SECTION 9 AIR QUALITY

This section presents the potential adverse impacts of the Water Authority's Proposed Project related to air quality including construction-related vehicle emissions and fugitive dust, construction-related air impacts on sensitive receptors, and air emissions associated with operation of various Proposed Project facilities. This section begins with a description of the regional setting, followed by a discussion of applicable Federal, State and local regulations. A qualitative analysis of potential air quality-related effects associated with the Proposed Project facilities is provided in Section 9.3. Mitigation measures to avoid, eliminate or reduce effects to a less than significant level are also provided where appropriate. Finally, Section 9.4 identifies air quality-related effects found not to be significant.

9.1 REGIONAL SETTING

9.1.1 Topography

San Diego County is divided by the Laguna Mountain Range, which is approximately 45 miles inland and generally parallel to the Pacific Coast and separates the coastal region from the desert portion of the County. The coastal region is made up of coastal terraces that rise from the ocean into wide mesas which then, moving farther east, transition into the Laguna Foothills. Farther east, the topography gradually rises to the rugged mountains. On the east side of the mountain range, the mountains drop off rapidly to the Anza-Borrego Desert, which is characterized by several broken mountain ranges with desert valleys in between. To the north of the County are the Santa Ana Mountains, which run along the coastal edge of Orange County, turning east to join with the Laguna Mountains near the San Diego-Orange County border.

9.1.2 Climatology

The climate of San Diego County, as with all of Southern California, is largely dominated by the strength and position of the semi-permanent, high-pressure system over the Pacific Ocean (known as the Pacific High). This high-pressure ridge over the West Coast often creates a pattern of late-night and early-morning low clouds, hazy afternoon sunshine, daytime onshore breezes, and little temperature variation year-round. The climatic classification for San Diego is a Mediterranean climate, with warm, dry summers and mild, wet winters. Average annual precipitation ranges from approximately 10 inches on the coast to over 30 inches in the mountains to the east. The desert regions of San Diego County generally receive between 4 and 6 inches of precipitation per year (WRCC 2003).

The favorable climate of San Diego increases the potential to create air pollution problems. Sinking, or subsiding, air from the Pacific High creates a temperature inversion (known as a subsidence inversion), which acts as a lid to vertical dispersion of pollutants. Weak summertime pressure gradients further limit horizontal dispersion of pollutants in the mixed layer below the subsidence inversion. Poorly dispersed anthropogenic (man-made) emissions, combined with strong sunshine, lead to photochemical reactions and create ozone in this surface layer.

Daytime onshore flow (i.e., sea breeze) and nighttime offshore flow (i.e., land breeze) are quite common in Southern California. The sea breeze helps to moderate daytime temperatures in the western portion of San Diego County, which greatly adds to the climatic draw of the region. This also leads to emissions being blown out to sea at night and returning to land the following day. Under certain conditions, this atmospheric oscillation results in the offshore transport of air from the Los Angeles region to San Diego County, which often results in high ozone concentrations being measured at San Diego County air pollution monitoring stations. Transport of air pollutants from Los Angeles to San Diego has also been shown to occur higher than the stable layer of the elevated subsidence inversion. In this layer, removed from fresh emissions of oxides of nitrogen which would scavenge and reduce ozone concentrations, high levels of ozone are transported into San Diego County.

9.1.3 Regional Ambient Air Quality

The SDAPCD operates a number of air quality monitoring stations within the SDAB. The latest validated air quality summary tables (1997 – 2001) for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), PM_{10}, fine particulate matter (particulate matter less than 2.5 microns in aerodynamic diameter; $PM_{2.5}$) are presented in **Table 9-1** (SDAPCD 2002). Data for 2002 are also presented, although data from that year are not yet validated.

9.2 REGULATORY SETTING

9.2.1 Air Quality Management

9.2.1.1 Federal

Regulation of air quality in California is achieved through both Federal and State ambient air quality standards and emission limits for individual sources of air pollutant emissions. The Federal Clean Air Act (CAA) of 1970 and amendments in 1977 and 1990 require the U.S. EPA to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS established for ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead (Pb) are presented in **Table 9-2**. The standards are set to protect the elderly, very young, and chronically sensitive portions of the population, and are required to include a reasonable margin of safety to protect against potential hazards which research has not yet identified. In some cases, the State standards provide a wider margin of safety than the national standards.

