10
AIR QUALITY

10.1 INTRODUCTION

This section addresses the potential impacts to air quality from implementation of the proposed Santa Clarita Valley Sanitation District (SCVSD) Chloride Compliance Project (proposed project). This section provides an overview of the environmental setting to establish baseline conditions for air quality, includes a summary of the applicable regulatory framework, and identifies mitigation measures to minimize potential effects. The analysis of the potential short-term and long-term air quality impacts of the proposed project is consistent with recommendations of the South Coast Air Quality Management District (SCAQMD) and the Ventura County Air Pollution Control District (VCAPCD). Air quality modeling data is presented in Appendix 10-A.

10.2 ENVIRONMENTAL SETTING

10.2.1 Air Quality Background

The majority of the proposed project area is located in Los Angeles County, which lies within the South Coast Air Basin (SCAB), a 6,600-square-mile coastal plain bounded by the Pacific Ocean to the southwest and by the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The SCAB, which is under the jurisdictional boundaries of the SCAQMD, includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County. In addition, a small portion of the proposed project area is located in Ventura County, which lies within the South Central Coast Air Basin (SCCAB) that includes all of Ventura, Santa Barbara, and San Luis Obispo Counties. Ventura County is within the jurisdictional boundaries of the VCAPCD.

The ambient concentrations of air pollutants are determined by the amount of emissions released by sources and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, in addition to the amount of emissions released by existing air pollutant sources, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate as discussed in the following sections.

10.2.2 Climate and Meteorological Conditions

Atmospheric conditions (e.g., 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 topography and climate of Southern California combine to make the SCAB an area of high air pollution potential. The SCAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains in all other directions. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is disrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cool marine layer and inhibits the pollutants in the marine layer from dispersing upward. In addition, light winds during the summer further limit movement. Sunlight triggers the photochemical reactions that produce ozone, which is trapped in the basin. Southern California experiences more days of sunlight than any other major urban area in the nation except Phoenix, Arizona (SCAQMD 2012).

10.2.3 Criteria Air Pollutants

The California Air Resources Board (CARB) and the U.S. Environmental Protection Agency (EPA) currently focus on the following air pollutants as indicators of ambient air quality: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter with an aerodynamic diameter of 10 micrometers or less (PM_{10}), fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$), and lead. These pollutants are referred to as "criteria air pollutants" because they are the most prevalent air pollutants known to be injurious to human health. Extensive health-effects criteria documents regarding the effects of the pollutants on human health and welfare are available. Standards have been established for each criteria pollutant to meet specific public health and welfare criteria set forth in the federal Clean Air Act (CAA). California has adopted generally more stringent ambient air quality standards for the criteria air pollutants (referred to as State Ambient Air Quality Standards, or state standards) and has adopted air quality standards for some pollutants for which there is no corresponding national standard, such as sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

10.2.3.1 Ozone

Ozone, the main component of photochemical smog, is primarily a summer and fall pollution problem. Ozone is not emitted directly into the air but is formed through a complex series of chemical reactions involving other compounds that are directly emitted. These directly emitted pollutants (also known as ozone precursors) include reactive organic gases (ROG) or volatile organic compounds (VOCs), and oxides of nitrogen (NO_X). While both ROGs and VOCs refer to compounds of carbon, ROG is a term used by CARB and is based on a list of exempted carbon compounds determined by CARB. VOC is a term used by EPA and is based on EPA's own exempt list. The time period required for ozone formation allows the reacting compounds to spread over a large area, producing regional pollution problems. Ozone concentrations are the cumulative result of regional development patterns rather than the result of a few significant emission sources.

Once ozone is formed, it remains in the atmosphere for 1 or 2 days. Ozone is then eliminated through reaction with chemicals on the leaves of plants, attachment to water droplets as they fall to earth ("rainout"), or absorption by water molecules in clouds that later fall to earth with rain ("washout").

Short-term exposure to ozone can irritate the eyes and cause constriction of the airways. In addition to causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

10.2.3.2 Carbon Monoxide

CO, a colorless and odorless gas, is a relatively non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicles. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia. CO measurements and modeling were important in the early 1980s when CO levels were regularly exceeded throughout California. In more recent years, CO measurements and modeling have not been a priority in most California air districts due to the retirement of older polluting vehicles, lower emissions from new vehicles, and improvements in fuels.

10.2.3.3 Nitrogen Dioxide

NO_2 is a reddish-brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2. The combined emissions of NO and NO_2 are referred to as NO_X, which are reported as equivalent NO_2. Aside from its contribution to ozone formation, NO_2 can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component of a brown cloud on high pollution days, especially in conjunction with high ozone levels.

10.2.3.4 Sulfur Dioxide

SO_2 is a colorless, extremely irritating gas or liquid that 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 SO_2 oxidizes in the atmosphere, it forms sulfur trioxide (SO_3) and sulfates (SO_4). Collectively, these pollutants are referred to as sulfur oxides (SO_X).

Major sources of SO_2 include power plants, large industrial facilities, diesel vehicles, and oil-burning residential heaters. Emissions of SO_2 aggravate lung diseases, especially bronchitis. This compound also constricts the breathing passages, especially in people with asthma and people involved in moderate to heavy exercise. SO_2 potentially causes wheezing, shortness of breath, and coughing. Long-term SO_2 exposure has been associated with increased risk of mortality from respiratory or cardiovascular disease.

10.2.3.5 Particulate Matter

PM_{10} and $PM_{2.5}$ consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively (a micron is one-millionth of a meter). PM_{10} and $PM_{2.5}$ represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases; heart and lung disease; and coughing, bronchitis, and respiratory illnesses in children. Recent mortality studies have shown an association between morbidity and mortality and daily concentrations of particulate matter in the air. CARB has estimated that achieving the ambient air quality standards for PM_{10}

could reduce premature mortality rates by 6,500 cases per year (CARB 2002). Particulate matter can also damage materials and reduce visibility. One common source of $PM_{2.5}$ is diesel exhaust emissions.

PM_{10} consists of particulate matter emitted directly into the air (e.g., fugitive dust, soot, and smoke from mobile and stationary sources and construction operations, fires, and natural windblown dust) and particulate matter formed in the atmosphere by condensation and/or transformation of SO_2 and ROG. Traffic generates particulate matter emissions through entrainment of dust and dirt particles that settle onto roadways and parking lots. PM_{10} and $PM_{2.5}$ are also emitted by burning wood in residential wood stoves and fireplaces and open agricultural burning. $PM_{2.5}$ can also be formed through secondary processes such as airborne reactions with certain pollutant precursors, including VOCs, ammonia (NH_3), NO_X, and SO_X.

10.2.3.6 Lead

Lead is a metal found naturally in the environment and present in some manufactured products. There are a variety of activities that can contribute to lead emissions that are grouped into two general categories: stationary and mobile sources. On-road mobile sources include light-duty automobiles; light-, medium-, and heavy-duty trucks; and motorcycles.

Emissions of lead have dropped substantially over the past 40 years. The reduction before 1990 is largely due to the phase-out of lead as an anti-knock agent in gasoline for on-road automobiles. Substantial emission reductions have also been achieved due to enhanced controls in the metals processing industry. In the SCAB and SCCAB, atmospheric lead is generated almost entirely by the combustion of leaded gasoline and contributes less than 1 percent of the material collected as total suspended particulates.

10.2.4 Toxic Air Contaminants

Concentrations of toxic air contaminants (TACs) or, in federal parlance, hazardous air pollutants (HAPs) are also used as indicators of ambient air quality conditions. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health, even at low concentrations.

According to The California Almanac of Emissions and Air Quality (CARB 2009), the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines (diesel PM). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present.

Unlike the other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, CARB has made preliminary concentration estimates based on a particulate matter exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, the TACs for which data are available that pose the greatest existing ambient risk in California are benzene;

1, 3-butadiene; acetaldehyde; carbon tetrachloride; hexavalent chromium; para-dichlorobenzene; formaldehyde; methylene chloride; and perchloroethylene.

10.2.5 Odorous Emissions

Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). Offensive odors are unpleasant and can lead to public distress generating citizen complaints to local governments. Although unpleasant, offensive odors rarely cause physical harm. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

10.3 REGULATORY BACKGROUND

10.3.1 Federal

10.3.1.1 U.S. Environmental Protection Agency

At the federal level, The EPA has been charged with implementing national air quality programs. The EPA's air quality mandates are drawn primarily from the CAA, which was enacted in 1970. The most recent major amendments to the CAA were made by Congress in 1990.

The CAA requires EPA to establish National Ambient Air Quality Standards (NAAQS). EPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. Table 10-1 shows the NAAQS for these pollutants.

The CAA also requires each state to prepare an air quality control plan, referred to as a state implementation plan (SIP). The CAA Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies. The EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and to determine whether implementing the SIPs will achieve air quality goals. If the EPA determines a SIP to be inadequate, a federal implementation plan that imposes additional control measures may be prepared for the nonattainment area. If an approvable SIP is not submitted or implemented within the mandated time frame, sanctions may be applied to transportation funding and stationary sources of air pollution in the air basin.

The EPA also has regulatory and enforcement jurisdiction over emission sources beyond state waters (outer continental shelf), and those that are under the exclusive authority of the federal government, such as aircraft, locomotives, and interstate trucking. The EPA's primary role at the state level is to oversee state air quality programs. EPA sets federal vehicle and stationary source emissions standards and provides research and guidance in air pollution programs.

In June 2004, the EPA finalized the adoption of a comprehensive national program/rule to reduce emissions from off-road diesel engines used primarily in construction, agricultural, and industrial

applications by integrating engine and fuel controls as a system to gain the greatest emission reductions. Specifically, the EPA adopted new emission standards for off-road diesel engines and sulfur reductions in off-road diesel fuel aimed at dramatically reducing harmful emissions and helping States and local areas that have been designated as 8-hour ozone non-attainment areas to improve their air quality. The new engine standards, which are based on the use of advanced exhaust emission control devices, began to take effect in 2008 and would continue to be phased in until 2015. The EPA estimates particulate matter reductions of 95 percent, NO_X reductions of 90 percent, and the virtual elimination of SO_X from off-road engines that meet the new standards. Because the emission control devices in the off-road diesel engines could potentially be damaged by sulfur, the EPA also targeted the reduction of sulfur levels in off-road diesel fuel as part of its rule. The rule aimed to reduce off-road diesel fuel sulfur levels by 99 percent, resulting in an Ultra Low Sulfur Diesel (ULSD) fuel that has a maximum sulfur concentration of 15 parts per million (ppm). The phase-in of fuel controls to reduce the sulfur levels in off-road diesel fuel began in 2007.

With respect to on-road diesel engines, the EPA promulgated the Heavy-Duty Highway Rule in 2007, which aims to reduce emissions from on-road, heavy-duty diesel trucks by establishing a series of increasingly strict emission standards for new engines. Manufacturers are required to produce new diesel vehicles that meet PM and NO_X emission standards beginning with model year 2007.

10.3.1.2 Hazardous Air Pollutants

The EPA has programs for identifying and regulating HAPs. The first National Emission Standards for Hazardous Air Pollutants (NESHAPs) were originally required by the CAA in 1970, which were developed for sources and source categories of HAPs that were determined to pose adverse risk to human health. The EPA Administrator was directed to set risk-based NESHAPs at a level that provided an ample margin of safety to protect the public health from HAPs. Subsequently, in §112(d) of the 1990 CAAA, Congress directed EPA to develop technology-based standards to further regulate HAPs. As opposed to the original conception of NESHAPs as a risk-based standard, the technology-based NESHAPS were established according to Maximum Achievable Control Technology (MACT) requirements. The MACT NESHAP standards differed for major sources than for area sources of HAPs. Major sources are defined as stationary sources with potential to emit more than 10 tons per year (tpy) of a single HAP or more than 25 tpy of any combination of HAPs; all other sources are considered area sources. §112(f) of the 1990 CAAA also specified that EPA determine whether or not to promulgate additional NESHAP standards beyond the MACT within 8 years after promulgation of the MACT standard (but within 9 years after promulgation of the 2-year MACT source categories). Thus, EPA is required to evaluate the NESHAPs developed according to the MACT standards for any "residual risk" with 8 years of promulgation. If the "residual risk" for a source category does not protect public health with "an ample margin of safety", then EPA must promulgate health-based standards for that source category to further reduce HAP emissions.

The CAAA also required the EPA to promulgate vehicle or fuel standards containing reasonable requirements that control toxic emissions of, at a minimum, benzene and formaldehyde. Performance criteria were established to limit mobile source emissions of toxics, including benzene; formaldehyde; and 1, 3-butadiene. In addition, §219 required the use of reformulated gasoline in selected areas with the most severe ozone nonattainment conditions to further reduce mobile source emissions. The proposed project does not recommend any requirements for stationary sources of HAPs. Mobile source trips associated with the proposed project would be required to comply with the above mentioned regulations.

Table 10-1. California and National Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time[a]	State Standard (CAAQS)	National Standard (NAAQS)	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 Hour	0.09 ppm	---	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when reactive organic gases (ROG) and nitrogen oxides (NO_X) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial/industrial mobile equipment.
	8 Hours	0.07 ppm[b]	0.075 ppm		
Carbon Monoxide	1 Hour	20 ppm	35 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 Hours	9 ppm	9 ppm		
Nitrogen Dioxide	1 Hour	0.18 ppm	0.100 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Average	0.030 ppm	0.053 ppm		
Sulfur Dioxide	1 Hour	0.25 ppm	0.075 ppm	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 Hours	---	0.50 ppm		
	24 Hours	0.04 ppm	0.14 ppm		
	Annual Arithmetic Mean	---	0.03 ppm		
Respirable Particulate Matter (PM_{10})	24 Hours	50 $\mu g/m^3$	150 $\mu g/m^3$	May irritate eyes and respiratory tract; decreases in lung capacity, cancer, and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Arithmetic Mean	20 $\mu g/m^3$	---		
Fine Particulate Matter ($PM_{2.5}$)	24 Hours	---	35 $\mu g/m^3$	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; formed from photochemical reactions of other pollutants, including NO_X, SO_X, and organics.
	Annual Arithmetic Mean	12 $\mu g/m^3$	15 $\mu g/m^3$		
Lead	30-Day Average	1.5 $\mu g/m^3$	---	Disturbs gastrointestinal system and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present sources: lead smelters and battery manufacturing and recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarterly	---	1.5 $\mu g/m^3$		
	Rolling 3-Month Average	---	0.15 $\mu g/m^3$		
Hydrogen Sulfide	1 Hour	0.03 ppm	No National Standard	Nuisance odor (rotten egg smell); headache and breathing difficulties (higher concentrations).	Geothermal power plants, petroleum production, and refining.

