner, project manager, and on-site foreman.
- 1c. Prior to approval of Grading/Improvement Plans, the Applicant shall provide a plan to the Placer County APCD for approval by the District demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average 20 percent NOx reduction and 45 percent particulate reduction compared to the most recent CARB fleet average. Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.
2. Include the following standard note on the Improvement/Grading Plan: If required by the Public Works Department, the contractor shall hold a preconstruction meeting prior to grading activities. The contractor shall invite the Placer County APCD to the pre-construction meeting in order to discuss the construction emission/dust control plan with employees and/or contractors.
3. Prior to building permit approval, the Applicant shall show, on the plans submitted to the Building Department, that electrical outlets shall be installed on the exterior walls of both the front and back of all residences or all commercial buildings to promote the use of electric landscape maintenance equipment.
4. Prior to building permit approval, the Applicant shall show, on the plans submitted to the Building Department, provisions for construction of new residences, and where natural gas is available, the installation of a gas outlet for use with outdoor cooking appliances, such as a gas barbecue or outdoor recreational fire pits.
5. Prior to building permit approval, in accordance with District Rule 225, only USEPA Phase II certified wood burning devices shall be allowed in single-family residences. The emission potential from each residence shall not exceed a cumulative total of 7.5 grams per hour for all devices. Masonry fireplaces shall have either an EPA certified Phase II wood burning device or shall be a U.L. Listed Decorative Gas Appliance. (Rule 225)

6. Wood burning or Pellet appliances shall not be permitted in multi-family developments. Only natural gas or propane fired fireplace appliances are permitted. These appliances shall be clearly delineated on the Floor Plans submitted in conjunction with the Building Permit application. (Rule 225/section 302.2)
7. Prior to the issuance of a Building Permit, the Applicant shall show that all flat roofs with parapets shall include a white or silver cap sheet to reduce energy demands.
8. Diesel trucks shall be prohibited from idling more than 5 minutes. Prior to the issuance of a Building Permit, the Applicant shall show that all truck loading and unloading docks shall be equipped with one 110/208 volt power outlet for every two dock doors. Diesel Trucks idling for more than 5 minutes shall be required to connect to the 110/208 volt power to run any auxiliary equipment. 2-foot x 3-foot signage which indicates "Diesel engine Idling Limited to a Maximum of 5 Minutes" shall be shown on the building elevations and shall be submitted to the Placer County APCD prior to the issuance of Building Permits for the project.
9. Prior to approval of Improvement Plans, an enforcement plan shall be established, and submitted to the APCD for review, in order to evaluate project-related on-and-off- road heavy-duty vehicle engine emission opacities on a weekly basis, using standards as defined in California Code of Regulations, Title 13, Sections 2180–2194. An Environmental Coordinator, hired by the prime contractor or property owner, and who is CARB-certified to perform Visible Emissions Evaluations (VEE), shall routinely evaluate project related off-road and heavy duty on-road equipment emissions for compliance with this requirement. Operators of vehicles and equipment found to exceed opacity limits will be notified by APCD and the equipment must be repaired within 72 hours. (California Code of Regulations, Title 13, Sections 2180–2194).

PCAPCD Rules (Existing District requirements to be added as construction notes or referenced in conditions of approval)

New Standard Condition of Approval (for all projects): The project shall comply with all applicable Placer County Air Pollution Control District rules and regulations, and shall obtain applicable permits and/or clearances from the District prior to the start of construction.

The following air quality notes shall be added to the grading and/or improvement plans:

- The contractor shall use CARB ultra low sulfur diesel fuel for all diesel-powered equipment. In addition, low sulfur fuel shall be utilized for all stationary equipment. (California Standards for Motor Vehicle Diesel Fuel, title 13, article 4.8, chapter 9, California Code of Regulations).
- Processes that discharge 2 pounds per day or more of air contaminants, as defined by Health and Safety Code Section 39013, to the atmosphere may require a permit. Permits are required for both construction and operation. Developers/contractors should contact the District prior to construction and obtain any necessary permits prior to the issuance of a Building Permit. (Rule 501)
- Pursuant to the Placer County Air Pollution Control District Rule 501, General Permit Requirements, the proposed project may need a permit from the District prior to construction. In general, any engine greater than 50 brake horsepower or any boiler with heat greater than 1,000,000 Btu per hour shall require a permit issued by the District. (Rule 501)
- All on-site stationary equipment which is classified as 50 hp or greater shall either obtain a state issued portable equipment permit or a Placer County APCD issued portable equipment permit. (California Portable Equipment Registration Program, Section 2452).
- The contractor shall utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary diesel power generators if feasible.

- During construction, the contractor shall minimize idling time to a maximum of 5 minutes for all diesel-powered equipment.
- During construction, traffic speeds on all unpaved surfaces shall be limited to 15 miles per hour or less. (Rule 228/section 401.2)

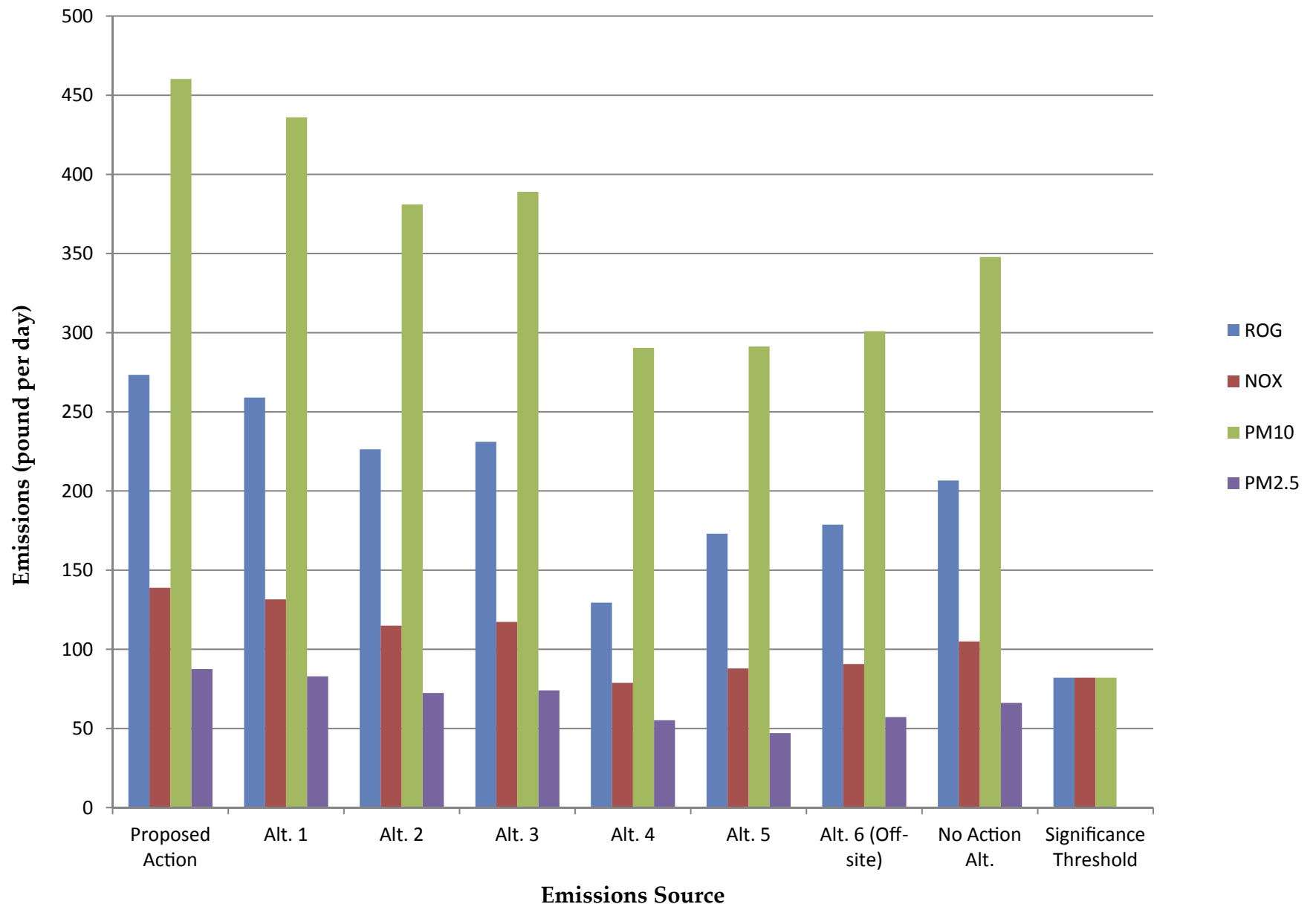
Impact AQ-2 Criteria Pollutant Emissions Associated with Occupancy/Operation

No Action Alt. As explained below, at project buildout operational emissions of criteria air pollutants would be substantial, and in all cases well above significance thresholds recommended by the Air District. Emissions from operation of the No Action Alternative would therefore have a **significant indirect** effect on air quality. Mitigation would reduce emissions, but not to less than significant. A residual **significant indirect** effect would remain after mitigation. **No direct** effects would occur.