9.2.1.2 State

The California CAA of 1988 also established CAAQS for criteria pollutants and additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles (see **Table 9-2**). CARB is the State regulatory agency with authority to enforce regulations to achieve and maintain the CAAQS and the NAAQS, except in areas where the local air quality management district has been given authority over stationary source emissions. In San Diego, the SDAPCD has this authority. In addition, the SDAPCD has been designated as the agency principally responsible for comprehensive air pollution control in the SDAB. The geographic

Table 9-1
San Diego County Regional Air Quality Data 1997-2002

Ozone – Number of Days Exceeding Federal and State Standards

Station	Number of Days Exceeding Federal 1-Hour Standard Concentration > 12 parts per hundred million (pphm)						Number of Days Exceeding State 1-Hour Standard Concentration > 9 pphm						Maximum 1-Hour Concentration (pphm)						Date of Maximum 1-Hour Concentration					
	02	01	00	99	98	97	02	01	00	99	98	97	02	01	00	99	98	97	02	01	00	99	98	97
Chula Vista	0	0	0	0	0	0	1	2	0	4	0	10	11	10	9	11	10	12	9/01	9/30	4/30	4/19	7/26	11/1
El Cajon	0	0	0	0	1	0	2	3	5	3	14	7	9.9	12	11	10	13	11	8/9	5/8				7/3
Escondido	0	1	0	0	0	0	2	4	6	1	9	5	10	14	12	10	12	11	9/1					
Downtown San Diego	0	0	0	0	0	0	0	1	1	0	1	5	9	10	12	9	10	12						
Basinwide	0	2	0	0	9	1	15	29	24	27	54	43	12	14	12	12	16	14	6/6					7/4

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Carbon Monoxide – Maximum 1-Hour and 8-Hour Average Concentrations

Station	Maximum 1-Hour Average Concentration (parts per million [ppm]) State Standard > 20 ppm Federal Standard > 35 ppm						Date of Maximum 1-Hour Average Concentration						Maximum 8-Hour Average Concentration (ppm) State Standard > 9.0 ppm Federal Standard > 9 ppm						Date of Maximum 8-Hour Average Concentration					
	02	01	00	99	98	97	02	01	00	99	98	97	02	01	00	99	98	97	02	01	00	99	98	97
Chula Vista	-	5.6	5.8	5.4	4.1	5.4								4.7	3.1	2.8	2.7	3.8						
El Cajon	-	-	-	5.8	5.2	5.6	-	-	-	1/6		1/8	-	-	-	-	4.1	4.3	-	-	-	1/7		
Escondido	-	8.5	9.3	9.9		9.3	-	2/5		1/5		1/9	3.9	5.1	4.9	5.3	4.5	4.9		1/5			1/8	
Downtown San Diego	-	7.0	7.2	7.1	7.7	7.5	-						3.5	4.9	4.6	4.6	4.8	5.4						

- Monitoring discontinued

Nitrogen Dioxide – Annual Average and Maximum 1-Hour Concentration

Station	Annual Average Federal Standard .053 ppm						Maximum 1-Hour Concentration (ppm) State Standard > .25 ppm						Date of Maximum 1-Hour Concentration					
	02	01	00	99	98	97	02	01	00	99	98	97	02	01	00	99	98	97
Chula Vista													1/7					
El Cajon	-												1/7					
Escondido																3/1		
Downtown San Diego														1/3				

Sulfur Dioxide

Station	Annual Average in pphm Federal Standard 3 pphm						Maximum 24-Hour Average Federal Standard 14 pphm State Standard 4 pphm						Maximum 3-Hour Average Federal Standard 50 pphm						Maximum 1-Hour Concentration in pphm State Standard 25 pphm					
	02	01	00	99	98	97	02	01	00	99	98	97	02	01	00	99	98	97	02	01	00	99	98	97
Chula Vista	0.4	0.3	0.3	0.3	0.3	0.3	1.2	1.4	1.0	1.9	2.0	1.7	-	3.6	3.0	4.7	6.5	6.4	-	4.9	4.5	8.4		8.1
Downtown San Diego	0.3	0.3	0.4	0.2	0.3	0.3	0.7	1.0	1.0	.08	1.1	1.1	-	3.6	2.9	2.5	3.7	3.2	-	5.2	3.8	3.9	4.0	5.2

Table 9-1 (continued)
San Diego County Regional Air Quality Data 1997-2002

Particulate Matter (PM 10)