Table 10-1 (cont.)

Pollutant	Averaging Time[a]	State Standard (CAAQS)	National Standard (NAAQS)	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Sulfates	24 Hour	25 μg/m^3	No National Standard	Breathing difficulties; aggravates asthma and reduces visibility.	Produced by the reaction in the air of SO_2, a component of acid rain.
Visibility Reducing Particles	8 Hour	Extinction of 0.23/km; Visibility of 10 Miles or More	No National Standard	Reduces visibility, reduces airport safety, lowers real estate value, and discourages tourism.	See $PM_{2.5}$.
Vinyl Chloride	24 Hour	0.01 ppm	No National Standard	Short-term exposure to high levels of vinyl chloride in the air can cause dizziness, drowsiness, and headaches. Long-term exposure through inhalation and oral exposure can cause liver damage. Cancer is a major concern from exposure to vinyl chloride via inhalation. Vinyl chloride exposure has been shown to increase the risk of angiosarcoma, a rare form of liver cancer in humans.	Polyvinyl chloride (PVC) plastic and vinyl products.

ppm = parts per million
μg/m^3 = micrograms per cubic meter
--- = no standard
[a] The averaging time is the interval of time over which the sample results are reported.
[b] This concentration was approved by the Air Resources Board on April 28, 2005 and became effective May 17, 2006.
Source: CARB 2012.

10.3.2 State

10.3.2.1 California Air Resources Board

CARB, a department of the California Environmental Protection Agency, oversees air quality planning and control throughout California. CARB is responsible for coordination and oversight of state and local air pollution control programs in California and for implementation of the California Clean Air Act (CCAA). The CCAA, which was adopted in 1988, requires CARB to establish the California Ambient Air Quality Standards (CAAQS). CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the criteria air pollutants discussed previously. Applicable CAAQS are shown in Table 10-1.

The CCAA requires all local air districts in the state endeavor to achieve and maintain the CAAQS by the earliest practical date. The act specifies that local air districts shall focus particular attention on reducing the emissions from transportation and area-wide emission sources, and provides districts with the authority to regulate indirect sources.

Among CARB's other responsibilities are overseeing compliance by local air districts with California and federal laws; approving local air quality plans; submitting SIPs to EPA; monitoring air quality; determining and updating area designations and maps; and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

10.3.2.2 Heavy-Duty Diesel Truck Idling Regulation

CARB approved the Heavy-duty Diesel Truck Idling Regulation on October 20, 2005 to further reduce emissions of toxics and criteria pollutants by limiting idling of new and in-use sleeper berth equipped diesel trucks. The regulation required 2008 and newer model year heavy-duty diesel engines to be equipped with a non-programmable engine shutdown system that automatically shuts down the engine after five minutes of idling or optionally meet a stringent NO_X idling emission standard. The in-use truck requirements require operators of both in-state and out-of-state registered sleeper berth equipped trucks to manually shut down their engine when idling more than five minutes at any location within California beginning in 2008.

10.3.2.3 California Diesel Fuel Regulations

With this rule, CARB set sulfur limits of 15 ppm for diesel fuel sold in California for use in on-road and off-road motor vehicles. Harbor craft were originally excluded from the rule but were later included by a 2004 rule amendment.

10.3.2.4 Statewide Portable Equipment Registration Program

The Portable Equipment Registration Program (PERP) is a statewide program created by CARB to register portable equipment as an alternative to securing permits from local air quality control districts. PERP registered equipment may operate throughout the state without obtaining permits to operate from any of California's 35 air quality management or air pollution control districts. The portable equipment, however, cannot reside at the same location for more than 12 months. Some construction-related equipment may be registered under PERP. Equipment would not be permitted to reside at the same location for more than 12 months.

Effective February 19, 2011, diesel-fueled portable engines with a rated brake horsepower (hp) of 50 or greater are subject to CARB's Airborne Toxic Control Measure (ATCM). The ATCM imposes fuel and diesel PM emission requirements for in-use and new portable diesel engines. Diesel fleets are required to meet certain diesel PM standards by set compliance dates. By January 1, 2020, new emergency standby diesel engines will need to be certified to Tier 4 emission standards.

10.3.2.5 On-Road Heavy-Duty Diesel Vehicles (In Use) Regulation

On December 12, 2008, CARB approved the on-road heavy-duty diesel vehicle (in use) regulation to significantly reduce PM and NO_X emissions from existing diesel vehicles operating in California. The regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. The regulation applies to nearly all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds that are privately or federally owned and for privately and publicly owned school buses. Other public fleets, solid waste collection trucks and transit buses are already subject to other regulations and are not part of the truck and bus regulation.

Starting January 1, 2012, the regulation would phase-in requirements for heavier trucks to reduce PM emissions with exhaust retrofit filters that capture pollutants before they are emitted to the air or by replacing vehicles with newer vehicles that are originally equipped with PM filters. Starting on January 1, 2015, lighter trucks with a GVWR of 14,001 to 26,000 pounds with engines that are 20 years or older would need to be replaced with newer trucks. Starting January 1, 2020, all remaining trucks and buses would need to be replaced so that they would all have 2010 model year engines or equivalent emissions by 2023.

10.3.2.6 Off-Road Diesel Fleet Regulation

On July 26, 2007, CARB adopted this regulation to reduce diesel PM and NO_X emissions from existing off-road heavy-duty diesel vehicles in California that are used in construction, mining, and industrial operations. The Off-Road Diesel Fleet Regulation:

- Imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles
- Requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System [DOORS]) and labeled
- Restricts the adding of older vehicles into fleets
- Requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies (VDECS) (i.e., exhaust retrofits)

The Off-Road Diesel Fleet Regulation applies to all self-propelled off-road diesel vehicles over 25 hp used in California and most two-engine vehicles (except on-road two-engine sweepers). The regulation does not apply to stationary equipment or portable equipment, such as generators. Vehicles that are exempt from this regulation include personal use vehicles, vehicles used solely for agriculture, vehicles that are waiting sale, emergency operations vehicles, dedicated snow removal vehicles, low-use vehicles (used under 200 hours per year), and vehicles that are already covered by the Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards (Cargo Handling regulation). The off-road performance requirements are applied to a fleet as a whole and not to individual vehicles, and are based on a fleet's average NO_X emissions. The

goal of the regulation is to encourage fleet owners to replace a certain percentage of their diesel fleet over time with cleaner emitting vehicles in order to meet the lower annual NO_X limits.

The regulation was amended in December 2010 to provide a 4-year delay from the original compliance timeline for all fleets. By January of each year, starting in 2014, each fleet must meet the fleet average NO_X requirements or, as an alternative, a specified percentage of the fleet must be replaced with newer engines. The percent turnover is referred to by CARB as best available control technology (BACT).

10.3.2.7 Toxic Air Contaminants

Air quality regulations also focus on TACs. In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no safe level of exposure. This contrasts with the criteria air pollutants, for which acceptable levels of exposure can be determined and for which ambient standards have been established. Instead, the EPA and CARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of MACT or BACT for toxics and to limit emissions. These statutes and regulations, in conjunction with additional rules set forth by the districts, establish the regulatory framework for TACs.

TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807 [Chapter 1047, Statutes of 1983]) and the Air Toxics Hot Spots Information and Assessment Act (Hot Spots Act) (AB 2588 [Chapter 1252, Statutes of 1987]). AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified 21 TACs and adopted the EPA's list of HAPs as TACs. Most recently, diesel PM was added to CARB's list of TACs. Once a TAC is identified, CARB then adopts an airborne toxics control measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate BACT to minimize emissions.

The Air Toxics Hot Spots Information and Assessment Act requires existing facilities emitting toxic substances above a specified level to prepare a toxic emissions inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

CARB published the Air Quality and Land Use Handbook: A Community Health Perspective (Handbook), which provides guidance concerning land use compatibility with TAC sources (CARB 2005). Although it is not a law or adopted policy, the Handbook offers advisory recommendations for the siting of sensitive receptors near uses associated with TACs (e.g., freeways and high-traffic roads, commercial distribution centers, rail yards, ports, refineries, dry cleaners, gasoline stations, and industrial facilities) to help keep sources further from children and other sensitive populations.

Emission sources associated with the proposed project would be required to comply with the state regulations discussed in previous sections.

10.3.3 Local

10.3.3.1 South Coast Air Quality Management District

The SCAQMD attains and maintains air quality conditions in the SCAB through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of the SCAQMD includes preparation of plans for attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. The SCAQMD also inspects stationary sources of air pollution and responds to citizen complaints; monitors ambient air quality and meteorological conditions; and implements programs and regulations required by the CAA, CAAA, and CCAA. Air quality plans applicable to the proposed project are discussed in the following sections.

10.3.3.1.1 South Coast Air Quality Management Plan

The SCAQMD and the Southern California Association of Governments (SCAG) are responsible for preparing the air quality management plan (AQMP), which addresses federal and state CAA requirements. The AQMP details goals, policies, and programs for improving air quality in the SCAB.

The 2012 AQMP was adopted by the SCAQMD Governing Board on December 12, 2012. The purpose of the 2012 AQMP for SCAB is to set forth a comprehensive and integrated program that will lead the SCAB into compliance with the federal 24-hour $PM_{2.5}$ air quality standard, and to provide an update to the SCAB's commitments towards meeting the federal 8-hour ozone standards. The AQMP also serves to satisfy recent EPA requirements for a new attainment demonstration of the revoked 1-hour ozone standard, as well as a vehicle miles travelled (VMT) emissions offset demonstration.[1] Specifically, once approved by CARB, the AQMP would serve as the official SIP submittal for the federal 2006 24-hour $PM_{2.5}$ standard, for which EPA has established a due date of December 14, 2012.[2] In addition, the AQMP updates specific new control measures and commitments for emissions reductions to implement the attainment strategy for the 8-hour ozone SIP. The 2012 AQMP sets forth programs which require integrated planning efforts and the cooperation of all levels of government: local, regional, state, and federal.

10.3.3.1.2 SCAQMD Rules and Regulations

All projects in the SCAB are subject to the SCAQMD rules and regulations in effect at the time of construction. Specific rules applicable to the construction anticipated under the proposed project occurring within Los Angeles County would include the following:

[1] Although the federal 1-hour ozone standard was revoked in 2005, the EPA has proposed to require a new 1-hour ozone attainment demonstration in the South Coast extreme ozone nonattainment area as a result of a recent court decision. Although EPA has replaced the 1-hour ozone standard with a more health protective 8-hour standard, the CAA anti-backsliding provisions require that California have approved plans for attaining the 1-hour standard.

[2] Although the 2012 AQMP was approved by the SCAQMD Board on December 7, 2012, the plan did not get submitted to the EPA by December 14, 2012 as it first required approval from CARB. The 2012 AQMP was subsequently approved by CARB on January 25, 2013, and as of February 13, 2013 the plan has been submitted by CARB to the EPA.

Rule 401 – Visible Emissions. This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in visible emissions. Specifically, the rule prohibits the discharge of any air contaminant into the atmosphere by a person from any single source of emission for a period or periods aggregating more than 3 minutes in any 1 hour that is as dark or darker in shade than that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.

Rule 402 – Nuisance. This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in a public nuisance. Specifically, this rule prohibits any person from discharging quantities of air contaminants or other material from any source such that it would result in an injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. Additionally, the discharge of air contaminants would also be prohibited where it would endanger the comfort, repose, health, or safety of any number of persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

Rule 403 – Fugitive Dust. This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust, and requires best available control measures to be applied to earth moving and grading activities.

Rule 1113 – Architectural Coatings. This rule serves to limit the VOC content of architectural coatings used in the District. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use in the District must comply with the current VOC standards set in this rule.

Rule 1166 – Volatile Organic Compound Emission From Decontamination of Soil. This rule sets requirements to control the emission of VOCs from excavating, grading, handling and treating VOC-contaminated soil as a result of leakage from storage or transfer operations, accidental spillage, or other deposition. Specifically, the rule requires that an approved mitigation plan be obtained from SCAQMD prior to commencing any of the following activities: (1) the excavation of an underground storage tank or piping which has stored VOCs, (2) the excavation or grading of soil containing VOC material including gasoline, diesel, crude oil, lubricant, waste oil, adhesive, paint, stain, solvent, resin, monomer, and/or any other material containing VOCs, and (3) the handling or storage of VOC-contaminated soil that registers a concentration of 50 ppm or greater using an organic vapor analyzer calibrated with hexane.

Rule 1196 – Clean On-Road Heavy-Duty Public Fleet Vehicles. This rule requires public fleet operators of heavy-duty vehicles operating in SCAQMD's jurisdiction to acquire alternative-fuel, dual-fuel, or dedicated gasoline heavy-duty vehicles when procuring or leasing these vehicles for use within the SCAQMD's jurisdiction to reduce air toxic and criteria pollutant emissions. This rule applies to all government agencies (such as federal, state, regional, county and city government) with 15 or more heavy-duty vehicles, any special districts (such as water, air, sanitation, and transit) with 15 or more heavy-duty vehicles, and school districts with 15 or more heavy-duty vehicles.

Rule 1470 – Requirements For Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines. The rule aims to control PM emissions from these engines by implementing CARB's ATCM for Stationary Compression Ignition Engines that was approved

by the CARB in February 2004. This rule is applicable to any person who sells, owns, or operates a stationary compression ignition engine in SCAQMD's jurisdiction with a rating greater than 50 brake horsepower (bhp). In addition to the requirements from the CARB ATCM, Rule 1470 also establishes more stringent requirements for engines located on or within 100 meters from existing schools to reduce exposure to diesel PM for school children, who are more susceptible to diesel PM than healthy adults.

10.3.3.1.3 Toxic Air Contaminants

At the local level, air pollution control or management districts may adopt and enforce CARB control measures. Under SCAQMD Regulation XIV (Toxics and Other Non-Criteria Pollutants), and in particular Rule 1401 (New Source Review), all sources that possess the potential to emit TACs are required to obtain permits from the SCAQMD. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. The SCAQMD limits emissions and public exposure to TACs through a number of programs. The SCAQMD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors.

10.3.3.2 Ventura County Air Pollution Control District

The VCAPCD is the agency principally responsible for comprehensive air pollution control in the Ventura County portion of the SCCAB. To that end, the VCAPCD, a regional agency, works directly with SCAG, the Ventura County Transportation Commission, and local governments, and cooperates actively with all state and federal government agencies. The VCAPCD develops rules and regulations, establishes permitting requirements, inspects emissions sources, and enforces such measures though educational programs or fines when necessary.