Operational emissions would be generated by mobile and area sources as a result of normal day-to-day activity at the proposed development. Mobile source emissions would be generated by motor vehicles traveling to and from the area. Area emissions would be generated by the use of natural gas in space and water heating devices, the operation of landscape maintenance equipment, the use of consumer products, and the application of architectural coatings. URBEMIS2007 was used to quantify mobile source and area source emissions.

The amount of development under The No Action Alternative is smaller than the development under the Proposed Action. Emissions from both area and mobile sources are proportional to the amount of development, specifically the number of residential units to be constructed and the total amount of commercial or other space to be built on the site. Consequently, emissions from the No Action Alternative were estimated by proportionally reducing the emission rates calculated for the Proposed Action. The results are shown in **Table 3.3-7, Estimated Unmitigated Operational Emissions – Proposed Action and Alternatives** at the end of this section, as well as in **Figure 3.3-1, Estimated Unmitigated Operational Emissions** and **Figure 3.3-2, Estimated Unmitigated Carbon Monoxide Emissions**.

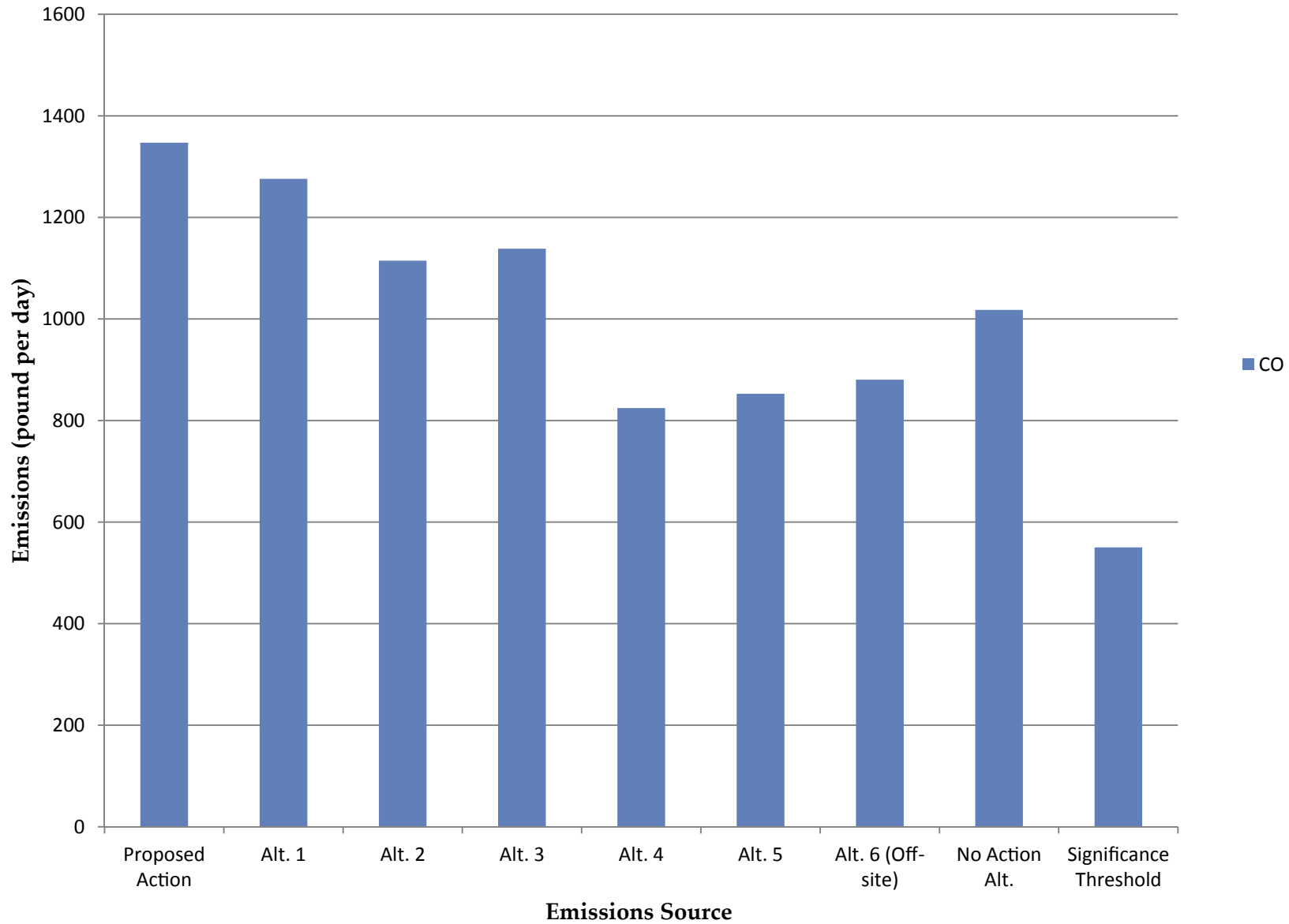
Emissions for the No Action Alternative are substantially over the Air District significance thresholds and would have a **significant indirect** effect on air quality in the area.



SOURCE: Impact Sciences, Inc. October 2012

FIGURE 3.3-1

Estimated Unmitigated Operational Emissions



SOURCE: Impact Sciences, Inc. October 2012

FIGURE 3.3-2

Estimated Unmitigated Carbon Monoxide Emissions

Mitigation Measure AQ-2 would reduce emissions associated with vehicle traffic and energy use. This measure is the same as Mitigation Measure WMM 4.4-4 in the Sierra Vista Specific Plan EIR. The USACE assumes that the City of Roseville would impose the same mitigation measure on the No Action Alternative to address this effect. Actual reductions produced by mitigation are difficult to quantify, and the actual level of mitigated emissions are unknown. However, as the unmitigated emissions are substantially above significance thresholds, and depending on pollutant, substantial reductions would be required to reduce the emissions to levels below the applicable thresholds the USACE conservatively assumes that mitigation would not be sufficient to reduce emissions to below significance thresholds. Therefore, the USACE finds that a residual **significant indirect** effect would remain after mitigation. **No direct** effects would occur.

Proposed Action Emissions from operation of the Proposed Action would likely have a **significant indirect** effect on air quality. Mitigation would reduce emissions, but not to less than significant. A residual **significant indirect** effect would remain after mitigation. **No direct** effects would occur.

Table 3.3-8, Estimated Unmitigated Operational Emissions – Proposed Action, shows the future operational emissions at full buildout of the Proposed Action in 2025.

**Table 3.3-8
Estimated Unmitigated Operational Emissions – Proposed Action**

Emissions Source	Emissions in Pounds Per Day					
	ROG	NO _x	CO	SO _x	PM10	PM2.5
Mobile Sources	133.7	110.2	1,264.6	2.65	460	87.3
Area Sources	139.8	28.6	83.4	0	0.2	0.2
Emissions Total	273.4	138.8	1,347	2.65	460.3	87.5
Significance Threshold	82	82	550	--	82	--

Source: Ascent Environmental 2012

Emissions calculations are provided in **Appendix 3.3**.

Totals in table may not appear to add exactly due to rounding in the computer model calculations.

Emissions of air pollutants other than SO_x and PM_{2.5} would be above significance thresholds recommended by the Air District. Emissions from operation of the Proposed Action would have a **significant indirect** effect on air quality.

Mitigation Measure AQ-2 would reduce emissions associated with vehicle traffic and energy use. As noted above, this measure is the same as Mitigation Measure WMM 4.4-4 in the Sierra Vista Specific Plan EIR and was adopted by the City of Roseville at the time of Westbrook project approval and will be enforced by the City. Actual reductions produced by mitigation are difficult to quantify, and an accurate estimate of the

mitigated emissions cannot be provided. However, as the unmitigated emissions are substantially above significance thresholds and depending on pollutant, reductions ranging from 160 percent to as much as 560 percent would be required to reduce the emissions to levels below the applicable thresholds; the USACE conservatively assumes that mitigation would not be sufficient to reduce emissions to below significance thresholds. Therefore the USACE finds that a residual **significant indirect** effect would remain after mitigation. **No direct** effects would occur.