Station	Annual Arithmetic Average Federal Standard 50µg/m3* State Standard 20µg/m3						Highest 24-Hour Concentration Federal Standard 150µg/m3** State Standard 50µg/m3						Date of Highest 24-Hour Concentration					
	02	01	00	99	98	97	02	01	00	99	98	97	02	01	00	99	98	97
Chula Vista		28	28	30	22	28	50	64	52	59	39	58		1/1				
El Cajon		37	31	34	26	27	52	84	69	60	54	76		1/1				
Escondido		31	30	30	24	29	51	74	65	52	51	63	9/1	1/1				
Downtown San Diego		31	34	33	26	31	47	66	65	69	48	74		1/1		1/6		7/3

\- Monitoring discontinued
* Not to exceed 50µg/m3 for a three-year average
** Not to exceed 150µg/m3 for a three-year average of annual 99th percentile

Particulate Matter (MP 2.5)

Station	Annual Average Federal Standard 15µg/m3* State Standard 12µg/m3						Highest 24-Hour Concentration Federal Standard 150µg/m3**						Date of Highest 24-Hour Concentration					
	02	01	00	99	98	97	02	01	00	99	98	97	02	01	00	99	98	97
Chula Vista					-	-					-	-	1/2	1/1			-	-
El Cajon					-	-					-	-	1/1				-	-
Kearny Mesa					-	-					-	-				3/1	-	-
Escondido					-	-					-	-	1/1	1/1			-	-
Downtown San Diego					-	-					-	-	1/2	1/1			-	-

\- Monitoring discontinued
* Not to exceed 15µg/m3 for a three-year average
** Not to exceed 65µg/m3 for a three-year average of annual 98th percentile

Source: CARB 2003, 2002 data not yet validated.

borders for the SDAPCD and the SDAB are the same. The SDAPCD has permit authority over stationary sources, acts as the primary reviewing agency for environmental documents addressing potential air quality impacts, and develops regulations that must be consistent with, or more stringent than, Federal and State air quality policies.

Table 9-2
Federal and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	Federal Standards	
		Concentration[a]	Primary[b]	Secondary[c]
Ozone (O_3)	1-Hour	0.09 ppm (180 micrograms per cubic meter [$\mu g/m^3$])	0.12 ppm (235 $\mu g/m^3$)	Same as Primary Standard
	8-Hour	N/A	0.08 ppm (3-year average of annual 4th highest daily maximum)	
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	-
	1-Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	-
Sulfur Dioxide (SO_2)	Annual Average	N/A	0.030 ppm (80 $\mu g/m^3$)	-
	24-Hour	0.040 ppm (105 $\mu g/m^3$)	0.14 ppm (365 $\mu g/m^3$)	-
	3-Hour	N/A	N/A	500 ppbv (1,300 $\mu g/m^3$)
	1-Hour	0.25 ppm (655 $\mu g/m^3$)	N/A	-
Respirable Particulate Matter (PM_{10})	24-Hour	50 $\mu g/m^3$	150 $\mu g/m^3$	Same as Primary Standard
	Annual Arithmetic Mean	20 $\mu g/m^3$	50 $\mu g/m^3$	
Nitrogen Dioxide (NO_2)	Annual Average	N/A	53 ppbv (100 $\mu g/m^3$)	Same as Primary Standard
	1-Hour	250 ppbv (470 $\mu g/m^3$)	N/A	-
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	No Separate State Standard	65 $\mu g/m^3$	Same as Primary Standard
	Annual Arithmetic Mean	12 $\mu g/m^3$	15 $\mu g/m^3$	
Lead (Pb)	30-Day Average	1.5 $\mu g/m^3$	N/A	
	Calendar Quarter	N/A	1.5 $\mu g/m^3$	Same as Primary Standard
Hydrogen Sulfide	1-Hour	0.03 ppm (42 $\mu g/m^3$)	No Federal Standards	No Federal Standards
Sulfates	24-Hour	25 $\mu g/m^3$	No Federal Standards	No Federal Standards

Table 9-2 (continued)
Federal and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	Federal Standards	
		Concentration[a]	Primary[b]	Secondary[c]
Visibility Reducing Particles	8-Hour (10 am to 6 pm, PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer – visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70 percent. Method: ARB Method V (8/18/89)	No Federal Standards	No Federal Standards

[a] Equivalent units given in parentheses are based upon a reference temperature of 25°C and pressure of 760 mm mercury. Parts per million by volume = ppmv, and parts per billion by volume = ppbv.
[b] The levels of air quality necessary, with an adequate margin of safety, needed to protect public health.
[c] The levels of air quality necessary to protect public welfare from any known or anticipated adverse effect of a pollutant.