10.3.3.2.1 Ventura County Air Quality Management Plan

The VCAPCD has prepared a series of AQMPs to help reduce emissions from stationary (area and point), mobile, and indirect sources in the SCCAB. The most recent of these plans was adopted by the Governing Board of the VCAPCD in 2008. This AQMP, referred to as the 2007 Ventura County AQMP, was prepared to comply with the federal and state clean air acts and amendments, to accommodate growth, to reduce the high levels of pollutants in the SCCAB, to meet federal and state air quality standards, and to minimize the fiscal impact that pollution control measures have on the local economy. The plan identified control measures to be implemented to reduce major sources of pollutants. Future air quality levels projected in the 2007 AQMP are based on assumptions such as new development occurring in accordance with population growth and transportation projections identified by Ventura County staff.

10.3.3.2.2 VCAPCD Rules and Regulations

All projects in the SCCAB are subject to VCAPCD rules and regulations in effect at the time of construction. Specific rules applicable to proposed project construction occurring within Ventura County would include the following:

Rule 50 – Opacity. This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in visible emissions. Specifically, the rule prohibits the discharge of any air contaminant into the atmosphere by a person from any single source of emission for a period or periods aggregating more than 3 minutes in any 1 hour where the emissions are as dark

or darker in shade than that designated No. 1 on the Ringelmann Chart (as published by the United States Bureau of Mines), or are of such opacity as to obscure an observer's view.

Rule 51 – Nuisance. This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in a public nuisance by prohibiting any release of air contaminants by anyone that would cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. Additionally, the discharge of air contaminants would also be prohibited where it would endanger the comfort, repose, health or safety of any number of persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.

Rule 55 – Fugitive Dust. This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. This rule applies to any operation, disturbed surface area, or man-made condition capable of generating fugitive dust, including bulk material handling, earth-moving, construction, demolition, storage piles, unpaved roads, track-out, or off-field agricultural operations.

Rule 55.1 – Paved Roads and Public Unpaved Roads. This rule is intended to reduce the amount of fugitive dust emissions on paved roads or public unpaved roads resulting from the operation of construction or earthmoving equipment. This rule requires the removal of visible roadway accumulations on paved public roads as well as compliance with certain building guidelines during new or widened paved road construction. On public unpaved roads, the rule prohibits any construction or earthmoving activities from causing visible fugitive dust emissions.

10.3.3.2.3 VCAPCD Regulation of Hazardous Air Pollutants

The VCAPCD regulates hazardous air pollutants through Rule 36 (New Source Review – Hazardous Air Pollutants), which sets requirements that apply to any owner or operator that constructs or reconstructs a major source of HAPs. Specifically, unless the major HAP source has been exempted from regulation under the CAA, the VCAPCD will be responsible for making a final and legally effective case-by-case MACT new source review (NSR) determination such that the emissions from the applicable source would be controlled to a level no less stringent than the MACT emission rate. VCAPCD Rule 62.1 (Hazardous Materials) also prohibits the discharge of hazardous materials from any source that would result in concentrations at or beyond the property line in excess of any established state, federal, or local standard or emission limit. In addition, in the absence of specific standards for a particular hazardous material, the airborne concentrations of such materials are not allowed to exceed those levels and time intervals established by the State Division of Industrial Safety or the Occupational Safety and Health Administration. Furthermore, under VCAPCD Rule 73 (National Emission Standards for Hazardous Air Pollutants), the VCAPCD has adopted by reference the provisions of Title 40 Code of Federal Regulations (CFR) Part 61, National Emission Standards for Hazardous Air Pollutants, which would apply to the owner or operator of any source that contains an affected facility for which a standard has been prescribed under this rule.

10.3.4 Existing Regional and Local Air Quality

Both the SCAQMD and VCAPCD monitor ambient air pollutant concentrations through a series of monitoring stations located throughout the SCAB and SCCAB, respectively. The majority of the proposed project area is located in the Santa Clarita Valley subregion, while a portion of the proposed project area is located in Ventura County immediately adjacent to the Los Angeles-

Ventura County line. The closest monitoring station located within the Santa Clarita Valley subregion is the Santa Clarita-Placerita monitoring station (22224 Placerita Canyon) located approximately 6 miles southeast of the Valencia Water Reclamation Plant (VWRP). The closest monitoring station in Ventura County to the proposed project area is the Piru monitoring station (3301 Pacific Avenue) located approximately 12 miles west of the VWRP and 5 miles southwest of Lake Piru. Air quality in the proposed project area can be characterized by ambient air quality data collected at these two stations. The Santa Clarita-Placerita monitoring station monitors ambient concentrations of ozone, CO, NO_2, PM_{10}, and $PM_{2.5}$, while the Piru monitoring station only monitors ambient concentrations of ozone and $PM_{2.5}$. Historical data from the Santa Clarita-Placerita and Piru monitoring stations for the most recent 3 years available (2009-2011) are shown in Table 10-2**.**

Both CARB and the EPA use this type of monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify the areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are nonattainment, attainment, and unclassified. Unclassified is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. In addition, the California designations include a subcategory of nonattainment-transitional, which is given to nonattainment areas that are progressing and nearing attainment.

Table 10-2. Air Quality Data Summary (2009–2011)[a]

		Monitoring Data by Year		
Pollutant	**Standard[b]**	**2009**	**2010**	**2011**
Santa Clarita-Placerita Monitoring Station				
Ozone				
Highest 1-Hour Average (ppm)		0.14	0.13	0.14
Days Over State Standard	0.09 ppm	57	18	31
Highest 8-Hour Average (ppm)		0.12	0.11	0.12
Days Over National Standard	0.075 ppm	64	23	31
Days Over State Standard	0.070 ppm	77	41	52
Carbon Monoxide				
Highest 8-Hour Average (ppm)		1.35	1.15	0.79
Days Over National Standard	9 ppm	0	0	0
Days Over State Standard	9 ppm	0	0	0
Nitrogen Dioxide				
Highest 1-Hour Average (ppm)		0.06	0.06	0.06
Days Over National Standard	0.10 ppm	0	0	0
Days Over State Standard	0.18 ppm	0	0	0
Annual Average (ppm)		0.02	0.01	0.01
Days Over National Standard	0.05 ppm	0	0	0
Days Over State Standard	0.03 ppm	0	0	0
Particulate Matter (PM_{10})				
Highest 24-Hour Average ($\mu g/m^3$)[c]		56.0	40.0	45.0
Days Over National Standard (Measured)[c]	150 $\mu g/m^3$	0	0	0
Days Over State Standard (Measured)[c]	50 $\mu g/m^3$	*	0	*
Annual Average ($\mu g/m^3$)[c]	20 $\mu g/m^3$	*	20	*

Table 10-2 (cont.)

Pollutant	Standard[b]	Monitoring Data by Year 2009	2010	2011
Particulate Matter ($PM_{2.5}$)				
Highest 24-Hour Average ($\mu g/m^3$) [c]		42.8	40.6	35.5
Days over National Standard (Measured) [c]	35 $\mu g/m^3$	*	*	*
Annual Average ($\mu g/m^3$) [c]	12 $\mu g/m^3$	*	*	*
Piru Monitoring Station				
Ozone				
Highest 1-Hour Average (ppm)		0.11	0.09	0.10
Days Over State Standard	0.09 ppm	5	0	1
Highest 8-Hour Average (ppm)		0.09	0.08	0.08
Days Over National Standard	0.08 ppm	11	1	2
Days Over State Standard	0.07 ppm	16	4	6
Particulate Matter ($PM_{2.5}$)				
Highest 24-Hour Average ($\mu g/m^3$) [c]		34.2	24.2	22.9
Days Over National Standard (Measured) [d]	35 $\mu g/m^3$	0	0	0
Annual Average ($\mu g/m^3$) [c]	12 $\mu g/m^3$	9.5	8.5	7.6

ppm = parts per million

$\mu g/m^3$ = micrograms per cubic meter

* = There were insufficient (or no) data available to determine the value.

[a] It should be noted that a violation at any air quality monitoring station will cause an air basin to fall out of attainment. For instance, even though pollutant concentrations monitored at a particular station within SCAB may be at attainment level, that doesn't mean that SCAB as a whole is also in attainment.

[b] Generally, state standards and national standards are not to be exceeded more than once per year.

[c] Concentrations and averages represent federal statistics. State and federal statistics may differ because of different sampling methods.

[d] Measurements are usually collected every 6 days. Days over the standard represent the number of days that the standard has been exceeded.

Source: CARB 2011.

The SCAB is currently classified as a federal nonattainment area for ozone (extreme), PM_{10} (serious), and the $PM_{2.5}$ standard, and a federal attainment/maintenance area for NO_2, CO, and SO_2 (EPA 2012). The SCAB is classified as a state nonattainment area for ozone, NO_2, PM_{10}, and $PM_{2.5}$ and an attainment area for CO and SO_2 (CARB 2011). Currently the Los Angeles County portion of SCAB is classified as both a federal and state nonattainment area for lead due to air quality data measured near a large lead-acid battery recycling facility. The SCCAB is currently classified as a federal nonattainment area for ozone; a federal unclassified area for PM_{10}; a federal unclassifiable/attainment area for NO_2, CO, $PM_{2.5}$, and lead; and a federal attainment/maintenance area for SO_2 (CARB 2011). SCCAB is classified as a state nonattainment area for ozone, PM_{10}, and $PM_{2.5}$ and an attainment area for NO_2, CO, SO_2, and lead (CARB 2011).

10.4 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

10.4.1 Thresholds of Significance

The criteria used to determine the significance of impacts related to air quality are based on Appendix G of the CEQA Guidelines. The proposed project would result in a significant impact if it would result in any of the following:

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

As stated in Appendix G of the CEQA Guidelines, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations.

10.4.1.1 SCAQMD

The SCAQMD has established daily mass thresholds, as shown in Table 10-3.

Table 10-3. SCAQMD Air Quality Significance Thresholds

	Daily Mass Thresholds (lbs/day)	
Pollutant	**Construction**	**Operations**
Oxides of Nitrogen (NO_X)	100	55
Reactive Organic Gases (ROG)	75	55
Respirable Particulate Matter (PM_{10})	150	150
Fine Particulate Matter ($PM_{2.5}$)	55	55
Oxides of Sulfur (SO_X)	150	150
Carbon Monoxide (CO)	550	550
Lead[a]	3	3

lbs/day = pounds per day

[a] As the proposed project would not involve the development of any major lead emissions sources, lead emissions will not be analyzed further in the EIR.

Source: SCAQMD 2011b.

The SCAQMD also recommends that any construction-related emissions from individual development projects that exceed the thresholds shown in Table 10-3 be considered cumulatively considerable.

The SCAQMD has developed localized significance thresholds (LSTs) that are based on the pounds of emissions per day that can be generated by a project without causing or contributing to adverse localized air quality impacts. It should be noted that while the SCAQMD has developed the LST methodology to assist lead agencies in analyzing localized air quality impacts from projects, this

methodology is intended to serve as guidance and is considered to be voluntary. The localized thresholds, which are found in the mass rate look-up tables in the Final Localized Significance Threshold Methodology document prepared by SCAQMD, apply to projects that are less than or equal to 5 acres in size and are applicable to the following criteria pollutants: NO_X, CO, PM_{10}, and $PM_{2.5}$. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards, and are developed based on the ambient concentrations of that pollutant for each Source Receptor Area (SRA). It should be noted that with regards to NO_X emissions, the two principal species of NO_X are nitric oxide (NO) and nitrogen dioxide (NO_2), with the vast majority (95 percent) of the NO_X emissions being comprised of NO. However, because adverse health effects are associated with NO_2, not NO, the analysis of localized air quality impacts associated with NO_X emissions is focused on NO_2 levels. When modeling NO_2 emissions from combustion sources, SCAQMD assumes that the conversion of NO to NO_2 is complete at a distance of 5,000 meters from the source.

Because the construction work for the proposed project would occur in various construction areas that are individually less than one acre in size, SCAQMD's mass rate look-up tables for construction and operational emissions were used to determine whether emissions associated with the proposed project would result in localized air quality impacts. As of April 2010, a newly adopted 1-hour national air quality standard of 0.10 ppm for NO_2 went into effect, which is more stringent than the state's current 1-hour threshold of 0.18 ppm. As the LST values for NO_2 emissions in SCAQMD's mass rate look-up tables are based on the state's current 1-hour threshold, the LST values for NO_2 emissions used in the evaluation of the proposed project's impacts have been adjusted to reflect the current national air quality standard for this criteria pollutant, which is consistent with SCAQMD staff recommendations. The current federal 0.10-ppm NO_2 standard is based on the 3-year average of the annual 98^{th} percentile of the daily maximum 1-hour NO_2 concentrations, while the LST values prescribed by the SCAQMD for the SRAs in the SCAB are calculated based on the 3-year average of the maximum 1-hour NO_2 concentrations. To find an appropriate LST value for NO_2 emissions, another SRA with a 3-year average maximum 1-hour NO_2 concentration most closely matching the 3-year averaged 98^{th} percentile value for the 1-hour NO_2 concentration was needed. Once that SRA for the SCV subregion was identified, the LST value for NO_2 emissions prescribed by the SCAQMD for that SRA was then extrapolated for the new federal 1-hour NO_2 standard (i.e., from 0.18 ppm to 0.10 ppm) and used to determine the significance of the proposed project's localized air quality impacts.

The construction emissions associated with the proposed project, which is located within SRA 13 (Santa Clarita Valley area), would be significant if they exceed the LSTs shown in Table 10-4.

10.4.1.2 VCAPCD

The VCAPCD has prepared the Ventura County Air Quality Assessment Guidelines explaining the procedures recommended by VCAPCD for environmental review processes required by CEQA. The Ventura County Air Quality Assessment Guidelines provide direction on how to evaluate potential air quality impacts, how to determine whether the impacts are significant, and how to mitigate the impacts.

Construction-related activities are generally short-term in duration, and the VCAPCD does not recommend any thresholds of significance for their associated emissions. Instead, the VCAPCD bases the determination of significance on a consideration of the control measures to be

Table 10-4. SCAQMD Localized Significance Thresholds

Pollutant Monitored Within SRA 13 – Santa Clarita Valley Area	1-Acre Site: Allowable emissions (lbs/day) as a function of receptor distance (feet) from site boundary				
	82 (ft)	164 (ft)	328 (ft)	656 (ft)	1,640 (ft)
Construction Thresholds					
Nitrogen Oxides (NO_X) [a,b]	90	113	162	256	498
Carbon Monoxide (CO)	590	879	1,290	2,500	8,170
Respirable Particulate Matter (PM_{10})	4	12	25	51	131
Fine Particulate Matter ($PM_{2.5}$)	3	4	7	18	74

[a] The localized thresholds listed for NO_X in this table take into consideration the gradual conversion of NO to NO_2. The analysis of localized air quality impacts associated with NO_X emissions focuses on NO_2 levels as they are associated with adverse health effects.