All Alts. Operational emissions of criteria air pollutants at buildout of these alternatives would be substantial, and in all cases well above significance thresholds recommended by the Air District. Emissions from operation of all of the alternatives would therefore have a **significant indirect** effect on air quality. Mitigation would reduce emissions, but not to less than significant. A residual **significant indirect** effect would remain after mitigation. **No direct** effects would occur.

All of the alternatives were modeled as described above. The results are shown in **Table 3.3-7, Estimated Unmitigated Operational Emissions – Proposed Action and Alternatives** at the end of this section, as well as in **Figure 3.3-1, Estimated Unmitigated Operational Emissions** and **Figure 3.3-2, Estimated Unmitigated Carbon Monoxide Emissions**. Emissions of all alternatives are substantially over the Air District significance thresholds and would have a **significant indirect** effect on air quality in the area.

Mitigation Measure AQ-2 would reduce emissions associated with vehicle traffic and energy use. As noted above, this measure is the same as Mitigation Measure WMM 4.4-4 in the Sierra Vista Specific Plan EIR. The USACE assumes that the City of Roseville would impose the same mitigation measure on all of the alternatives to address this effect. For the same reasons presented above for the No Action Alternative and the Proposed Action, the USACE finds that a residual **significant indirect** effect would remain after mitigation. **No direct** effects would occur.

**Mitigation Measure AQ-2: Project Measures to Reduce Operational Emissions
(Applicability – No Action, Proposed Action, and All Alternatives)**

Following receipt of an application for a Tentative Map (excluding the large lot subdivision map), Design Review Permit, conditional use permits and/or all discretionary permits, as found to be in compliance with the 30 percent reduction analysis applicable for individual projects with the Specific Plan [i.e., Westbrook project], the City will forward an early consultation notice to the Placer County Air Pollution Control District (PCAPD). Where the PCAPD provides comments on a specific development proposal, the City shall consult with PCAPD and the developer to incorporate measures recommended by the PCAPD and agreed to by the City into the project. Where the PCAPD does not provide comment on a specific development proposal, the City shall incorporate measures that reduce vehicle emissions and operation emissions from the proposed development. This measure will be implemented

through project design, conditions of approval, noticing, and disclosure statements, or through the City's plan check and inspection processes. This process is intended to ensure that best available and practical approaches are used to reduce operational emissions in specific tentative map and design review permit applications. The following is a listing of measures that shall be implemented for the purpose of reducing vehicle and operational emissions.

- Provide tree plantings that meet or exceed the requirements of the City's Community Design Guidelines to provide shading of buildings and parking lots.
- Landscape with native drought-resistant plants (ground covers, shrubs, and trees) with particular consideration of plantings that are not reliant on gas-powered landscape maintenance equipment.
- Require all flat roofs on non-residential structures to have a white or silver cap sheet to reduce energy demand.
- Provide conductive/inductive electric vehicle charging station and signage prohibiting parking for non-electric vehicles within designated spaces within non-residential developments.
- Provide vanpool parking only spaces and preferential parking for carpools to accommodate carpools and vanpools in employment areas (e.g., community commercial, business-professional uses)
- All truck loading and unloading docks shall be equipped with one 110/208 volt power outlet for every two-dock doors. Signs shall be posted stating "Diesel trucks are prohibited from idling more than 5 minutes and trucks requiring auxiliary power shall connect to the 110/208-volt outlets to run auxiliary equipment."
- Design streets to maximize pedestrian access to transit stops.
- Require site design to maximize access to transit lines, to accommodate bus travel, and to provide lighted shelters at transit access points.
- Develop the plan consistent with the higher residential densities (within approved residential density ranges of zone) provided around the village nodes and transit corridors.
- Include photovoltaic systems in project design and/or participate in Roseville Electric incentive programs for energy-efficient development where feasible.

Measures for Detached Single-Family Residences:

- Require electrical outlets be installed on the exterior walls of both the front and back of residences to promote the use of electric landscape maintenance equipment.
- Require installation of a gas outlet in the rear of residential buildings for use of outdoor cooking appliances, such as gas burning barbeques.
- Require installation of low nitrogen oxide (NOx) hot water heaters (beyond District Rule 246 requirements)
- Provide notice to homebuyers of incentive and rebate programs available through Roseville Electric or other providers that encourage the purchase of electric landscape maintenance equipment.

Prior to approval of Tentative Maps provide notice to homebuyers through CC&Rs or other mechanisms to inform them that only gas fireplaces would be permitted. Where propane or natural gas service is not available, only EPA Phase II certified wood-burning devices shall be allowed in single-family residences. The emission potential from each residence shall not exceed 7.5 grams per hour. Woodburning or Pellet appliances shall not be permitted in multi-family developments.

Impact AQ-3 CO Hotspots

No Action Alt. CO concentrations, which are a result of motor vehicle emissions, would not experience a significant increase from traffic associated with the No Action Alternative. This **indirect** effect of the No Action Alternative would be **less than significant**. No mitigation is required. **No direct** effects would occur.

Motor vehicles are a primary source of pollutants within the project vicinity. Traffic congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed state and/or federal standards are termed CO hotspots. Such hot spots are defined as locations where the ambient CO concentrations exceed the state or federal ambient air quality standards. Emissions of CO are produced in greatest quantities from vehicle combustion and are usually concentrated at or near ground level because CO does not readily disperse into the atmosphere. As a result, potential air quality effects to sensitive receptors are assessed through an analysis of localized CO concentrations. Areas of vehicle congestion, especially congested intersections, have the potential to create CO hotspots that exceed the state ambient air quality 1-hour standard of 20 ppm or the 8-hour standard of 9.0 ppm. The federal levels are less stringent than the state standards and are based on 1- and 8-hour standards of 35 and 9 ppm, respectively. Thus, an exceedance condition would occur based on the state standards prior to exceedance of the federal standard.

Areas of vehicle congestion, especially congested intersections that are performing at or are projected to perform at poor levels of service (LOS), have the potential to result in CO hotspots. The contribution of the No Action Alternative to an existing or projected CO hot spot would be significant if the addition of the traffic associated with the No Action Alternative caused the intersection LOS to decline to LOS E or F or if the No Action Alternative added substantial traffic to an intersection operating at LOS E or F under background conditions. According to the traffic study completed for this EIS, a few intersections would experience a decrease in the LOS to LOS E or F or additional traffic would be added to intersections already operating at LOS E or F with implementation of the No Action Alternative (See **Section 3.14, Transportation and Traffic**). However, none of these intersections would experience the conditions contained in the second screening tier (over 31,600 vehicles per hour, traffic in areas of restricted air mixing, and vehicle mixes substantially different than the County Average). This indicates that the traffic added by the No Action Alternative would not result in a contribution to CO concentrations that would be appreciable. Therefore, the No Action Alternative would not exacerbate CO concentrations and no additional CO hot spots would occur. Consequently the **indirect** effect on air quality due to CO emissions associated with the No Action Alternative would be **less than significant**. No mitigation is required.

No **direct** effects would occur.

Proposed Action CO concentrations, which are a result of motor vehicle emissions, would not experience a significant increase from implementation of the Proposed Action. The Proposed Action is a larger project than the No Action Alternative. As with the No action Alternatives, under the Proposed Action, a few intersections would experience a decrease in the LOS to LOS E or F or additional traffic would be added to intersections already operating at LOS E or F (See **Section 3.14, Transportation and Traffic**). However, none of these intersections would experience the conditions contained in the second screening tier (over 31,600 vehicles per hour, traffic in areas of restricted air mixing, and vehicle mixes substantially different than the County Average), and no impacts with regard to CO hotspots would occur. Consequently the **indirect** effect on air quality due to CO emissions associated with the Proposed Action would be **less than significant**. No mitigation is required. **No direct** effects would occur.

All Alts. Traffic volumes for all alternatives are the same or lower than the traffic volumes predicted for the Proposed Action. Therefore, CO concentrations for the alternatives would be no greater than those that would result from the implementation of the Proposed Action. The **indirect** effect on air quality due to CO emissions is predicted for the alternatives to be **less than significant**. No mitigation is required. **No direct** effects would occur.

Impact AQ-4 Exposure to Toxic Air Contaminants

No Action Alt. Receptors are generally exposed to TACs through either (1) the construction of a source of TACs in proximity to a residence, workplace, school, or care facility or (2) the siting of such facilities within proximity to sources of TACs. Typical sources of TACs that might be associated with the No Action Alternative include freeways or other major roadways, certain commercial operations such as dry cleaners and auto repair facilities, and construction and other heavy diesel equipment. The No Action Alternative also includes sites with sensitive receptors such as schools and residences. Consequently there is the potential for sensitive receptors to be exposed to TACs through the construction and operation of the No Action Alternative.

Exposure of Project Site Receptors to Existing TAC Sources

Receptors associated with the No Action Alternative would not be located near any significant existing sources of TACs. The existing land uses surrounding the site are primarily residential and rangeland, with no industrial sites or other significant sources of TACs. CARB has also provided planning guidance that recommends not locating sensitive receptors within 500 feet of a freeway or roadways with greater than 100,000 annual average daily traffic (AADT). No portion of the project site would be

within 500 feet of a freeway or roadway with AADT of 100,000 vehicles. All schools included in the No Action Alternative are in the interior of the site, well away from any major arterial roadway. The **indirect** effect would be **less than significant**. **No direct** effects would occur.

Exposure of Receptors to New TAC Sources

The No Action Alternative however has the potential to include new on-site sources of TACs in the commercial zones incorporated in the land use plan. These sources would generally be minor, for example dry cleaners, auto repair or parts shops, service stations, or paint booths. Regardless of size, as required by state and federal law and under the air permit process, any new source of TACs would be required to demonstrate that there would be no significant health risks associated with TAC emissions from the facility before commencing operation. This would ensure that no on-site TAC sources would cause a significant effect on receptors in the area, whether on or off site. This **indirect** effect is **less than significant**. **Mitigation Measure AQ-4**, which is proposed to ensure that in the event that a new TAC source is constructed on site, it is evaluated for its potential health effects, would further reduce the **indirect** effect from on-site TAC sources. **No direct** effects would occur.

Mitigation Measure AQ-4 is the same as Mitigation Measure WMM 4.4-7(a) in the Sierra Vista Specific Plan EIR. The USACE assumes that the City will impose the same mitigation measure on the No Action Alternative to address this effect. The Sierra Vista Specific Plan EIR determined that these mitigation measures would reduce the effect to less than significant (City of Roseville 2010). The USACE agrees with the conclusion in the Sierra Vista Specific Plan EIR and finds that this effect would be further reduced with mitigation.

**Proposed
Action, All
Alts.**

The effects related to exposure to TACs under the Proposed Action and alternatives would be substantially the same as discussed above for the No Action Alternative. As a result, the **indirect** effect related to on-site sources of TACs would be **less than significant**, and **Mitigation Measure AQ-4** is proposed to further reduce the effect. **No direct** effects would occur.

As noted above, **Mitigation Measure AQ-4** is the same as Mitigation Measure WMM 4.4-7(a) in the Sierra Vista Specific Plan EIR and was imposed on the Westbrook project at the time of approval. The USACE assumes that the City would impose the same mitigation measure on the alternatives to address this effect. The USACE finds that the mitigation measure would further reduce the effect.

Mitigation Measure AQ-4:**Risk Assessment and Site Specific Measures
(Applicability – No Action, Proposed Action, and All
Alternatives)**

Users that could generate toxic air contaminants will be required to submit a Permit to Operate to the PCAPCD. The District will review the use and if a proposed project would cause the combined emissions of TACs to exceed the risk standard of 10 in 1 million at residences or public uses (schools, parks, etc.), additional modeling and/or environmental review would be required to demonstrate emissions from that use or other uses would be reduced so that the standard is not exceeded. For example, an Applicant could propose to retrofit an existing operation in order to lower the total TAC emissions in the SVSP [i.e., Westbrook project] area.

Impact AQ-5 Exposure to Objectionable Odors

No Action Alt. The No Action Alternative would not expose new residents of the project site to objectionable odors from existing sources near the project site. Neither does the No Action Alternative include any significant sources of objectionable odors that could expose the project site residents or other nearby residents to substantial odors. Therefore, there would be a **less than significant indirect** effect associated with odors. No mitigation is required. **No direct** effects would occur.

Odor effects are generated when receptors are located downwind of or near sources of objectionable odors. Sources of these odors include facilities such as wastewater treatment plants, rendering plants, landfills, chemical plants, dairies, refineries, large agricultural operations, and composting. The site of the No Action Alternative is not located sufficiently near any such sources. The Placer County landfill is located approximately 3.5 miles (5.6 kilometers) northeast of the project site and the regional wastewater treatment plant is located approximately 0.5 mile (0.8 kilometer) to the north. To the extent that any new facilities with the potential to produce objectionable odors are proposed for operation near the project site, these facilities would be required to demonstrate that it would not have a significant odor effect on the receptors in the area.

Furthermore, the No Action Alternative does not include any land uses or facilities that would be a substantial source of odors. There would be a **less than significant indirect** effect associated with odors.

Proposed Action, Alts. 1 through 5 The effects related to exposure to odors would be substantially the same as discussed above for the No Action Alternative. Based on the significance criteria listed above and for the same reasons presented above for the No Action Alternative, there would be a **less than significant indirect** effect associated with odors. No mitigation is required. **No direct** effects would occur.

Off-Site Alt. The effects related to exposure to odors for the Off-Site Alternative would be substantially the same as discussed above for the No Action Alternative. Although the Western Regional landfill is nearby which could potentially be a source of odors, the residential areas included in the Off-Site Alternative would be located outside of a 1-mile-wide buffer zone. Therefore, the landfill odors would be greatly reduced and not cause a significant effect on the receptors living on the alternative site. As with the No Action Alternative and the Proposed Action, the Off-Site Alternative does not contain any land uses or facilities that would be a source of substantial odors. The **indirect** impact from odors would be **less than significant** and mitigation is not required. **No direct** effects would occur.

3.3.6 RESIDUAL SIGNIFICANT IMPACTS

A residual significant effect would remain under the Proposed Action and all alternatives for **Impacts AQ-1** and **AQ-2** after mitigation. All of the other effects would be **less than significant** or would be reduced to **less than significant** with mitigation.

3.3.7 CUMULATIVE IMPACTS

Cumulative Impact AQ-1 Effects from Criteria Pollutant Emissions

No Action Alt., Proposed Action, All Alts. The No Action Alternative, Proposed Action, and Alternatives 1 through 6 would have a less than significant cumulative impact from construction emissions and CO concentrations but would have a significant cumulative impact due to operational emissions.

Construction Emissions

Cumulative development would result in multiple construction projects occurring at the same time, generating emissions from earthmoving activities, heavy equipment operation, workers traveling to and from construction sites, and miscellaneous activities such as paving roadways and parking lots and painting of commercial/residential structures. Numerous projects are proposed in the 11-county Sacramento Valley Air Basin and a complete listing of foreseeable future projects cannot be reasonably developed. However all reasonably foreseeable projects in the vicinity of the Proposed Action are identified in **Table 3.3-9, Other Present and Reasonably Foreseeable Projects in the Project Vicinity, Construction Emissions**. In addition, **Table 3.3-10, Other Major DA Permit Projects in the Air Basin**,³ presents information on all major projects under the authority of the USACE that are proposed in the remainder of the Air Basin. Both

³ For more information on these projects, please see **Chapter 3.0, Affected Environment and Environmental Consequences**.

tables report estimated construction emissions associated with these projects where data were readily available. As shown in the tables below, the emissions from several of these future projects would result in ROG, NO_x, and particulate matter emissions that exceed significance thresholds.