[b] The localized thresholds have been adjusted accordingly to reflect EPA's current 1-hour national air quality standard for NO_2.

Source: SCAQMD 2008.

implemented. If all appropriate emissions control measures recommended by the Ventura County Air Quality Assessment Guidelines are implemented for a project, then construction emissions are not considered to be significant.

For operational emissions, the VCAPCD currently recommends that projects located in Ventura County outside of the Ojai Planning Area with operational emissions that exceed the following emissions thresholds should be considered significant:

- 25 lbs/day of reactive organic compounds (ROC; equivalent to ROG)
- 25 lbs/day of NO_X

The VCAPCD also recommends that any operational emissions from individual projects that exceed the project-specific thresholds of significance identified above be considered cumulatively considerable.

10.4.2 Methodology

Short-term construction-generated emissions of criteria air pollutants and ozone precursors were assessed in accordance with methods recommended by the SCAQMD and VCAPCD, where applicable. Where quantification is required, regional daily emissions were modeled using the California Emissions Estimator Model (CalEEMod), Version 2011.1.1, as recommended by the SCAQMD. CalEEMod was used to determine whether regional short-term construction-related emissions of criteria air pollutants associated with the proposed project would exceed applicable thresholds. Modeling was based on project-specific data, when available. Where project-specific information was not available, reasonable assumptions and default settings were used to estimate criteria air pollutant and ozone precursor emissions. Modeling input and output files are provided in Appendix 10-A. Predicted short-term construction-generated emissions in the proposed project area located within the jurisdictional boundary of SCAQMD were compared with applicable SCAQMD thresholds for determination of significance. As discussed previously, the VCAPCD does not recommend any thresholds of significance for a project's construction emissions and instead relies on the implementation of control measures to reduce potential construction emission impacts to a less than significant level. The construction emissions generated by the proposed project within the jurisdictional boundary of the VCAPCD were not quantified.

In addition, to determine whether or not construction activities associated with the proposed project would create significant adverse localized air quality impacts on nearby sensitive receptors, the emissions contribution from the proposed project in areas located within the SCAQMD's jurisdictional boundary were analyzed according to the SCAQMD's LST methodology. As discussed previously, the LSTs developed by the SCAQMD are based on the pounds of emissions per day that can be generated by a project without causing or contributing to adverse localized air quality impacts.

For the purpose of analyzing localized air quality impacts, SCAQMD has developed five sample construction scenarios – 1 acre, 2 acres, 3 acres, 4 acres, and 5 acres in size – where construction impacts do not exceed the most stringent LSTs. The sample scenarios were designed to be used as models or templates for analyzing construction air quality impacts by projects of similar size. As the construction activities associated with the proposed project would involve the disturbance of areas less than 1 acre in size at any given time, the 1-acre sample construction scenario is used as a template to analyze the significance of the construction emissions generated by the proposed project. In conducting the analysis, the parameters of the 1-acre sample construction scenario were modified such that they would apply to the project-specific characteristics of the proposed project. The parameters that have been modified in the 1-acre sample construction scenario for the proposed project analysis include the number of pieces of equipment, the construction schedule, and the amount of soil that would be handled at the various construction areas. The resulting construction emissions generated are then analyzed against the applicable LSTs (see Table 10-4) for a 1-acre site to determine whether significant localized air quality impacts would occur at nearby sensitive receptors.

10.4.2.1 Air Quality Management Plan

Impact 10-1: The proposed project could conflict with or obstruct implementation of the applicable air quality plan.

In preparation of their respective AQMP, the SCAQMD, VCAPCD, and SCAG utilized land use designations contained in general plan documents to forecast, inventory, and allocate regional emissions from land use and development-related sources. For purposes of analyzing consistency with the AQMP, if a project would have density and vehicle trip generation substantially greater than anticipated in the general plan, then the project would conflict with the AQMP. On the other hand, if a project proposes development of a higher density (and associated trip generation), its emissions would have been understated in the AQMP. Therefore, the project would conflict with the emissions projections on which the AQMP is based.

The main objective of this proposed project is to meet the requirements of the Upper Santa Clara River Chloride Total Maximum Daily Load (Chloride TMDL). The proposed project would not increase the current treatment capacity of the VWRP or SWRP. The proposed project would require a small number of new employees at the water reclamation plants (WRPs), which would result in a minimal increase in operational vehicular trips. Trips for chemical deliveries would also represent a minimal increase in operational vehicular trips. However, the proposed project would not introduce additional population density or a new land use that would attract excessive vehicle trips to the proposed project area. Although operation of the proposed project under Alternative 3 would require a brine disposal system via trucking, which would result in mobile emissions within SCAQMD's jurisdiction, both the truck loading and unloading facilities that would be constructed are consistent with the land use and zoning designations at their respective areas. As such, these emissions would have been allocated as part of the regional emissions from land use sources in the 2012 AQMP for SCAQMD. As discussed in Section 17 of this EIR, none of the proposed project alternatives would result in a conflict with any applicable land use plan,

policy, or regulation. As a result, the proposed project would not exceed any of the growth assumptions that have been anticipated in the respective AQMPs for both the SCAQMD and VCAPCD. Therefore, the proposed project would not conflict with the AQMPs. Impact would be less than significant.

Impact Summary

The construction and operation of Alternative 1, Alterative 2, Alternative 3, and Alternative 4 would not conflict with or obstruct implementation of the applicable air quality plans from the SCAQMD and VCAPCD. The construction and operational impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

10.4.2.2 Air Quality Standards

Impact 10-2: The proposed project could violate air quality standards or contribute substantially to an existing or projected air quality violation.

Construction

Regional Daily Mass Emissions

Construction emissions are considered short term and temporary, but can result in a significant impact with respect to air quality. PM_{10} and $PM_{2.5}$ are among the pollutants of greatest localized concern with respect to construction activities. Particulate emissions from construction activities can lead to adverse health effects and nuisance concerns, such as reduced visibility and soiling of exposed surfaces. Particulate emissions can result from a variety of construction activities, including excavation, grading, vehicle travel on paved and unpaved surfaces, and vehicle and equipment exhaust. Construction emissions of particulate matter can vary greatly depending on the level of activity, the specific operations taking place, the number and types of equipment operated, local soil conditions, weather conditions, and the amount of earth disturbance.

Emissions of ozone precursors ROG and NO_X are primarily generated from mobile sources and vary as a function of vehicle trips per day associated with delivery of construction materials, the importing and exporting of soil, worker commute trips, and the types and number of construction equipment used and the intensity and frequency of their operation. A large portion of construction-related ROG emissions can result from the application of asphalt and architectural coatings, and vary depending on the amount of coatings and paving applied each day.

Construction for each alternative would be performed in phases for site excavation, construction of structures (where applicable), installation of piping and equipment, paving, and landscaping. Additionally, construction activities associated with the various components under each of the alternatives may overlap.

Regional maximum daily construction emissions for the proposed project occurring in areas within SCAQMD's jurisdictional boundary were estimated using CalEEMod, which is designed to model construction emissions for land use development projects based on building size, land use and type, and disturbed acreage, and allows for the input of project-specific information. Project-generated emissions of criteria air pollutants (e.g., PM_{10}) and precursors (i.e., ROG and

NO_X) were modeled based on general information provided in the proposed project description and by the project applicant, and default SCAQMD-recommended settings and parameters attributable to the proposed land use types and site location.

Alternative 1 – MF/RO With Brine Disposal via Pipeline

The microfiltration/reverse osmosis (MF/RO) facilities at the VWRP, the potential ultraviolet (UV) disinfection facilities at the VWRP and/or SWRP, the RO product water conveyance system facilities, and the brine disposal system facilities are described in Section 6.7.1. Table 10-5 summarizes the modeled worst-case regional daily emissions of criteria air pollutants and ozone precursors associated with the proposed project's construction activities under Alternative 1, which would occur entirely within the jurisdictional boundary of SCAQMD. Refer to Appendix 10-A for a detailed summary of the CalEEMod modeling assumptions, inputs, and outputs.

Table 10-5. Regional Peak Daily Construction Emissions – Alternative 1

	Estimated Maximum Daily Emissions (lbs/day)					
Year	**ROG**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
2015	53.3	374	262	0.60	25.0	19.8
2016	41.4	280	226	0.50	20.4	15.4
Maximum Regional Daily Emissions	**53.3**	**374**	**262**	**0.60**	**25.0**	**19.8**
Regional Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	Yes	No	No	No	No

Note: Calculations assume compliance with SCAQMD Rule 403.
Source: ESA 2013.

As shown in Table 10-5, the maximum daily level of construction-generated emissions of ROG, CO, SO_2, PM_{10}, and $PM_{2.5}$ would not exceed their respective SCAQMD-recommended thresholds in 2015 and 2016. The impacts associated with these pollutants would be less than significant. However, the maximum daily level of construction-generated emissions of NO_X would exceed the applicable SCAQMD-recommended thresholds in 2015 and 2016. The maximum regional daily NO_X emissions occurring in 2015 results from peak daily construction emissions generated during the overlap of various construction activities, including the MF/RO and the UV disinfection facilities, RO product water pipeline and pump station, and brine disposal pipeline to the Joint Outfall System (JOS) with two pump stations. The maximum regional daily NO_X emissions occurring in 2016 results from peak daily construction emissions generated during the overlap of various construction activities for the MF/RO and UV disinfection facilities, RO product water pipeline, and brine disposal pipeline to JOS with two pump stations.

As the mass emissions of NO_X would exceed SCAQMD's recommended threshold of significance, construction-generated emissions of this criteria pollutant could violate or contribute substantially to an existing or projected air quality violation. This would be a potentially significant impact. While implementation of Mitigation Measure AQ-1, which would require that all construction equipment meet Tier 3 certification requirements to the extent practicable, would reduce the overall NO_X emissions generated from construction activities associated with Alternative 1, the emission would not be reduced to a level below SCAQMD's regional NO_X threshold in 2015 or 2016. The impact would be significant and unavoidable.

Impact Summary

The construction of facilities for Alternative 1 in Los Angeles County would exceed SCAQMD's daily regional threshold for NO_X and could violate or contribute substantially to an existing or projected air quality violation. Implementation of Mitigation Measure AQ-1 would not mitigate the impact to a less than significant level. The construction impact would be significant and unavoidable.

Mitigation Measures: Implement AQ-1.

Mitigation Measure AQ-1: Equipment Tier Requirements. All construction equipment shall meet or exceed Environmental Protection Agency Tier 3 certification requirements when feasible. The contractor shall be required to document efforts to utilize Tier 3 equipment including providing justification when using Tier 3-certified or better equipment is not feasible. At a minimum, diesel-powered construction equipment that meets Tier 2 emission standards shall be used.

Significance Level After Mitigation: Significant and Unavoidable Impact.

Alternative 2 – MF/RO With Brine Disposal via DWI

The MF/RO facilities at the VWRP, the potential UV disinfection facilities at the VWRP and/or SWRP, and the RO product water conveyance system facilities would be the same as described for Alternative 1. The brine disposal system facilities are described in Section 6.7.1. Table 10-6 summarizes the modeled worst-case regional daily emissions of criteria air pollutants and ozone precursors associated with the proposed project's construction activities under Alternative 2. Refer to Appendix 10-A for a detailed summary of the CalEEMod modeling assumptions, inputs, and outputs.

Table 10-6. Regional Peak Daily Construction Emissions – Alternative 2

	Estimated Maximum Daily Emissions (lbs/day)					
Year	**ROG**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
2015	33.2	233	142	0.35	13.8	11.4
2016	20.7	143	103	0.28	8.97	7.01
Maximum Regional Daily Emissions	**33.2**	**233**	**142**	**0.35**	**13.8**	**11.4**
Regional Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	Yes	No	No	No	No

Note: Calculations assume compliance with SCAQMD Rule 403.
Source: ESA 2013.

As shown in Table 10-6, the maximum daily level of construction-generated emissions of ROG, CO, SO_2, PM_{10}, and $PM_{2.5}$ would not exceed their respective SCAQMD-recommended thresholds in 2015 and 2016. The impacts associated with these pollutants would be less than significant. However, the maximum daily level of construction-generated emissions of NO_X would exceed the applicable SCAQMD-recommended thresholds in 2015 and 2016. The maximum regional daily NO_X emissions, which occur in 2015, would result from peak daily construction emissions generated during the overlap of various construction activities, including the MF/RO facilities, the UV disinfection facilities, the RO product water pipeline and pump station, and the DWI

wells. The maximum regional daily NO_X emissions occurring in 2016 results from peak daily construction emissions generated during the overlap of various construction activities for the RO product water pipeline, DWI wells, and brine pipeline and pump station to the DWI site.

As the mass emissions of NO_X would exceed SCAQMD's recommended threshold of significance, construction-generated emissions of this criteria pollutant could violate or contribute substantially to an existing or projected air quality violation. This would be a potentially significant impact. While implementation of Mitigation Measure AQ-1, which would require that all construction equipment meet Tier 3 certification requirements to the extent practicable, would reduce the overall NO_X emissions generated from construction activities associated with Alternative 2, the emission would not be reduced to a level below SCAQMD's regional NO_X threshold. The impact would be significant and unavoidable.

Impact Summary

The construction of facilities for Alternative 2 in Los Angeles County would exceed SCAQMD's daily regional threshold for NO_X and could violate or contribute substantially to an existing or projected air quality violation. Implementation of Mitigation Measure AQ-1 would not mitigate the impact to a less than significant level. The construction impact would be significant and unavoidable.

Mitigation Measures: Implement AQ-1.

Significance Level After Mitigation: Significant and Unavoidable Impact.

Alternative 3 – MF/RO With Brine Disposal via Trucking

The MF/RO facilities at the VWRP, the UV disinfection facilities at the VWRP and SWRP, and the RO product water conveyance system would be the same as described for Alternative 1. The brine disposal facilities are described in Section 6.7.1. Table 10-7 summarizes the modeled worst-case regional daily emissions of criteria air pollutants and ozone precursors associated with the proposed project's construction activities under Alternative 3. Refer to Appendix 10-A for a detailed summary of the CalEEMod modeling assumptions, inputs, and outputs.