**Table 3.3-9
Other Present and Foreseeable Future Projects in Project Vicinity –
Construction Emissions (Pounds per Day)**

Project	ROG	NO _x	PM10	PM2.5
Fiddymment Road Widening ^a	NA	NA	NA	NA
Amoruso Specific Plan	NA	NA	NA	NA
Creekview Specific Plan ^b	49	119	39	13
Regional University Specific Plan ^c	532	3,457	138	NA
Placer Vineyards Specific Plan ^d (Blueprint Scenario)	2,052	141	412	92
Riolo Vineyards Specific Plan ^e	143	773	60	NA
Placer Parkway Alternative 5 ^f	8,960	9,940	1,460	180
Reason Farms Retentions ^g	121	872	948	ND
Sierra Vista Specific Plan ^h	1,607	80	169	37
Elverta Specific Plan ⁱ	257	47	630	133
Lincoln 270 ^j	NA	NA	NA	NA
Sutter Pointe Specific Plan ^k	NA	NA	NA	NA
Village 7 Lewis Property ^l	125	146	343	84

Note:

NA – not available

Bold: Exceeds Significance Thresholds. Significance Thresholds are not the same for all of the projects listed.

^a Department of the Army Permit SPK-2010-00735. August 5, 2011.

^b City of Roseville. December 2010. Draft EIR Creekview Specific Plan. (note: emissions are for the year 2013)

^c Placer County. December 2007. Draft EIR Regional University Specific Plan. Prepared by PBS&J. (note: emissions are for the year 2009)

^d U.S. Army Corps of Engineers 2013. Placer Vineyards Specific Plan Draft EIS. Prepared by Impact Sciences.

^e Placer County. January 2008. Draft EIR Riolo Vineyards Specific Plan. Prepared by URS.

^f Placer County. June 2007. Draft EIR Placer Parkway. Prepared by URS. (note: Alternative 5 was determined to be the preferred alternative)

^g City of Roseville. 16 October 2002. Draft EIR for the City of Roseville Retention Basin Project. Prepared by URS.

^h Impact Sciences. 2012.

ⁱ U.S. Army Corps of Engineers. December 2012. Elverta Specific Plan Draft EIS. (note: Alternative A was determined to be the preferred alternative)

^j Department of Army permit application for Lincoln 270.

^k Measure M Group. 10 September 2007. Wetland Delineation for Sutter Pointe Specific Plan. Prepared by ECORP.

^l City of Lincoln. June 2009. Draft EIR Village 7 Specific Plan Project. Prepared by PBS&J. (note: emissions are for the year 2013)

**Table 3.3-10
Other Major DA Permit Projects in the Air Basin –
Construction Emissions (Pounds per Day)**

Project	ROG	NOX	PM10	PM2.5
Folsom South ^a	120	128	579	126
Natomas Levee, Phase 2 ^b	NA	NA	NA	NA
Natomas Levee, Phase 3 ^{b,c}	NA	NA	NA	NA
Natomas Levee, Phase 4A ^d	303	1,846	15,388	NA
Rio Del Oro ^e	627	2,071	NA	NA
Sunridge Properties ^f	385	501	276	NA
Arboretum	NA	NA	NA	NA
Cordova Hills ^g	3,616	405	2,723	576
River Islands at Lathrop	NA	NA	NA	NA
Suncreek ^h	194	141	289	64

Note:

NA – not available

Bold: Exceeds Significance Thresholds. Significance Thresholds are not the same for all of the projects listed.

^a Department of the Army Permit SPK-2007-02159. August 11, 2011.

^b Department of the Army Permit SPK-2007-00211. January 21, 2009.

^c Department of the Army Permit SPK-2008-01039. April 2, 2010.

^d Department of the Army Permit SPK-2009-00480. November 8, 2010.

^e Department of the Army Permit SPK-1999-00590. June 13, 2012.

^f Department of the Army Permit SPK-2009-00511. January 25, 2011.

^g Cordova Hills: Sacramento County, Cordova Hills Final EIR, Document Control Number 2008-00142

^h Suncreek Specific Plan Project Draft EIR. Prepared for the City of Rancho Cordova by AECOM, October 2012.

Earthmoving activities could result in substantial fugitive dust (PM10) emissions, and would be likely to result in localized PM10 concentrations in excess of state and federal standards. A major portion of PM10 would settle on the construction site or its immediate vicinity, while a small fraction would contribute to regional ambient particulate concentrations. As shown in **Table 3.3-11, Estimated Unmitigated Construction Emissions – Proposed Action and Alternatives**, PM10 emissions associated with construction of the No Action Alternative, Proposed Action, and all alternatives, are estimated to exceed the Air District threshold of 82 lbs/day (37 kg/day). **Mitigation Measure AQ-1**, which requires the implementation of dust control measures, would reduce the PM10 emissions to below the significance threshold, as shown in **Table 3.3-12, Estimated Mitigated Construction Emissions – Proposed Action and Alternatives**.

Exhaust emissions would be generated by construction equipment operations and construction employee vehicle trips. These emissions would include CO, ROG, NO_x, sulfur dioxide (SO₂), and particulate matter. Painting and paving of roadways would

primarily release ROG into the atmosphere. Exhaust emissions associated with construction of the No Action Alternative, Proposed Action, and all alternatives are estimated to exceed Air District thresholds of 82 lbs/day for ROG even with implementation of **Mitigation Measure AQ-1**, as shown in **Table 3.3-12**. The Proposed Action or any of the alternatives would contribute to the cumulative impacts during the 15- to 30-year buildout of the site. The emissions would exceed the Air District thresholds for ROG and together with emissions associated with other construction projects in the nonattainment area, the resulting emissions are likely to exceed the emissions budgets specified in the applicable SIP for the Sacramento Valley Air Basin. Therefore, the contribution of the construction phases of the Proposed Action or the alternatives to the cumulative impact on air quality in the Air Basin would be **significant** even with implementation of **Mitigation Measure AQ-1**.

Table 3.3-11
Estimated Unmitigated Construction Emissions – Proposed Action and Alternatives

Alternative	Emissions in Pounds per Day					
	ROG	NO _x	CO	SO _x	PM10	PM2.5
No Action	120.0	26.9	49.2	--	102.3	22.3
Proposed Action	156	35	64	--	133	29
Alternative 1	150.2	33.7	61.6	--	128.1	27.9
Alternative 2	150.2	33.7	61.6	--	128.1	27.9
Alternative 3	148.8	33.4	61.0	--	126.8	27.7
Alternative 4	100.9	22.6	41.4	--	86.0	18.8
Alternative 5	90.2	20.2	37.0	--	76.9	16.8
Alternative 6 (Off-Site)	220.7	49.5	90.5	--	188.1	41.0
Significance Threshold	82	82	550	--	82	--

Source: Ascent Environmental 2012; Impact Sciences, Inc. Emissions calculations are provided in **Appendix 3.3**.

Bold: Exceeds Significance Thresholds.

**Table 3.3-12
Estimated Mitigated Construction Emissions – Proposed Action and Alternatives**

Alternative	Maximum Emissions in Any Year, in Pounds per Day					
	ROG	NO _x	CO	SO _x	PM10	PM2.5
No Action	120.0	23.1	49.2	--	26.2	6.9
Proposed Action	156	30	64	--	34	9
Alternative 1	150.2	28.9	61.6	--	32.7	8.7
Alternative 2	150.2	28.9	61.6	--	32.7	8.7
Alternative 3	148.8	28.6	61.0	--	32.4	8.6
Alternative 4	100.9	19.4	41.4	--	22.0	5.8
Alternative 5	90.2	17.3	37.0	--	19.7	5.2
Alternative 6 (Off-Site)	220.7	42.4	90.5	--	48.1	12.7
Significance Threshold	82	82	550	--	82	--

Source: Ascent Environmental 2012; Impact Sciences, Inc. Emissions calculations are provided in **Appendix 3.3**.

Bold: Exceeds Significance Thresholds.

Operational Emissions

The project site is located in an area that is designated non-attainment for ozone, PM10, and PM2.5. Vehicles, commercial operations, and some residential activities would generate ozone precursors contributing to the ozone problem within the Sacramento Valley Air Basin. Area sources, such as residential wood burning stoves and fireplaces, are substantial sources of particulate matter. Operational emissions from buildout of the No Action Alternative, Proposed Action, and all alternatives are estimated to exceed Air District thresholds for ROG, NO_x, CO, and PM10, as shown in **Table 3.3-13, Estimated Unmitigated Operational Emissions – Proposed Action and Alternatives**.