As shown in Table 10-7, the maximum daily level of construction-generated emissions of ROG, CO, SO_2, PM_{10}, and $PM_{2.5}$ would not exceed their respective SCAQMD-recommended thresholds in 2015 and 2016. The impacts associated with these pollutants would be less than significant. However, the maximum daily level of construction-generated emissions of NO_X would exceed the applicable SCAQMD-recommended thresholds in 2015. The maximum regional daily NO_X emissions, which occur in 2015, would result from peak daily construction emissions generated during the overlap of various construction activities, including the MF/RO facilities, the UV disinfection facilities, the RO product water pipeline and pump station, and the truck loading and unloading terminals. The regional daily NO_X construction emissions generated in 2016 would not exceed SCAQMD's criteria pollutant thresholds.

As the mass emissions of NO_X would exceed SCAQMD's recommended threshold of significance in 2015, construction-generated emissions of this criteria pollutant could violate or contribute substantially to an existing or projected air quality violation. This would be a potentially significant impact. While implementation of Mitigation Measure AQ-1, which would require that all construction equipment meet Tier 3 certification requirements to the extent

Table 10-7. Regional Peak Daily Construction Emissions – Alternative 3

	Estimated Maximum Daily Emissions (lbs/day)					
Year	**ROG**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
2015	30.2	215	137	0.36	17.1	11.6
2016	10.1	70.5	53.6	0.10	5.56	3.96
Maximum Regional Daily Emissions	**30.2**	**215**	**137**	**0.36**	**17.1**	**11.6**
Regional Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	Yes	No	No	No	No

Note: Calculations assume compliance with SCAQMD Rule 403.
Source: ESA 2013.

practicable, would reduce the overall NO_X emissions generated from construction activities associated with Alternative 3, the emission would not be reduced to a level below SCAQMD's regional NO_X threshold. The impact would be significant and unavoidable.

Impact Summary

The construction of facilities for Alternative 3 in Los Angeles County would exceed SCAQMD's daily regional threshold for NO_X in 2015 and could violate or contribute substantially to an existing or projected air quality violation. Implementation of Mitigation Measure AQ-1 would not mitigate the impact to a less than significant level. The construction impact would be significant and unavoidable.

Mitigation Measures: Implement AQ-1.

Significance Level After Mitigation: Significant and Unavoidable Impact.

Alternative 4 – Phased AWRM

Phase I

The UV disinfection facilities at the VWRP and SWRP would be the same as described for Alternative 1. The salt management facilities and the supplemental water system facilities are described in Section 6.7.1. Table 10-8 summarizes the modeled worst-case regional daily emissions of criteria air pollutants and ozone precursors associated with the proposed project's construction activities under Phase I of Alternative 4. As a portion of the construction activities would occur in Ventura County, the emissions associated with those activities were not included in the emissions totals shown in Table 10-8, which are compared against SCAQMD's significance thresholds. Refer to Appendix 10-A for a detailed summary of the CalEEMod modeling assumptions, inputs, and outputs.

As shown in Table 10-8, the portion of the maximum daily ROG, NO_X, CO, SO_2, PM_{10}, and $PM_{2.5}$ emissions generated in Los Angeles County under the jurisdiction of the SCAQMD would not exceed their respective SCAQMD-recommended thresholds in 2015 and 2016. The impacts associated with these pollutants would be less than significant.

Table 10-8. Regional Peak Daily Construction Emissions – Alternative 4 (Phase I)

	Estimated Maximum Daily Emissions (lbs/day)					
Year	**ROG**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
2015	10.5	73.0	45.5	0.12	4.38	3.56
2016	4.32	31.3	21.0	0.04	2.44	1.68
Maximum Regional Daily Emissions	**10.5**	**73.0**	**45.5**	**0.12**	**4.38**	**3.56**
Regional Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	No	No	No	No	No

Note: Calculations assume compliance with SCAQMD Rule 403.
Source: ESA 2013.

As discussed previously in this EIR section, construction-related activities are generally short-term in duration and the VCAPCD does not recommend any thresholds of significance for construction-related emissions. Instead, the VCAPCD bases the determination of significance on a consideration of the control measures to be implemented. If all appropriate emissions control measures recommended by the Ventura County Air Quality Assessment Guidelines relating to construction activities are implemented for a project, then construction emissions are not considered significant. Conversely, if all of the appropriate emissions control measures recommended by the VCAPCD are not implemented, then construction emissions are considered significant. Therefore, with respect to the construction emissions that would be generated under Phase I of Alternative 4 in Ventura County, Mitigation Measure AQ-2, which would include appropriate dust control measures recommended by the VCAPCD, and Mitigation Measure AQ-3, which would reduce the emissions generated by heavy-duty diesel-powered construction equipment operating at the construction areas, would be implemented to reduce impacts associated with the proposed project's construction emissions to a less than significant level.

Impact Summary – Phase I

The construction of facilities for Phase I of Alternative 4 in Los Angeles County would not exceed any of SCAQMD's regional thresholds for criteria pollutants. Implementation of Mitigation Measures AQ-2 and AQ-3 would mitigate the impact in Ventura County to a less than significant level.

Mitigation Measures: Implement AQ-2 and AQ-3.

Mitigation Measure AQ-2: Dust Control Measures. The contractor shall be required to implement dust control measures throughout all phases of construction. Control measures shall be in accordance with the Ventura County Air Pollution Control District's requirements and recommendations.

Mitigation Measure AQ-3: Ozone Precursor Emission Reduction. The contractor shall be required to implement control measures throughout all phases of construction to mitigate ozone precursor emissions from construction motor vehicles. Control measures shall be in accordance with the Ventura County Air Pollution Control District's requirements and recommendations.

Significance Level After Mitigation: Less Than Significant Impact.

Phase II

The MF/RO facilities at the VWRP would be similar to those described for Alternative 1 but, under this alternative, would be smaller in size. The RO product water conveyance system facilities and the brine disposal system facilities are described in Section 6.7.1. The brine disposal system would rely on a pipeline, DWI, or trucking – each of which was previously analyzed for Alternatives 1, 2, and 3, respectively, but there would be lower peak brine flow to manage so the diameter of the pipeline, number of injection wells, and peak number of truck trips would be smaller. The modeled worst-case regional daily emissions of criteria air pollutants and ozone precursors associated with the proposed project's construction activities for each of the potential brine disposal systems (i.e., pipeline, DWI, or via trucking) are shown in Tables 10-9, 10-10, and 10-11, respectively. The construction emissions shown in Tables 10-9 through 10-11 are those that would occur within Los Angeles County, which is under the jurisdiction of the SCAQMD. Refer to Appendix 10-A for a detailed summary of the CalEEMod modeling assumptions, inputs, and outputs.

Table 10-9. Regional Peak Daily Construction Emissions – Alternative 4 (Phase II With Brine Disposal via Pipeline to JOS)

	Estimated Maximum Daily Emissions (lbs/day)					
Year	**ROG**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
2015	49.3	347	240	0.56	22.7	18.2
2016	37.7	255	205	0.46	17.9	13.8
Maximum Regional Daily Emissions	**49.3**	**347**	**240**	**0.56**	**22.7**	**18.2**
Regional Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	Yes	No	No	No	No

Note: Calculations assume compliance with SCAQMD Rule 403.
Source: ESA 2013.

As shown in Table 10-9, the maximum daily level of construction-generated emissions of ROG, CO, SO_2, PM_{10}, and $PM_{2.5}$ would not exceed their respective SCAQMD-recommended thresholds in 2015 and 2016. The impacts associated with these pollutants would be less than significant. However, the maximum daily level of construction-generated emissions of NO_X during Phase II of Alternative 4 with the brine disposal system via pipeline to JOS would exceed the applicable SCAQMD threshold in 2015 and 2016. The maximum regional daily emissions that occur in 2015 result from peak daily construction emissions generated during the overlap of various construction activities, including the MF/RO facilities, the RO product water pipeline and pump station, and the brine pipeline and pump stations to the JOS. The maximum regional daily emissions that occur in 2016 result directly from peak daily construction emissions associated with construction of the MF/RO facilities, the RO product water pipeline, and the brine pipeline and pump stations to the JOS.

As shown in Table 10-10, the maximum daily level of construction-generated emissions of ROG, CO, SO_2, PM_{10}, and $PM_{2.5}$ would not exceed their respective SCAQMD-recommended thresholds in 2015 and 2016. The impacts associated with these pollutants would be less than significant. However, the maximum daily level of construction-generated emissions of NO_X during Phase II of Alternative 4 with the brine disposal system via pipeline to DWI site would exceed the

Table 10-10. Regional Peak Daily Construction Emissions – Alternative 4 (Phase II With Brine Disposal via DWI)

	Estimated Maximum Daily Emissions (lbs/day)					
Year	**ROG**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
2015	25.7	181	110	0.30	10.3	8.71
2016	20.7	143	103	0.28	8.45	6.98
Maximum Regional Daily Emissions	**25.7**	**181**	**110**	**0.30**	**10.3**	**8.71**
Regional Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	Yes	No	No	No	No

Note: Calculations assume compliance with SCAQMD Rule 403.
Source: ESA 2013.

applicable SCAQMD threshold in 2015 and 2016. The maximum regional daily emissions that occur in 2015 result from peak daily construction emissions generated during the overlap of various construction activities, including the MF/RO facilities, the RO product water pipeline and pump station, and the DWI wells. The maximum regional daily emissions that occur in 2016 result directly from peak daily construction emissions associated with construction of the RO product water pipeline, the DWI wells, and the brine pipeline and pump station to DWI site.

Table 10-11. Regional Peak Daily Construction Emissions – Alternative 4 (Phase II With Brine Disposal via Trucking)

	Estimated Maximum Daily Emissions (lbs/day)					
Year	**ROG**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
2015	25.2	186	115	0.31	15.0	9.97
2016	6.11	42.6	32.6	0.06	3.12	2.32
Maximum Regional Daily Emissions	**25.2**	**186**	**115**	**0.31**	**15.0**	**9.97**
Regional Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	Yes	No	No	No	No

Note: Calculations assume compliance with SCAQMD Rule 403.
Source: ESA 2013.

As shown in Table 10-11, the maximum daily level of construction-generated emissions of ROG, CO, SO_2, PM_{10}, and $PM_{2.5}$ would not exceed their respective SCAQMD-recommended thresholds in 2015 and 2016. The impacts associated with these pollutants would be less than significant. However, the maximum daily level of construction-generated emissions of NO_X during Phase II of Alternative 4 with the brine disposal system via trucking would exceed the applicable SCAQMD threshold in 2015. The maximum regional daily emissions that occur in 2015 result from peak daily construction emissions generated during the overlap of various construction activities, including the MF/RO facilities, the RO product water pipeline and pump station, and the brine truck loading and unloading terminals.

As the daily mass emissions of NO_X would exceed SCAQMD's threshold of significance during construction of Phase II under Alternative 4, construction-generated emissions of this criteria pollutant could violate or contribute substantially to an existing or projected air quality violation. This would be a potentially significant impact. Despite the implementation of Mitigation Measure AQ-1, which would require that all construction equipment meet Tier 3 certification requirements to the extent practicable, the regional air quality impact associated with NO_X emissions under Alternative 4 would not be reduced to below the SCAQMD's level of significance. Impact would be significant and unavoidable.

The construction of Phase II under Alternative 4 would also involve the construction of the RO product water pipeline that extends from VWRP to the East Piru Well field located in Ventura County. The construction emissions generated within the Ventura County portion of the RO product water pipeline would require implementation of the VCAPCD's recommended control measures to reduce fugitive dust emissions and emissions generated from heavy-duty diesel-powered equipment. Implementation of these control measures, which are presented in Mitigation Measures AQ-2 and AQ-3, would reduce construction emission impacts in the Ventura County portion of the construction area to a less than significant level.

Impact Summary – Phases I and II

The construction of facilities for Phase I of Alternative 4 in Los Angeles County would not exceed any of SCAQMD's regional thresholds for criteria pollutants. Implementation of Mitigation Measures AQ-2 and AQ-3 would mitigate the impact in Ventura County to a less than significant level.

The construction of facilities for Phase II of Alternative 4 in Los Angeles County would exceed SCAQMD's daily regional threshold for NO_X and could violate or contribute substantially to an existing or projected air quality violation. Implementation of Mitigation Measure AQ-1 would not mitigate the impact to a less than significant level. The construction impact would be significant and unavoidable. Implementation of Mitigation Measures AQ-2 and AQ-3 would mitigate the impact in Ventura County to a less than significant level.

Mitigation Measures: Implement AQ-1, AQ-2, and AQ-3.

Significance Level After Mitigation: Significant and Unavoidable Impact.

Operation

Alternative 1 – MF/RO With Brine Disposal via Pipeline

The MF/RO facilities at the VWRP, the potential UV disinfection facilities at the VWRP and/or SWRP, the RO product water conveyance system facilities, and the brine disposal system facilities are described in Section 6.7.1. Implementation of Alternative 1 would not result in substantial long-term regional or short-term local emissions of criteria air pollutants and ozone precursors. The operation of the MF/RO facilities and UV disinfection facilities would be powered through electricity obtained from the regional grid distributed by Southern California Edison (SCE). As a result, no emissions would be generated at the VWRP and SWRP from the consumption of natural gas or combustible fuel as a result of the proposed project's operation.

In addition, as discussed in Section 19, operation of the MF/RO facilities and UV disinfection facilities would generate approximately 11 new daily vehicular trips that would produce a

minimal effect on traffic volumes or circulation on local or regional roadways. It is anticipated that the proposed project would require one new employee at the SWRP and 10 new employees at the VWRP. This would create a minimal increase in operational vehicular trips. Trips for occasional chemical deliveries would represent a minimal increase in operational vehicular trips. Furthermore, the operational vehicle trips required for the brine pipeline and offsite pump station would require infrequent vehicle trips for inspection and maintenance (approximately two times per month). New employees would not be required at the offsite pump station, which would not require daily staffing. Overall, the operational activities would not generate a substantial increase in mobile emissions beyond what is already occurring at the WRPs. Impact would be less than significant.

Impact Summary

The operation of Alternative 1 would not violate any air quality standard. The operational impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 2 – MF/RO With Brine Disposal via DWI

The MF/RO facilities at the VWRP, the potential UV disinfection facilities at the VWRP and/or SWRP, and the RO product water conveyance system facilities would be the same as described for Alternative 1. The brine disposal system facilities are described in Section 6.7.1. Alternative 2 would result in operational impacts similar to Alternative 1 with regard to the MF/RO, UV disinfection, and RO product water conveyance facilities. As discussed previously, the operational vehicle trips associated with these facilities, including chemical delivery trips, would be minimal and infrequent. Impact would be less than significant.

The offsite DWI facilities, which would be powered by electricity, would require periodic vehicle trips by employees from the VWRP for operation and routine maintenance. This would not generate substantial emissions. Impact would be less than significant.

Impact Summary

The operation of Alternative 2 would not violate any air quality standard. The operational impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 3 – MF/RO With Brine Disposal via Trucking

The MF/RO facilities at the VWRP, the UV disinfection facilities at the VWRP and SWRP, and the RO product water conveyance system facilities would be the same as described for Alternative 1. The brine disposal system facilities are described in Section 6.7.1. Alternative 3 would result in operational impacts similar to Alternative 1 with regard to the MF/RO, UV disinfection, and RO product water conveyance system facilities. As discussed previously, the operational vehicle trips associated with these facilities, including chemical delivery trips, would be minimal and infrequent. Impact would be less than significant.

However, under Alternative 3, the brine disposal system would be conducted via trucking. It is estimated that up to 90 delivery trucks per day would be required for brine disposal, which could generate a substantial amount of vehicle emissions. Table 10-12 presents the vehicle emissions generated from the use of 90 trucks per day for the proposed project's brine disposal occurring in 2015 following construction of the brine loading and unloading terminals.

Table 10-12. Daily Unmitigated Operational Vehicle Emissions – Alternative 3

Emissions Source	Estimated Daily Emissions (lbs/day)[a]					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
2015 Trucks Emissions	4.3	153.3	20.0	0.3	3.97	2.97
Regional Significance Threshold	55	55	550	150	150	55
Significant Impact?	No	Yes	No	No	No	No

[a] The operational vehicle emissions are calculated based on a roundtrip distance of 80 miles from the VWRP to the City Terrance area in Los Angeles County.

Source: ESA 2013.

As shown in Table 10-12, the vehicle emissions generated by delivery trucks under Alternative 3 would not exceed the SCAQMD regional significance thresholds for ROG, CO, SO2, PM_{10}, and $PM_{2.5}$. The impacts associated with these pollutants would be less than significant.

However, the NO_X emissions would exceed the SCAQMD's regional significance threshold. Because the daily mass emissions of NO_X generated from the brine disposal trucks would exceed SCAQMD's threshold of significance during operation of Alternative 3, operational-generated emissions of this criteria pollutant could violate or contribute substantially to an existing or projected air quality violation. The implementation of the Mitigation Measure AQ-4 would require the brine hauling contractor to use a truck fleet consisting of 2010 (or newer) diesel-powered engines. Table 10-13 presents the vehicle emissions generated from the use of 2010 (or newer) diesel-powered haul trucks for the proposed project's brine disposal occurring in 2015.

Table 10-13. Daily Mitigated Operational Vehicle Emissions – Alternative 3

Emissions Source	Estimated Daily Emissions (lbs/day)[a]					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
2015 Trucks Emissions	2.8	31.5	14.3	0.26	2.53	1.46
Regional Significance Threshold	55	55	550	150	150	55
Significant Impact?	No	No	No	No	No	No

[a] The operational vehicle emissions are calculated based on a roundtrip distance of 80 miles from the VWRP to the City Terrace area in Los Angeles County.

Source: ESA 2013.

As shown in Table 10-13, implementation of Mitigation Measure AQ-4 would reduce the levels of NO_X to below SCAQMD's regional significance threshold. Impact would be less than significant.

Impact Summary

The operation of Alternative 3 would exceed SCAQMD's daily regional threshold for NO_X and could violate or contribute substantially to an existing or projected air quality violation. Implementation of Mitigation Measure AQ-4 would mitigate the impact to a less than significant level. The operational impact would be less than significant.

Mitigation Measures: Implement AQ-4.

Mitigation Measure AQ-4: NO_X Emission Reduction. The brine hauling contractor shall be required to only use trucks that meet or exceed the 2010 U.S. Environmental Protection Agency standards for NO_X.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 4 – Phased AWRM

Phase I

The UV disinfection facilities at the VWRP and SWRP would be the same as described for Alternative 1. The salt management facilities and supplemental water system facilities are described in Section 6.7.1. The operation of the UV disinfection facilities would be powered by electricity distributed by SCE through the regional grid. As a result, no emissions would be generated at the VWRP and SWRP from the consumption of natural gas or combustible fuel as a result of the proposed project's operation. The operational vehicle trips associated with these facilities, including chemical delivery trips, would also be minimal and infrequent. Operational activities related to the supplemental water system would also be minimal and require infrequent vehicle trips for inspection and maintenance. Operational activities would not generate a substantial increase in mobile emissions beyond what is already occurring at the WRPs. Overall, the emissions generated by operation of the proposed project's facilities located within Los Angeles County would be minimal and would not exceed the SCAQMD's operational thresholds for criteria pollutants. Impact would be less than significant.

Within Ventura County, operation of the proposed salt management facilities would be powered by electricity. The vehicle trips associated with operating the salt management facilities would consist of regular maintenance visits that would be minimal and infrequent. Therefore, the operational emissions generated at these facilities would be minimal and would not exceed the VCAPCD's operational thresholds for ROC and NO_X. Impact would be less than significant.

Impact Summary – Phase I

The operation of Phase I of Alternative 4 would not violate any air quality standard. The operational impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Phase II

The MF/RO facilities at the VWRP would be similar to those described for Alternative 1 but, under this alternative, would be smaller in size. The RO product water conveyance system facilities and brine disposal facilities are described in Section 6.7.1. Because these facilities

would operate on electricity, no on-site emissions would be generated by these facilities during operation. As discussed previously, operations of the proposed project would also require occasional truck trips for chemical deliveries related to the MF/RO facilities. Given the minimal amount of these vehicle trips, the operational emissions generated would be minimal. Impact would be less than significant.

The brine disposal system would rely on a pipeline, DWI, or trucking – each of which was previously analyzed for Alternatives 1, 2, and 3, respectively, but there would be lower peak brine flow to manage so the diameter of the pipeline, number of injection wells, and peak number of truck trips would be smaller. Disposal via pipeline to the JOS or DWI would not generate substantial operational emissions and impacts related to regional operational emissions would be less than significant. However, under the scenario in which brine disposal would be conducted via trucking, the operational vehicle emissions generated by the truck trips would exceed the SCAQMD's regional threshold for NO_X. Implementation of Mitigation Measure AQ-4 would reduce the levels of NO_X to below SCAQMD's regional significance threshold. Impact would be less than significant.

Impact Summary – Phases I and II

The operation of Phase I of Alternative 4 would not violate any air quality standard. No operational impact would occur.

The operation of the trucking route for Phase II of Alternative 4 would exceed the SCAQMD's daily regional threshold for NO_X and could violate or contribute substantially to an existing or projected air quality violation. Implementation of Mitigation Measure AQ-4 would mitigate the impact to a less than significant level. The operational impact would be less than significant.

Mitigation Measures: Implement AQ-4.

Significance Level After Mitigation: Less Than Significant Impact.

10.4.2.3 Cumulative Increase of Criteria Pollutants

Impact 10-3: The proposed project could result in a cumulatively considerable net increase of criteria pollutants for which the project region is classified as non-attainment under applicable federal or state ambient air quality standards.

According to the SCAQMD, cumulative air quality impacts for criteria pollutants associated with construction and operational activities are determined by whether a project would result in a significant project-level impact to regional air quality based on SCAQMD significance thresholds. Therefore, individual project-related construction and operational emissions that exceed SCAQMD-recommended daily thresholds for project-specific impacts would cause a cumulatively considerable increase in emissions for those pollutants for which the SCAB is in non-attainment.

According to the VCAPCD, the impacts associated with construction activities are considered to be temporary in nature and would not result in a significant impact if all appropriate control measures recommended by the VCAPCD are implemented. Therefore, cumulative air quality impacts for criteria pollutants associated with construction are also determined based on whether a project would implement all applicable control measures during construction activities. With regard to cumulative impacts associated with operational emissions, the VCAPCD neither recommends quantified analyses of cumulative operational emissions nor provides methodologies

or thresholds of significance to be used to assess cumulative operational impacts. Instead, the VCAPCD recommends that a project's potential contribution to cumulative impacts should be assessed utilizing the same significance criteria as those for project-specific impacts. Therefore, individual development projects that generate operational emissions that exceed the VCAPCD recommended daily thresholds for project-specific impacts would also cause a cumulatively considerable increase in emissions for those pollutants for which the SCCAB is in non-attainment.

Alternative 1 – MF/RO With Brine Disposal via Pipeline

The MF/RO facilities at the VWRP, the potential UV disinfection facilities at the VWRP and/or SWRP, the RO product water conveyance system facilities, and the brine disposal system facilities are described in Section 6.7.1. Under Alternative 1, which would occur within Los Angeles County and thus under the jurisdiction of the SCAQMD, the proposed project would result in a significant impact after mitigation during construction activities as identified under Impact 10-2 and shown in Table 10-5. Construction-related emissions attributable to Alternative 1, along with emissions from other reasonably foreseeable future projects in the SCAB as a whole, would continue to contribute to increases in emissions that would exacerbate existing and projected non-attainment conditions because construction would result in a significant and unavoidable impact. Therefore, Alternative 1 would contribute to a cumulative impact during construction not mitigated to a level that is less than significant. Impact would be significant and unavoidable.

The proposed project would be consistent with the SCAQMD's AQMP. Operational emissions under Alternative 1 would be minimal and below SCAQMD's applicable thresholds of significance. Therefore, operation of Alternative 1 would not conflict with SCAQMD's air quality planning efforts for non-attainment pollutants. Impact would be less than significant.

Impact Summary

The construction of Alternative 1 would result in a cumulatively considerable net increase of criteria pollutants. Implementation of Mitigation Measure AQ-1 would not mitigate the impact to a less than significant level. The construction impact would be significant and unavoidable. The operational impact would be less than significant.

Mitigation Measures: Implement AQ-1.

Significance Level After Mitigation: Significant and Unavoidable Impact.

Alternative 2 – MF/RO With Brine Disposal via DWI

The MF/RO facilities at the VWRP, the potential UV disinfection facilities at the VWRP and/or SWRP, and the RO product water conveyance system facilities would be the same as described for Alternative 1. The brine disposal system facilities are described in Section 6.7.1. Under Alternative 2, the proposed project would result in a significant impact after mitigation during construction activities as identified under Impact 10-2 and shown in Table 10-6. Construction-related emissions attributable to Alternative 2, along with emissions from other reasonably foreseeable future projects in the SCAB as a whole, would continue to contribute to increases in emissions that would exacerbate existing and projected nonattainment conditions since construction would result in a significant and unavoidable impact. Thus, Alternative 2 would

contribute to a cumulative impact during construction not mitigated to a level that is less than significant. Impact would be significant and unavoidable.

As previously discussed, Alternative 2 would be consistent with SCAQMD's AQMP. Operational emissions associated with Alternative 2 would be minimal and below SCAQMD's applicable thresholds of significance. Thus, operation of Alternative 2 would not conflict with SCAQMD's air quality planning efforts for non-attainment pollutants. Impact would be less than significant.

Impact Summary

The construction of Alternative 2 would result in a cumulatively considerable net increase of criteria pollutants. Implementation of Mitigation Measure AQ-1 would not mitigate the impact to a less than significant level. The construction impact would be significant and unavoidable. The operational impact would be less than significant.

Mitigation Measures: Implement AQ-1.

Significance Level After Mitigation: Significant and Unavoidable Impact.

Alternative 3 – MF/RO With Brine Disposal via Trucking

The MF/RO facilities at the VWRP, the UV disinfection facilities at the VWRP and SWRP, and the RO product water conveyance system facilities would be the same as described for Alternative 1. The brine disposal system facilities are described in Section 6.7.1. Under Alternative 3, the proposed project would result in a significant impact after mitigation during construction activities as identified under Impact 10-2 and shown in Table 10-7. Construction-related emissions attributable to the proposed project, along with emissions from other reasonably foreseeable future projects in the SCAB as a whole, would contribute to emissions that would exacerbate existing and projected nonattainment conditions. Therefore, Alternative 3 would contribute to a cumulative impact during construction not mitigated to a less than significant level. Impact would be significant and unavoidable.

As previously discussed, Alternative 3 would be consistent with the SCAQMD's AQMP. Additionally, operational emissions associated with the proposed project would be reduced to below SCAQMD's applicable thresholds of significance with implementation of Mitigation Measure AQ-4. Therefore, operation of Alternative 3 would not conflict with SCAQMD's air quality planning efforts for non-attainment pollutants. Impact would be less than significant.

Impact Summary

The construction and operation of Alternative 3 would result in a cumulatively considerable net increase of criteria pollutants. Implementation of Mitigation Measures AQ-1 would not mitigate the construction impact to a less than significant level. Implementation of Mitigation Measure AQ-4 would mitigate the operational impact to a less than significant level. Nonetheless, the construction impact would be significant and unavoidable.

Mitigation Measures: Implement AQ-1 and AQ-4.

Significance Level After Mitigation: Significant and Unavoidable Impact.

Alternative 4 – Phased AWRM

Phase I

The UV disinfection facilities at the VWRP and SWRP would be the same as described for Alternative 1. The salt management facilities and supplemental water system facilities are described in Section 6.7.1. Under Phase I of Alternative 4, the proposed project would not result in a residual significant impact during construction activities occurring within the jurisdictional boundary of the SCAQMD as identified under Impact 10-2 and shown in Table 10-8. Construction-related emissions attributable to Phase I of Alternative 4 would not contribute to increases in emissions that would exacerbate existing and projected nonattainment conditions. In addition, because all appropriate mitigation measures would be implemented during construction activities occurring within the jurisdictional boundary of the VCAPCD, the contribution of the proposed project to any cumulative air quality impact would not be considerable. Therefore, construction of Phase I of Alternative 4 would not contribute to a cumulative impact. Impact would be less than significant.

As previously discussed, Phase I of Alternative 4 would be consistent with SCAQMD's AQMP. Operational emissions associated with Phase I of Alternative 4 would be minimal and below the SCAQMD's and VCAPCD's applicable thresholds of significance. Therefore, operation of Phase I of Alternative 4 would not conflict with the SCAQMD's and VCAPCD's air quality planning efforts for non-attainment pollutants. Impact would be less than significant.