Table 3.3-13
Estimated Unmitigated Operational Emissions – Proposed Action and Alternatives

Emissions Source	Total Emissions in Pounds Per Day					
	ROG	NO _x	CO	SO _x	PM10	PM2.5
No Action Alternative	206.6	104.9	1,017.8	2.0	347.8	66.1
Proposed Action	273.4	138.8	1,347	2.65	460.3	87.5
Alternative 1	259.0	131.5	1,275.8	2.5	436.0	82.9
Alternative 2	226.3	114.9	1,114.8	2.2	381.0	72.4
Alternative 3	231.1	117.3	1,138.4	2.2	389.0	74.0
Alternative 4	129.5	78.8	824.6	1.7	290.4	55.2
Alternative 5	173.0	87.9	852.6	1.7	291.3	47.0
Alternative 6 (Off-Site)	178.7	90.7	880.4	1.7	300.9	57.2
Significance Threshold	82	82	550	--	82	--

Source: Ascent Environmental, Inc. 2012; Impact Sciences, Inc. Emissions calculations are provided in **Appendix 3.3**.

Bold: Exceeds Significance Thresholds.

Other past, present and reasonably foreseeable future projects in the project vicinity are also expected to result in additional emissions of criteria pollutants and contribute to the existing exceedances of ambient air quality standards in the Air Basin. The estimated emissions associated with other present and reasonably foreseeable future projects in the project vicinity are reported in **Table 3.3-14, Other Present and Reasonably Foreseeable Actions in the Project Vicinity, Construction Emissions**. Future development in the rest of the Air Basin (which is substantially larger than the project vicinity) would also result in additional emissions which cannot be reasonably quantified, although **Table 3.3-15, Other Major DA Permit Projects in the Air Basin, Operational Emissions**, presents operational emissions that are available for some of the major projects in the Air Basin that are under the USACE authority.

**Table 3.3-14
Other Present and Reasonably Foreseeable Actions in Project Vicinity –
Operational Emissions (Pounds per Day)**

Project	ROG	NO_x	PM10	PM2.5
Fiddymont Road Widening ^a	NA	NA	NA	NA
Amoruso Specific Plan	NA	NA	NA	NA
Creekview Specific Plan ^b	242	99	293	56
Regional University Specific Plan ^c	761	457	476	NA
Placer Vineyards Specific Plan ^d Blueprint Scenario	2,052	141	412	92
Riolo Vineyards Specific Plan ^e	156	141	96	NA
Placer Parkway Alternative 5 ^f	60	60	20	NA
Reason Farms Retention ^g	0	0	0	0
Sierra Vista Specific Plan ^h	1,585	994	3,225	614
Elverta Specific Plan ⁱ	659	238	1,736	974
Lincoln 270 ^j	NA	NA	NA	NA
Sutter Pointe Specific Plan ^k	NA	NA	NA	NA
Village 7 Lewis Property ^l	288	143	336	65

Notes:

NA – not available

Bold: Exceeds Significance Thresholds. Significance Thresholds are not the same for all of the projects listed.

^a Department of the Army Permit SPK-2010-00735. August 5, 2011.

^b City of Roseville. December 2010. Draft EIR Creekview Specific Plan.

^c Placer County. December 2007. Draft EIR Regional University Specific Plan. Prepared by PBS&J. (note: emissions are for the year 2010)

^d USACE. 2013. Placer Vineyards Specific Plan Draft EIS. Prepared by Impact Sciences.

^e Placer County. January 2008. Draft EIR Riolo Vineyards Specific Plan. Prepared by URS.

^f Placer County. June 2007. Draft EIR Placer Parkway. Prepared by URS. (note: Alternative 5 was determined to be the preferred alternative)

^g City of Roseville. 16 October 2002. Draft EIR for the City of Roseville Retention Basin Project. Prepared by URS.

^h Impact Sciences. 2012.

ⁱ U.S. Army Corps of Engineers. December 2012. Elverta Specific Plan Draft EIS. (note: Alternative A was determined to be the preferred alternative)

^j Department of Army permit application for Lincoln 270.

^k Measure M Group. 10 September 2007. Wetland Delineation for Sutter Pointe Specific Plan. Prepared by ECORP.

^l City of Lincoln. June 2009. Draft EIR Village 7 Specific Plan Project. Prepared by PBS&J.

**Table 3.3-15
Other Major DA Permit Projects in the Air Basin –
Operational Emissions (Pounds per Day)**

Project	ROG	NOX	PM10	PM2.5
Folsom South ^a	2,061	709	2,433	1,529
Natomas Levee, Phase 2 ^b	NA	NA	NA	NA
Natomas Levee, Phase 3 ^{b,c}	NA	NA	NA	NA
Natomas Levee, Phase 4A ^d	NA	NA	NA	NA
Rio Del Oro ^e	733	676	1,115	NA
Sunridge Properties ^f	NA	NA	NA	NA
Arboretum	NA	NA	NA	NA
Cordova Hills ^g	857	415	1,326	252
River Islands at Lathrop	NA	NA	NA	NA
Suncreek ^h	523	335	961	185

Note:

NA – not available

Bold: Exceeds Significance Thresholds. Significance Thresholds are not the same for all of the projects listed.

^a Department of the Army Permit SPK-2007-02159. August 11, 2011.

^b Department of the Army Permit SPK-2007-00211. January 21, 2009.

^c Department of the Army Permit SPK-2008-01039. April 2, 2010.

^d Department of the Army Permit SPK-2009-00480. November 8, 2010.

^e Department of the Army Permit SPK-1999-00590. June 13, 2012.

^f Department of the Army Permit SPK-2009-00511. January 25, 2011.

^g Cordova Hills: Sacramento County, Cordova Hills Final EIR, Document Control Number 2008-00142

^h Suncreek Specific Plan Project Draft EIR. Prepared for the City of Rancho Cordova by AECOM, October 2012.

In order to bring the region into compliance with state and federal air pollutant standards, air districts use General Plans and similar planning documents to determine where and how future growth will occur within the region. When development occurs that is not consistent with the intensity of development presented in a General Plan or if it was not previously accounted for, it is assumed that the emissions associated with that development are unaccounted for in the SIP, which could hinder the region's ability to come into compliance with state and federal air pollutant standards. The Proposed Action and all alternatives are included in current growth forecasts for the Roseville area but were not included in growth forecasts used in preparation of the most recent SIP. Therefore, unmitigated emissions associated with operation and occupancy of the Proposed Action (or any of the alternatives) and buildout of cumulative development would directly affect the region's ability to achieve compliance with air quality standards.

Compliance with the City's Transportation Systems Management Ordinance and implementation of **Mitigation Measure AQ-2**, which requires implementation of a

number of measures to reduce vehicular traffic and energy use, would reduce the amount of emissions generated by the No Action Alternative, Proposed Action, and all alternatives. The No Action Alternative, Proposed Action, and all alternatives would also be subject to a variety of policies that would promote the use of alternative forms of transportation and pedestrian access to commercial and office uses within the project site. However, because the operational air emissions associated with the No Action Alternative, Proposed Action, and all alternatives are not accounted for in regional air quality attainment plans, even with mitigation, the emissions would be considered **significant** and the No Action Alternative, Proposed Action, and all alternatives would make a significant contribution to the cumulative impact on regional air quality.

The above conclusion notwithstanding, the transportation conformity analysis performed for the Metropolitan Transportation Plan and Sustainable Communities Strategy 2035 (MTP/SCS) for the SACOG region (which is substantially the same as the Sacramento Valley Air Basin) shows that although the region will experience growth in population including the growth in population and employment as a result of the Proposed Action,⁴ the region's daily air pollutant emissions from transportation sources will decrease in the future. The conformity analysis provides the estimates of population growth, increase in vehicle miles traveled (VMT) and daily air pollutant emissions for the region for 2014, 2017, 2018, 2025, and 2035 (SACOG 2012). The results for 2018, 2025, and 2035 are shown in **Table 3.3-16, Projected Population Growth, Traffic and Air Pollutant Emissions in the SACOG Region.**

Table 3.3-16
Projected Population Growth, Traffic and Air Pollutant Emissions in the SACOG Region

	2018	2025	2035
Population	2,459,000	2,713,000	3,086,000
Daily VMT (1,000s of miles)	64,666	69,174	75,658
Daily NO _x Emissions (tons)	35.87	22.05	16.25
Daily ROG Emissions (tons)	24.04	19.17	15.73

Source: SACOG 2012

⁴ Based on a review of Appendix E-3 Land Use Forecast Background Documentation in the DRAFT MTP/SCS 2035 Update, the Sierra Vista Specific Plan, including the Westbrook project, is included in the regional growth projections for the City of Roseville. Therefore the Proposed Action is accounted for in the MTP/SCS analysis of the growth in the SACOG region.