Impact Summary – Phase I

The construction and operation of Phase I of Alternative 4 would not result in a cumulatively considerable net increase of criteria pollutants. The construction and operational impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Phase II

The MF/RO facilities at the VWRP would be similar to those described for Alternative 1 but, under this alternative, would be smaller in size. The RO product water conveyance system facilities and brine disposal system facilities are described in Section 6.7.1. Under Phase II of Alternative 4, the proposed project would result in a significant impact after mitigation during construction activities as identified under Impact 10-2 and shown in Table 10-9. Construction-related emissions attributable to Phase II of Alternative 4, along with emissions from other reasonably foreseeable future projects in the SCAB as a whole, would continue to contribute to increases in emissions that would exacerbate existing and projected non-attainment conditions since construction would result in a significant and unavoidable impact. Therefore, Phase II of Alternative 4 would contribute to a cumulative impact during construction not mitigated to a level that is less than significant. Impact would be significant and unavoidable.

The proposed project would also involve the construction of the RO product water pipeline during Phase II of Alternative 4 within the jurisdictional boundary of the VCAPCD. However, because all appropriate mitigation measures would be implemented during construction activities occurring within the jurisdictional boundary of VCAPCD, the contribution of the proposed

project to any cumulative air quality impact would not be considerable. Impact would be less than significant.

As previously discussed, Phase II of Alternative 4 would be consistent with the SCAQMD's AQMP. The brine disposal system would rely on a pipeline, DWI, or trucking – each of which was previously analyzed for Alternatives 1, 2, and 3, respectively, but there would be lower peak brine flow to manage so the diameter of the pipeline, number of injection wells, and peak number of truck trips would be smaller. Under the scenario where the brine disposal system for Phase II of Alternative 4 is carried out via pipeline to JOS or DWI, the operational emissions of the proposed project would be minimal and below the SCAQMD's and VCAPCD's applicable thresholds of significance. However, under the scenario in which the brine disposal system for Phase II of Alternative 4 is carried out via trucking, the operational emissions associated with the proposed project would exceed the SCAQMD's applicable thresholds. However, implementation of Mitigation Measure AQ-4 would reduce this impact to a less than significant level. Therefore, the proposed project would not conflict with SCAQMD's air quality planning efforts for nonattainment pollutants. The cumulative impact associated with operational emissions of the brine disposal systems under Phase II of Alternative 4 would be less than significant.

Impact Summary – Phases I and II

The construction and operation of Phase I of Alternative 4 would not result in a cumulatively considerable net increase of criteria pollutants. The construction and operational impact would be less than significant.

The construction and operation of Phase II of Alternative 4 would result in a cumulatively considerable net increase of criteria pollutants. Implementation of Mitigation Measures AQ-1 would not mitigate the construction impact to a less than significant level. Implementation of Mitigation Measure AQ-4 would reduce the operational impact associated with the brine disposal system via trucking to a less than significant level. Nonetheless, the construction impact would be significant and unavoidable.

Mitigation Measures: Implement AQ-1 and AQ-4.

Significance Level After Mitigation: Significant and Unavoidable Impact.

10.4.2.4 Exposure of Sensitive Receptors to Pollutant Concentrations

Impact 10-4: The proposed project could expose sensitive receptors to substantial pollutant concentrations.

Localized Daily Construction Emissions

As discussed previously under Section 10.4.2, the 1-acre sample construction scenario developed by the SCAQMD was used as a template to analyze the significance of the construction emissions generated by the proposed project. In conducting the analysis, the parameters of the 1-acre sample construction scenario (e.g., construction schedule, number of equipment pieces, amount of dirt handled, etc.) were modified such that they would apply to the project-specific characteristics of the proposed project under each alternative scenario.

As explained under Section 10.4.2, the emissions resulting from construction of the proposed project are compared against the SCAQMD's LSTs for a 1-acre site to determine whether a localized air quality impact would occur at nearby off-site receptors. This analysis evaluates

localized air quality impacts from construction activities associated with the proposed project on sensitive receptors for NO_2, CO, PM_{10}, and $PM_{2.5}$.

Alternative 1 – MF/RO With Brine Disposal via Pipeline

The MF/RO facilities at the VWRP, the potential UV disinfection facilities at the VWRP and/or SWRP, the RO product water conveyance system facilities, and the brine disposal system facilities are described in Section 6.7.1. As this analysis concerns localized air quality impacts occurring at each of the construction areas, the air quality impacts resulting from the construction activities at the VWRP, SWRP, and offsite locations are evaluated separately. This alternative will involve overlapping construction of the MF/RO and UV disinfection facilities, the RO product water conveyance system facilities, and the brine pipeline to the JOS.

Table 10-14 identifies peak daily emissions that are estimated to occur from construction activities under Alternative 1. It should be noted that per SCAQMD's LST methodology, the analysis of localized air quality impacts focuses on onsite emissions only and does not include emissions from offsite mobile emissions.

As shown in Table 10-14, onsite emissions generated by construction of the proposed project under the Alternative 1 scenario would not exceed the applicable SCAQMD localized thresholds for NO_X, CO, PM_{10}, and $PM_{2.5}$ at the sensitive and non-sensitive receptors located offsite. Impact would be less than significant.

Impact Summary

The construction of facilities for Alternative 1 in Los Angeles County would not exceed the applicable SCAQMD localized thresholds for NO_X, CO, PM_{10}, and $PM_{2.5}$ at sensitive receptors. The construction impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 2 – MF/RO With Brine Disposal via DWI

The MF/RO facilities at the VWRP, the potential UV disinfection facilities at the VWRP and/or SWRP, and the RO product water conveyance system facilities would be the same as described for Alternative 1. The brine disposal system facilities are described in Section 6.7.1. As this analysis concerns localized air quality impacts occurring at each of the construction areas, the air quality impacts resulting from the construction activities at the VWRP, SWRP, and at each of the offsite locations are evaluated separately for their potential impacts.

Table 10-15 identifies peak daily emissions that are estimated to occur during a worst-case construction day under Alternative 2 at the VWRP, SWRP, and other offsite locations.

Table 10-14. Localized Estimated Peak Daily Construction Emissions – Alternative 1

	Total Onsite Emissions (lbs/day)			
Construction Phase	**NO_X [a]**	**CO**	**PM_{10}**	**$PM_{2.5}$**
2015 Maximum Daily Emissions: MF/RO Construction + UV Disinfection Construction + RO Product Water Conveyance System Construction + Brine Pump Station Construction + Brine Pipeline Construction at VWRP				
MF/RO Construction Emissions	36.1	17.7	1.55	1.43
UV Disinfection Construction	36.1	17.7	1.55	1.43
RO Product Water Pipeline Construction Emissions	22.5	15.3	1.22	1.12
RO Product Water Pump Station Construction Emissions	40.4	18.5	1.70	1.56
Brine Pump Station Construction Emissions	40.4	18.5	1.70	1.56
Brine Pipeline Construction Emissions	25.2	17.1	1.36	1.25
Total Emissions	**201**	**105**	**9.08**	**8.35**
SCAQMD Localized Thresholds [b]	498	8,174	131	74
Significant Impact?	No	No	No	No
2015 Maximum Daily Emissions: UV Disinfection Construction at SWRP				
UV Disinfection Construction Emissions	36.1	17.7	1.55	1.43
Total Emissions	**36.1**	**17.7**	**1.55**	**1.43**
SCAQMD Localized Thresholds [c]	256	2,500	51	18
Significant Impact?	No	No	No	No
2016 Maximum Daily Emissions: RO Product Water Pipeline (Offsite from VWRP)				
RO Product Water Pipeline Construction Emissions	20.2	15.1	1.07	0.99
Total Emissions	**20.2**	**15.1**	**1.07**	**0.99**
SCAQMD Localized Thresholds [d]	90	590	4	3
Significant Impact?	No	No	No	No

[a] The localized thresholds listed for NO_X in this table take into consideration the gradual conversion of NO to NO_2. The analysis of localized air quality impacts associated with NO_X emissions is focused on NO_2 levels as they are associated with adverse health effects.

[b] As the nearest offsite sensitive receptors from the construction activities at the VWRP are located beyond 4,000 feet, the LSTs at a receptor distance of 1,640 feet (shown in Table 10-4) are used for this analysis.

[c] As the nearest offsite sensitive receptors from the construction activities at the SWRP are located approximately 1,486 feet away, the LSTs at a receptor distance of 656 feet (shown in Table 10-4) are used for this analysis.

[d] As sensitive receptors (i.e., residential uses) are located adjacent to Magic Mountain Parkway, the LSTs for the closest receptor distance on SCAQMD's Mass Rate LST Look-up Tables (82 feet) are used to provide a conservative analysis. SCAQMD's LST methodology states that projects with boundaries located closer than 82 feet to the nearest receptor should use the LSTs for receptors located at 82 feet. Since emission concentrations decrease with increasing distance from the construction area, if the construction emissions would not exceed the LSTs for a receptor distance of 82 feet then the emissions would also not exceed SCAQMD localized thresholds at receptor distances beyond 82 feet (i.e., 164, 328, 656, and 1,640 feet).

Source: ESA 2013.

Table 10-15. Localized Estimated Peak Daily Construction Emissions – Alternative 2

	Total Onsite Emissions (lbs/day)			
Construction Phase	**NO_X [a]**	**CO**	**PM_{10}**	**$PM_{2.5}$**
2015 Maximum Daily Emissions at VRWP Site: MF/RO Construction + UV Disinfection Construction at VWRP + RO Product Water Conveyance System Construction				
UV Disinfection Construction Emissions	36.1	17.7	1.55	1.43
MF/RO Construction Emissions	36.1	17.7	1.55	1.43
RO Product Water Pipeline Construction Emissions	22.5	15.3	1.22	1.12
RO Product Water Pump Station Construction Emissions	40.4	18.5	1.70	1.56
Total Emissions	**135**	**69.2**	**6.02**	**5.54**
SCAQMD Localized Thresholds [b]	498	8,170	131	74
Significant Impact?	No	No	No	No
2015 Maximum Daily Emissions: UV Disinfection Construction at SWRP				
UV Disinfection Construction Emissions	36.1	17.7	1.55	1.43
Total Emissions	**36.1**	**17.7**	**1.55**	**1.43**
SCAQMD Localized Thresholds [c]	256	2,500	51	18
Significant Impact?	No	No	No	No
2015 Maximum Daily Emissions at DWI Site: DWI Wells Construction				
DWI Wells Construction Emissions	89.3	52.6	3.81	3.26
Total Emissions	**89.3**	**52.6**	**3.81**	**3.26**
SCAQMD Localized Thresholds [d]	256	2,500	51	18
Significant Impact?	No	No	No	No
2016 Maximum Daily Emissions at VRWP Site: MF/RO Construction + RO Product Water Pipeline Construction + Brine Pump Station Construction + Brine Pipeline Construction				
MF/RO Construction Emissions	12.2	7.44	0.68	0.62
RO Product Water Pipeline Construction Emissions	20.2	15.1	1.07	0.99
Brine Pump Station Construction Emissions	34.5	18.0	1.52	1.4
Brine Pipeline Construction Emissions	22.7	16.1	1.21	1.11
Total Emissions	**89.6**	**56.6**	**4.48**	**4.12**
SCAQMD Localized Thresholds [b]	498	8,170	131	74
Significant Impact?	No	No	No	No
2016 Maximum Daily Emissions at Offsite location: Brine Pipeline (Offsite from VWRP)				
Brine Pipeline Construction Emissions	22.7	16.1	1.21	1.11
Total Emissions	**22.7**	**16.1**	**1.21**	**1.11**
SCAQMD Localized Thresholds [e]	90	590	4	3
Significant Impact?	No	No	No	No

[a] The localized thresholds listed for NO_X in this table take into consideration the gradual conversion of NO to NO_2. The analysis of localized air quality impacts associated with NO_X emissions is focused on NO_2 levels as they are associated with adverse health effects.

[b] As the nearest offsite sensitive receptors from the construction activities at the VWRP are located beyond 4,000 feet, the LSTs at a receptor distance of 1,640 feet (shown in Table 10-4) are used for this analysis.

[c] As the nearest offsite sensitive receptors from the construction activities at the SWRP are located approximately 1,486 feet away, the LSTs for at a receptor distance of 656 feet (shown in Table 10-4) are used for this analysis.

[d] As the nearest offsite sensitive receptors from the construction activities at the DWI site are located approximately 1,300 feet away, the LSTs at a receptor distance of 656 feet (shown in Table 10-4) are used for this analysis.

[e] The emissions generated during construction of the proposed project component would not exceed the LSTs for the closest receptor distance on SCAQMD's Mass Rate LST Look-up Tables (82 feet). Because the emission concentrations decrease with increasing distance from the construction area, the construction emissions would also not exceed SCAQMD localized thresholds at receptor distances beyond 82 feet (i.e., 164, 328, 656, and 1,640 feet).

Source: ESA 2013.

As shown in Table 10-15, onsite emissions generated by construction of the proposed project at the VWRP, SWRP, and offsite locations under the Alternative 2 scenario would not exceed the applicable SCAQMD localized thresholds for NO_X, CO, PM_{10}, and $PM_{2.5}$ at the sensitive and non-sensitive receptors located offsite. Impact would be less than significant.

Impact Summary

The construction of facilities for Alternative 2 in Los Angeles County would not exceed the applicable SCAQMD localized thresholds for NO_X, CO, PM_{10}, and $PM_{2.5}$ at sensitive receptors. The construction impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 3 – MF/RO With Brine Disposal via Trucking

The MF/RO facilities at the VWRP, the UV disinfection facilities at the VWRP and SWRP, and the RO product water conveyance system facilities would be the same as described for Alternative 1. The brine disposal system facilities are described in Section 6.7.1. As this analysis concerns localized air quality impacts occurring at each of the construction areas, the air quality impacts resulting from the construction activities at the VWRP, SWRP, and each of the offsite locations are evaluated separately for their potential impacts.

Table 10-16 identifies peak daily emissions that are estimated to occur during a worst-case construction day under Alternative 3 at the VWRP, SWRP, and the other offsite locations.

As shown in Table 10-16, on-site emissions generated by the proposed project at the VWRP, SWRP, and offsite locations under Alternative 3 would not exceed the applicable SCAQMD localized thresholds for NO_X, CO, PM_{10}, and $PM_{2.5}$ at the sensitive and non-sensitive receptors located offsite. Impact would be less than significant.