As shown above, even though total population and vehicle traffic are projected to increase by 25 percent and 17 percent respectively, daily emissions of ozone precursors are expected to decrease substantially, with NOx emissions decreasing by 55 percent and ROG by 35 percent between 2018 and 2035 as a result of vehicle fleet improvements, fuel efficiency measures, transportation control measures in the SIP for the SACOG region, and denser future development pursuant to the SCS. These population and traffic increases represent the best estimates of overall growth projections for the region and include projects such as Westbrook as well as other projects in the region.⁵

CO Concentrations

Background CO concentrations in Roseville are low, and despite anticipated increases in traffic volumes, future roadside CO concentrations are expected to decrease from existing concentrations due to improved fuel combustion efficiency (City of Roseville 2010a). Therefore, the No Action Alternative, Proposed Action, and all alternatives, in conjunction with buildout of reasonably foreseeable development in the area, would have a **less than significant** effect related to CO concentrations.

3.3.8 GENERAL CONFORMITY

Under Section 176(c)(1) of the federal Clean Air Act (CAA), federal agencies that “engage in, support in any way or provide financial assistance for, license or permit, or approve any activity must demonstrate that such actions do not interfere with state and local plans to bring an area into attainment with the National Ambient Air Quality Standards” (42 USC Section 7506(c)).

The Proposed Action is located in the Sacramento Valley Air Basin (SVAB), an 11-county air basin. The western Placer County portion of the air basin is designated as nonattainment with respect to the national standards for 8-hour ozone and PM2.5. To address the SVAB’s nonattainment status, the regional air districts, including the Placer County Air Pollution Control District (PCAPCD), have worked together to produce implementation plans for attainment of the national standards. The General Conformity Rule ensures a federal agency’s actions in a non-attainment area do not obstruct or conflict with a state or local implementation plan. The implementing regulations for the General Conformity Rule are found in Title 40 CFR, Part 51, Subpart W and Part 93, Subpart B. In addition, the Air District has adopted the federal General Conformity regulations under Regulation 5, Rule 508.

⁵ Please see DRAFT MTP/SCS 2035 Update Appendix E-3 for projected changes in land use, population, and employment in the SACOG region through 2035.

Under the General Conformity regulations, both the direct and indirect emissions associated with a federal action must be evaluated. Subpart W defines direct emissions as:

[T]hose emissions of a criteria pollutant or its precursors that are caused or initiated by the Federal action and occur at the same time and place as the action (40 CFR § 51.852).

Indirect emissions are defined as:

[T]hose emissions of a criteria pollutant or its precursors that:

- (1) Are caused by the Federal action, but may occur later in time and/or may be farther removed in distance from the action itself but are still reasonably foreseeable; and*
- (2) The Federal agency can practicably control and will maintain control over due to a continuing program responsibility of the Federal agency (40 CFR § 51.852).*

A conformity determination is required for each criteria pollutant or precursor where the total of direct and indirect emissions of the criteria pollutant or precursor in a federal nonattainment or maintenance area would equal or exceed specified annual emission rates, referred to as *de minimis* thresholds. For ozone precursors, the *de minimis* thresholds depend on the severity of the nonattainment classification; for other pollutants, the threshold is set at 100 tons per year. The Air Basin was designated as serious nonattainment for ozone by the USEPA in June 2004. However, due to concerns with meeting emissions reductions targets, the member air districts of the Sacramento Federal Nonattainment Area requested a voluntary reclassification to severe, which was approved by the USEPA in June 2010. The relevant *de minimis* thresholds for the Air Basin are shown below in **Table 3.3-17**.

Table 3.3-17
General Conformity De Minimis Thresholds

Pollutant	Attainment Status	Annual Emissions (ton/yr)
NO _x	Nonattainment/Severe (Ozone)	25
VOC	Nonattainment/Severe (Ozone)	25
PM _{2.5} (direct)	Nonattainment	100
PM _{2.5} (NO _x) ¹	Nonattainment	100
PM _{2.5} (VOC and NH ₃) ²	Nonattainment	100
PM _{2.5} (SO _x)	Nonattainment	100

Notes:

- ¹ *NO_x is included for PM_{2.5} unless determined not to be a significant precursor. However, the NO_x threshold based on its contribution to ozone is more stringent.*
- ² *VOC and ammonia (NH₃) are not included for PM_{2.5} unless determined to be a significant precursor. However, the VOC threshold based on their contribution to ozone is more stringent. Only very minor emissions of ammonia would be emitted to the atmosphere as a result of the Proposed Action or its alternatives.*

According to the General Conformity Rule, conformity analysis only applies to activities that trigger NEPA review.⁶ Where the federal action is a permit, license, or other approval for some aspect of a nonfederal undertaking, the relevant activity is the part, portion, or phase of the nonfederal undertaking that requires the federal permit, license, or approval. The USACE permit action is limited to filling of the waters of the U.S. on the project site, and does not extend to other construction activities, nor will the USACE maintain control over those elements of the Proposed Action or alternatives that are associated with operation of facilities constructed under the Westbrook project. Accordingly, this evaluation will not consider the operational emissions from the development of the Proposed Action. Furthermore, with respect to construction emissions, the scope of the conformity analysis would be appropriately limited to the emissions associated with grading activities that would result in the filling of jurisdictional wetlands, any associated access roads, and any staging areas necessary to conduct the filling activity. Other construction activities not associated with the filling of jurisdictional waters would not be included in the conformity calculations.

While grading would take place over a large area of the project site, only a small portion of the grading would involve the filling of jurisdictional waters, and only this small portion of the grading is required to be analyzed. However, since information was readily available for the effect of grading the site as a whole, the USACE analyzed this data. If this data had provided emissions greater than the threshold then further efforts to focus the analysis on the grading specific to the discharge of dredge or fill into waters of the U.S. would have been warranted. In this case, the effects of the entire grading operations do not exceed the *de minimis* thresholds. Therefore the entire grading operations were analyzed even though the grading operations that are required to be analyzed are a small portion of the overall operation. Annual grading emissions for the Proposed Action were estimated using URBEMIS2007. Emissions totals for the alternatives are essentially the same as those for the Proposed Action or smaller, so if the Proposed Action is determined to meet the conformity criteria then the alternatives would as well. The resultant average annual emissions for each nonattainment or maintenance pollutant are shown in **Table 3.3-18**. As the table shows, all emission values are less than the *de minimis* threshold for that pollutant. Based on this preliminary analysis, a *detailed* conformity analysis by the USACE is not required (40 CFR § 51.858).

⁶ As stated in 40 CFR Parts 6, 51, and 93 (FRL-4805-1), Determining Conformity of General Federal Actions to State or Federal Implementation Plans, “the definition of “Federal action” is revised by adding the following sentence to the end of the definition in the proposal: Where the Federal action is a permit, license, or other approval for some aspect of a nonfederal undertaking, the relevant activity is the part, portion, or phase of the nonfederal undertaking that requires the Federal permit, license, or approval. The following examples illustrate the meaning of the revised definition. Assume, for example, that the COE issues a permit and that permitted fill activity represents one phase of a larger nonfederal undertaking; i.e., the construction of an office building by a nonfederal entity. Under the conformity rule, the COE would be responsible for addressing all emissions from that one phase of the overall office development undertaking that the COE permits; i.e., the fill activity at the wetland site. However, the COE is not responsible for evaluating all emissions from later phases of the overall office development (the construction, operation, and use of the office building itself), because later phases generally are not within the COE’s continuing program responsibility and generally cannot be practicably controlled by the COE.”

In addition, the direct emissions associated with the Proposed Action would not conflict with or obstruct implementation of the applicable air quality plan (i.e., SIP for the Sacramento Valley Air Basin).

Table 3.3-18
Direct Average Annual Construction Emissions

Source	VOC (tons/yr)	NO _x (tons/yr)	SO _x (tons/yr)	PM2.5 (tons/yr)
Proposed Action	0.17	1.34	0.00	1.86
Thresholds (tons/yr)	25	25	100	100
Exceeds Threshold?	NO	NO	NO	NO

Source: Impact Sciences, Inc. Emissions calculations are provided in **Appendix 3.3**.