Impact Summary

The construction of facilities for Alternative 3 in Los Angeles County would not exceed the applicable SCAQMD localized thresholds for NO_X, CO, PM_{10}, and $PM_{2.5}$ at sensitive receptors. The construction impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Table 10-16. Localized Estimated Peak Daily Construction Emissions – Alternative 3

	Total Onsite Emissions (lbs/day)			
Construction Phase	**NO_X [a]**	**CO**	**PM_{10}**	**$PM_{2.5}$**
2015 Maximum Daily Emissions at VRWP Site: MF/RO Construction + UV Disinfection System Construction + RO Product Water Conveyance System Construction + Truck Loading Terminal				
MF/RO Construction Emissions	36.1	17.7	1.55	1.43
UV Disinfection Construction	36.1	17.7	1.55	1.43
RO Product Water Pipeline Construction Emissions	22.5	15.3	1.22	1.12
RO Product Water Pump Station Construction Emissions	40.4	18.5	1.70	1.56
Brine Loading Terminal Construction Emissions	37.6	18.7	1.63	1.5
Total Emissions	**172.7**	**87.9**	**7.65**	**7.04**
SCAQMD Localized Thresholds [b]	498	8,170	131	74
Significant Impact?	No	No	No	No
2015 Maximum Daily Emissions: UV Disinfection Construction at SWRP				
UV Disinfection Construction Emissions	36.1	17.7	1.55	1.43
Total Emissions	**36.1**	**17.7**	**1.55**	**1.43**
SCAQMD Localized Thresholds [c]	256	2,500	51	18
Significant Impact?	No	No	No	No
2015 Maximum Daily Emissions at Offsite location: Truck Unloading Terminal (Offsite from VWRP)				
Brine Unloading Terminal Construction Emissions	37.6	18.7	1.63	1.5
Total Emissions	**37.6**	**18.7**	**1.63**	**1.2**
SCAQMD Localized Thresholds [d]	90	590	4	3
Significant Impact?	No	No	No	No

[a] The localized thresholds listed for NO_X in this table take into consideration the gradual conversion of NO to NO_2. The analysis of localized air quality impacts associated with NO_X emissions is focused on NO_2 levels as they are associated with adverse health effects.

[b] As the nearest offsite sensitive receptors from the construction activities at the VWRP site are located beyond 4,000 feet, the LSTs at a receptor distance of 1,640 feet (shown in Table 10-4) are used for this analysis.

[c] As the nearest offsite sensitive receptors from the construction activities at the SWRP site are located approximately 1,486 feet away, the LSTs for at a receptor distance of 656 feet (shown in Table 10-4) are used for this analysis.

[d] The emissions generated during construction of the proposed project component would not exceed the LSTs for the closest receptor distance on SCAQMD's Mass Rate LST Look-up Tables (82 feet). As such, because the emission concentrations decrease with increasing distance from the construction area, the construction emissions would also not exceed SCAQMD localized thresholds at receptor distances beyond 82 feet (i.e., 164, 328, 656, and 1,640 feet).

Source: ESA 2013.

Alternative 4 – Phased AWRM

Phase I

The UV disinfection facilities at the VWRP and SWRP would be the same as described for Alternative 1. The salt management facilities and the supplemental water system facilities are described in Section 6.7.1. As this analysis concerns localized air quality impacts occurring at each of the construction areas, the air quality impacts resulting from the construction activities at the VWRP and SWRP are evaluated separately for their potential impacts. It should be noted that while construction activities associated with the proposed salt management facilities would occur under Phase I of Alternative 4, the components of these facilities with the exception of the supplemental water pipeline, would be located within Ventura County, which is under the

jurisdiction of VCAPCD. For this reason, the LST analysis that is recommended by SCAQMD was not applied to the local construction emissions associated with the majority of the salt management facilities.

Table 10-17 identifies peak daily emissions that are estimated to occur during a worst-case construction day under Phase I of Alternative 4 at the VWRP and SWRP.

As shown in Table 10-17, on-site emissions generated by the proposed project at the VWRP and SWRP under the Phase I, Alternative 4 scenario would not exceed the applicable SCAQMD localized thresholds for NO_X, CO, PM_{10}, and $PM_{2.5}$ at the sensitive and non-sensitive receptors located offsite. Therefore, the localized air quality impacts resulting from construction emissions associated with the proposed project under Phase I of Alternative 4 would be less than significant.

Impact Summary – Phase I

The construction of facilities for Phase I of Alternative 4 would not exceed the applicable SCAQMD localized thresholds for NO_X, CO, PM_{10}, and $PM_{2.5}$ at sensitive receptors. The construction impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Table 10-17. Localized Estimated Peak Daily Construction Emissions – Alternative 4 (Phase I)

	Total Onsite Emissions (lbs/day)			
Construction Phase	**NO_X [a]**	**CO**	**PM_{10}**	**$PM_{2.5}$**
2015 Maximum Daily Emissions at VRWP Site: UV Disinfection Construction + Supplemental Pipeline Construction				
UV Disinfection Construction Emissions	36.1	17.7	1.55	1.43
Supplemental Pipeline Construction Emissions	22.3	15.2	1.21	1.11
Total Emissions	**58.4**	**32.9**	**2.76**	**2.54**
SCAQMD Localized Thresholds [b]	498	8,170	131	74
Significant Impact?	No	No	No	No
2015 Maximum Daily Emissions: UV Disinfection Construction at SWRP				
UV Disinfection Construction Emissions	36.1	17.7	1.55	1.43
Total Emissions	**36.1**	**17.7**	**1.55**	**1.43**
SCAQMD Localized Thresholds [c]	256	2,500	51	18
Significant Impact?	No	No	No	No
Significant Impact?	No	No	No	No

[a] The localized thresholds listed for NO_X in this table take into consideration the gradual conversion of NO to NO_2. The analysis of localized air quality impacts associated with NO_X emissions is focused on NO_2 levels as they are associated with adverse health effects.

[b] As the nearest offsite sensitive receptors from the construction activities at the VWRP site are located beyond 4,000 feet, the LSTs at a receptor distance of 1,640 feet (shown in Table 10-4) are used for this analysis.

[c] As the nearest offsite sensitive receptors from the construction activities at the SWRP site are located approximately 1,486 feet away, the LSTs at a receptor distance of 656 feet (shown in Table 10-4) are used for this analysis.

Source: ESA 2013.

Phase II

The MF/RO facilities at the VWRP would be similar to those described for Alternative 1 but, under this alternative, would be smaller in size. The RO product water conveyance system facilities and the brine disposal system facilities are described in Section 6.7.1. The brine disposal system would rely on a pipeline, DWI, or trucking – each of which was previously analyzed for Alternatives 1, 2, and 3, respectively, but there would be lower peak brine flow to manage so the diameter of the pipeline, number of injection wells, and peak number of truck trips would be smaller. As the localized constructions emissions generated from these proposed project components have already been analyzed under Alternatives, 1, 2, and 3, where all impacts have been determined to be less than significant, it can be concluded that the localized emissions resulting from Phase II of Alternative 4 would also not exceed the applicable SCAQMD localized thresholds for NO_X, CO, PM_{10}, and $PM_{2.5}$ at any offsite receptors. Therefore, the localized air quality impacts resulting from construction emissions associated with the proposed project under Phase II of Alternative 4 would be less than significant.

Impact Summary – Phases I and II

The construction of facilities for Phase I of Alternative 4 would not exceed the applicable SCAQMD localized thresholds for NO_X, CO, PM_{10}, and $PM_{2.5}$ at sensitive receptors. The construction impact would be less than significant.

The construction of facilities for Phase II of Alternative 4 would not exceed the applicable SCAQMD localized thresholds for NO_X, CO, PM_{10}, and $PM_{2.5}$ at sensitive receptors. The construction impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Onsite Toxic Air Contaminant Emissions From Construction Equipment

Alternative 1 – MF/RO With Brine Disposal via Pipeline

Construction of Alternative 1 would result in short-term emissions of diesel PM, a TAC. The exhaust of off-road heavy-duty diesel equipment would emit diesel PM during various construction activities such as site excavation, paving, installation of pipelines, and materials transport and handling. SCAQMD has not adopted a methodology for analyzing such impacts and has not recommended that health risk assessments be completed for construction-related emissions of TACs.

The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., the potential exposure to TACs to be compared to applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. According to the State of California Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period or the duration of activities leading to the exposure.

The construction period for Alternative 1 would be much less than the 70-year period used for risk determination, and the equipment would often be located at a considerable distance from the nearest sensitive receptors. As off-road heavy-duty diesel equipment would be used only temporarily, and because the highly dispersive properties of diesel PM would result in further reductions in exhaust emissions, the construction under Alternative 1 would not expose sensitive receptors to substantial emissions of TACs. Impact would be less than significant.

Impact Summary

The construction of Alternative 1 would not expose sensitive receptors to substantial emissions of TACs. The construction impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 2 – MF/RO With Brine Disposal via DWI

Similar to Alternative 1, construction of Alternative 2 would result in short-term emissions of diesel PM, a TAC. The exhaust of off-road heavy-duty diesel equipment would emit diesel PM during various construction activities such as site excavation, paving, installation of pipelines, and materials transport and handling.

The construction period for Alternative 2 would be much less than the 70-year period used for risk determination, and the equipment would often be located at a considerable distance from the nearest sensitive receptors. As off-road heavy-duty diesel equipment would be used only temporarily, and because the highly dispersive properties of diesel PM would result in further reductions in exhaust emissions, Alternative 2 would not expose sensitive receptors to substantial emissions of TACs. Impact would be less than significant.

Impact Summary

The construction of Alternative 2 would not expose sensitive receptors to substantial emissions of TACs. The construction impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 3 – MF/RO With Brine Disposal via Trucking

Similar to Alternative 1, construction of Alternative 3 would result in short-term emissions of diesel PM, a TAC. The exhaust of off-road heavy-duty diesel equipment would emit diesel PM during various construction activities such as site excavation, paving, installation of pipelines, and materials transport and handling.

The construction period for Alternative 3 would be much less than the 70-year period used for risk determination, and the equipment would often be located at a considerable distance from the nearest sensitive receptors. As off-road heavy-duty diesel equipment would be used only temporarily, and because the highly dispersive properties of diesel PM would result in further reductions in exhaust emissions, Alternative 2 would not expose sensitive receptors to substantial emissions of TACs. Impact would be less than significant.

Impact Summary

The construction of Alternative 3 would not expose sensitive receptors to substantial emissions of TACs. The construction impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 4 – Phased AWRM

Phase I

Construction of Phase I of Alternative 4 would result in short-term emissions of diesel PM, a TAC. The exhaust of off-road heavy-duty diesel equipment would emit diesel PM during various construction activities such as site excavation, paving, installation of pipelines, and materials transport and handling.

The construction period for Phase I of Alternative 4 would be much less than the 70-year period used for risk determination, and the equipment would often be located at a considerable distance from the nearest sensitive receptors. As off-road heavy-duty diesel equipment would be used only temporarily, and because the highly dispersive properties of diesel PM would result in further reductions in exhaust emissions, Phase I of Alternative 4 would not expose sensitive receptors to substantial emissions of TACs. Impact would be less than significant.

Impact Summary – Phase I

The construction of Phase I of Alternative 4 would not expose sensitive receptors to substantial emissions of TACs. The construction impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Phase II

Construction of Phase II of Alternative 4 would result in short-term emissions of diesel PM, a TAC. The exhaust of off-road heavy-duty diesel equipment would emit diesel PM during various construction activities such as site excavation, paving, installation of pipelines, and materials transport and handling.

The construction period for Phase II of Alternative 4 would be much less than the 70-year period used for risk determination, and the equipment would often be located at a considerable distance from the nearest sensitive receptors. As off-road heavy-duty diesel equipment would be used only temporarily, and because the highly dispersive properties of diesel PM would result in further reductions in exhaust emissions, Phase II of Alternative 4 would not expose sensitive receptors to substantial emissions of TACs. Impact would be less than significant.

Impact Summary – Phases I and II

The construction of Phase I of Alternative 4 would not expose sensitive receptors to substantial emissions of TACs. The construction impact would be less than significant.

The construction of Phase II of Alternative 4 would not expose sensitive receptors to substantial emissions of TACs. The construction impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Toxic Air Contaminant Emissions From Operations

Alternative 1 – MF/RO With Brine Disposal via Pipeline

Alternative 1 would not introduce any new stationary sources of TACs, such as diesel-fueled pumps or generators. Therefore, the proposed project would not expose surrounding sensitive receptors to TAC emissions. No impact would occur.

Impact Summary

The operation of Alternative 1 would not expose sensitive receptors to substantial emissions of TACs. No operational impact would occur.

Mitigation Measures: None Required.

Significance Level After Mitigation: No Impact.

Alternative 2 – MF/RO With Brine Disposal via DWI

Alternative 2 would not introduce any new stationary sources of TACs, such as diesel-fueled pumps or generators. Therefore, the proposed project would not expose surrounding sensitive receptors to TAC emissions. No impact would occur.

Impact Summary

The operation of Alternative 2 would not expose sensitive receptors to substantial emissions of TACs. No operational impact would occur.

Mitigation Measures: None Required.

Significance Level After Mitigation: No Impact.

Alternative 3 – MF/RO With Brine Disposal via Trucking

Alternative 3 would not introduce any new stationary sources of TACs, such as diesel-fueled pumps or generators. Therefore, the proposed project would not expose surrounding sensitive receptors to TAC emissions. No impact would occur.

Impact Summary

The operation of Alternative 3 would not expose sensitive receptors to substantial emissions of TACs. No operational impact would occur.

Mitigation Measures: None Required.

Significance Level After Mitigation: No Impact.

Alternative 4 – Phased AWRM

Phase I

Phase I of Alternative 4 would not introduce any new stationary sources of TACs, such as diesel-fueled pumps or generators. Therefore, the proposed project would not expose surrounding sensitive receptors to TAC emissions. No impact would occur.

Impact Summary – Phase I

The operation of Phase I of Alternative 4 would not expose sensitive receptors to substantial emissions of TACs. No operational impact would occur.

Mitigation Measures: None Required.

Significance Level After Mitigation: No Impact.

Phase II

Phase II of Alternative 4 would not introduce any new stationary sources of TACs, such as diesel-fueled pumps or generators. Therefore, the proposed project would not expose surrounding sensitive receptors to TAC emissions. No impact would occur.

Impact Summary – Phases I and II

The operation of Phase I of Alternative 4 would not expose sensitive receptors to substantial emissions of TACs. No operational impact would occur.

The operation of Phase II of Alternative 4 would not expose sensitive receptors to substantial emissions of TACs. No operational impact would occur.

Mitigation Measures: None Required.

Significance Level After Mitigation: No Impact.