Regardless of whether the USACE focuses only on direct emissions associated with the issuance of a 404 permit for the project or whether it looks more broadly at all emissions associated with full buildout of the Westbrook area, future air quality conditions are anticipated to improve over time within the affected air shed and buildout of Westbrook area would not result in a lack of conformity with approved federal air quality plans or the State Implementation Plan (SIP). In April 2012, the SACOG reached a favorable conformity determination in approving in its most recent Regional Transportation Plan (called the MTP/SCS). SACOG's Draft EIR for the MTP/SCS explained SACOG's reasoning as follows:

In general, projecting the future air quality environment and how well the proposed MTP/SCS fits within existing air quality attainment plans, and their projected maintenance or attainment strategies, is evaluated through existing federal, state, and local air district processes. A determination of conformity, or conformance with the plans, is realized when: the forecasted emissions are within budgets identified in the plans or pass the interim emissions test; the latest planning assumptions and emission models are used; the plan and program are financially constrained; and the timely implementation of transportation control measures can be demonstrated. Conformity analyzes the impacts of land use and transportation in combination at the regional level. It quantitatively measures how selected land use and transportation planning principles in combination will affect our future air quality environment. As established in the proposed MTP/SCS, behavioral changes in choice of travel directly impacts mobile source emission generation projections; reduced [vehicle miles traveled] and trip numbers result in lower emissions.

The forecasted emissions for ozone, PM10 and CO associated with the proposed MTP/SCS are within in the conformity budgets identified within the existing plans for each milestone year. Similarly, the forecasted emissions for PM10 and PM2.5 associated with the proposed MTP/SCS pass all interim emissions tests for all milestone years.

As described previously in **Chapter 1.0** of this Draft EIS, the SCS, formulated pursuant to Senate Bill 375, assumed development of the Westbrook project. Since buildout of all land uses assumed in the SCS would not conflict with or obstruct implementation of applicable federal air quality plans or the SIP, the same must necessarily be true of buildout of Westbrook project by itself.

3.3.9 REFERENCES

- Ascent Environmental. 2011. Westbrook Amendment to the Sierra Vista Specific Plan. November 14.
- California Air Resources Board. 2004. *Roseville Rail Yard Study*. 5.
- City of Roseville. 2010. Sierra Vista Specific Plan Final Environmental Impact Report.
- City of Roseville. 2012. Westbrook Specific Plan Amendment Initial Study.
- Sacramento Metropolitan Air Quality Management District (SMAQMD). 2009. *Guide to Air Quality Assessment in Sacramento County*. 1-7 – 1-8.
- South Coast Air Quality Management District (SMAQMD). 2008. "MATES III: Multiple Air Toxics Exposure Study." <http://www.aqmd.gov/prdas/matesIII/matesIII.html>.
- U.S. Environmental Protection Agency (USEPA). n.d.a. "The ASPEN Model." <http://www.epa.gov/ttn/atw/nata/asp.html>. n.d.
- U.S. Environmental Protection Agency (USEPA). n.d.b. "National Air Toxics Assessments." <http://www.epa.gov/ttn/atw/natamain/>. n.d.
- U.S. Environmental Protection Agency (USEPA). n.d.c. "Ground-level Ozone." <http://www.epa.gov/air/ozonepollution/>.

**Table 3.3-3
Ambient Pollutant Concentrations Registered Nearest to the Project Site**

Pollutant	Standards ¹	Year		
		2008	2009	2010
OZONE (O₃)				
Maximum 1-hour concentration monitored (ppm)		0.134	0.113	0.124
Maximum 8-hour concentration monitored (ppm)		0.107	0.101	0.105
Number of days exceeding state 1-hour standard	0.09 ppm	20	13	9
Number of days exceeding state 8-hour standard	0.070 ppm	38	32	21
Number of days exceeding federal 8-hour standard ²	0.075 ppm	22	19	15
CARBON MONOXIDE (CO)				
Maximum 8-hour concentration monitored (ppm)		1.90	1.66	1.16
Number of days exceeding state 8-hour standard	9.0 ppm	0	0	0
Number of days exceeding federal 8-hour standard	9 ppm	0	0	0
NITROGEN DIOXIDE (NO₂)				
Maximum 1-hour concentration monitored (ppm)		0.067	0.061	0.071
Annual average concentration monitored (ppm)		0.012	0.010	0.010
Number of days exceeding state 1-hour standard	0.18 ppm	0	0	0
Number of days exceeding state 1-hour standard ³	0.100 ppm	0	0	0
PARTICULATE MATTER (PM₁₀)				
Maximum 24-hour concentration monitored (µg/m ³)		74.2	33.5	36.3
Annual average concentration monitored (µg/m ³)		22.7	17.9	15.4
Number of samples exceeding state standard	50 µg/m ³	6	0	0
Number of samples exceeding federal standard	150 µg/m ³	0	0	0
PARTICULATE MATTER (PM_{2.5})				
Maximum 24-hour concentration monitored (µg/m ³)		60.0	22.6	27.3
Annual average concentration monitored (µg/m ³)		10.0	8.5	6.6
Number of samples exceeding federal standard	35 µg/m ³	6	0	0
SULFUR DIOXIDE (SO₂)				
Maximum 24-hour concentration monitored (ppm)		0.002	0.002	0.002
Number of samples exceeding 24-hour state standard	0.04 ppm	0	0	0
Number of samples exceeding federal 24-hour standard	0.14 ppm	0	0	0

Sources:

California Air Resource Board, "Air Quality Data Statistics," <http://www.arb.ca.gov/adam/welcome.html>.

U.S. Environmental Protection Agency, "Air Data: Access to Air Pollution Data," <http://www.epa.gov/air/data/>.

— No air quality data received for this year.

¹ Parts by volume per million of air (ppm), micrograms per cubic meter of air (µg/m³), or annual arithmetic mean (aam).

² Federal 8-hour O₃ standard was revised to 0.075 ppm in March 2008. Statistics are based on the current standard.

³ The U.S. EPA has promulgated a new 1-hour National Ambient Air Quality Standards for NO₂. The new 1-hour standard is 0.100 parts per million (188 micrograms per cubic meter) and became effective on April 12, 2010.

**Table 3.3-7
Estimated Unmitigated Operational Emissions – Proposed Action and Alternatives**

Emissions Source	Emissions in Pounds Per Day					
	ROG	NO _x	CO	SO _x	PM10	PM2.5
Proposed Action						
Area Sources	139.8	28.6	83.4	0	0.2	0.2
Operational (Mobile) Sources	133.7	110.2	1264.6	2.65	460	87.3
Emissions Total	273.4	138.8	1347	2.65	460.3	87.5
Alternative 1						
Area Sources	132.4	27.1	79.0	0.0	0.2	0.2
Operational (Mobile) Sources	126.6	104.4	1197.8	2.5	435.7	82.7
Emissions Total	259.0	131.5	1275.8	2.5	436.0	82.9
Alternative 2						
Area Sources	115.7	23.7	69.0	0.0	0.2	0.2
Operational (Mobile) Sources	110.7	91.2	1046.6	2.2	380.7	72.3
Emissions Total	226.3	114.9	1114.8	2.2	381.0	72.4
Alternative 3						
Area Sources	118.2	24.2	70.5	0.0	0.2	0.2
Operational (Mobile) Sources	113.0	93.1	1068.8	2.2	388.8	73.8
Emissions Total	231.1	117.3	1138.4	2.2	389.0	74.0
Alternative 4						
Area Sources	91.4	18.7	54.5	0.0	0.1	0.1
Operational (Mobile) Sources	87.4	72.0	826.6	1.7	300.7	57.1
Emissions Total	129.5	78.8	824.6	1.7	290.4	55.2
Alternative 5						
Area Sources	88.5	18.1	52.8	0.0	0.1	0.1
Operational (Mobile) Sources	84.6	69.7	800.4	1.7	291.1	53.4
Emissions Total	173.0	87.9	852.6	1.7	291.3	47.0
Alternative 6 (Off-Site)						
Area Sources	88.5	18.1	52.8	0.0	0.1	0.1
Operational (Mobile) Sources	87.4	72.0	826.6	1.7	300.7	57.1
Emissions Total	178.7	90.7	880.4	1.7	300.9	57.2
No Action Alternative						
Area Sources	105.6	21.6	63.0	0.0	0.2	0.2
Operational (Mobile) Sources	101.0	83.3	955.6	2.0	347.6	66.0
Emissions Total	206.6	104.9	1,017.8	2.0	347.8	66.1
Significance Threshold	82	82	550	--	82	--

Source: Ascent Environmental, Inc. 2012; Impact Sciences, Inc.

Emissions calculations are provided in Appendix A of Appendix 3.3.