9.2.2 Air Quality Status

The SDAPCD operates an extensive ambient air monitoring network, continuously monitoring air pollution levels at numerous sites throughout San Diego County in compliance with Federal and State requirements. Data generated at these monitoring sites are used to define the nature and severity of air pollution in San Diego County and to determine attainment status.

Air basins are classified under the CAA as "attainment" (meeting air quality standards for a given pollutant), "nonattainment" (exceeding standards for a given pollutant), or "unclassified" (insufficient data are available to positively designate, but otherwise considered to be attainment) areas for each criteria air pollutant. The Federal and State designations for the SDAB are presented in **Table 9-3**. The SDAB is under the jurisdiction of the SDAPCD and both have the same geographic boundaries as the County.

The SDAB has generally experienced substantial improvement in ambient air quality over the past several years, demonstrating that emission control measures are working. Of the seven criteria air pollutants regulated by U.S. EPA and nine regulated by CARB, only ozone and PM_{10} occur in concentrations sufficient to violate either national or State standards in the SDAB.

San Diego met State and national air quality standards for CO, NO_2, SO_2, and Pb. The current Federal PM_{10} standards were met, and San Diego is designated as "unclassified" for NAAQS. However, as the State standard was exceeded for PM_{10}, San Diego is designated as "nonattainment" for CAAQS.

Table 9-3
San Diego Air Basin Attainment Designations

Pollutant	State	Federal
Ozone (1-hour)	Nonattainment	Nonattainment[a]
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Unclassified/Attainment	Unclassified/Attainment
Sulfur Dioxide	Unclassified/Attainment	Unclassified/Attainment
PM_{10}	Nonattainment	Unclassified
Sulfates	Attainment	N/A[b]
Hydrogen Sulfide	Unclassified	N/A
Visibility Reducing Particles	Unclassified/Attainment	N/A
Lead	Unclassified/Attainment	Unclassified/Attainment

[a] An Ozone Redesignation Request and Maintenance Plan for San Diego County has been prepared and submitted by the SDAPCD, dated December 2002.
[b] N/A = not applicable; no standard.
Source: CARB 2003.

In 2001, the SDAB attained the national one-hour ambient air quality standard for ozone. Attainment demonstrates emission control measures are working and substantial progress has been made to address the acute, or short-term, health issues associated with exposure to ozone. Attainment also represents continuing progress toward attaining the more health-protective national eight-hour and State one-hour ozone standards. The SDAB is still designated as "nonattainment" until redesignation is approved by the U.S. EPA.

9.2.2.1 Recent Additions to Air Quality Standards

Under the CAA of 1970, U.S. EPA is required to review public health standards every five years and to update standards, if necessary, to protect the public health with an adequate margin of safety, based on the latest scientific evidence. As a result, more stringent Federal standards were adopted by the U.S. EPA in July 1997. The standards introduced a new eight-hour ozone standard and a new fine particulate standard, which applies to $PM_{2.5}$. Various industrial and environmental groups challenging these standards filed a number of lawsuits. In its decision of February 27, 2001, the U.S. Supreme Court unanimously upheld the proposed 1997 standards. California also adopted a $PM_{2.5}$ standard.

9.2.2.1.1 Eight-Hour Ozone Standard

The U.S. EPA adopted a new eight-hour standard for ozone based on recent medical studies that showed longer-term exposures at lower ozone levels caused significant health effects. The new Federal eight-hour standard is 0.08 ppm.

To ensure a smooth transition to the new standard, air pollution control districts must first reach attainment of the one-hour ozone standard before being required to attain the new eight-hour standard. Although the new standard appears to be much more stringent, it has a longer averaging period of eight hours, and multi-hour averages are always lower than their highest single hour. The State one-hour standard is still more stringent than the new eight-hour Federal standard.

In the SDAB, the more protective State one-hour ozone standard was exceeded on 15 days in 2002. The State standard is 0.09 ppm and the Federal one-hour standard is 0.12 ppm. One-hour standards measure peak ozone levels in any given hour. The SDAB exceeded the new Federal eight-hour ozone standard of 0.08 ppm on 13 days in 2002.

9.2.2.1.2 24-Hour and Annual $PM_{2.5}$ Standards

The U.S. EPA adopted a new 24-hour standard for $PM_{2.5}$ based on medical studies that showed that smaller particles lodged deeper into the lungs, causing respiratory problems. The new Federal 24-hour standard is 65 $\mu g/m^3$. The new Federal annual arithmetic mean standard is 15 $\mu g/m^3$. California has adopted an annual arithmetic mean standard of 12 $\mu g/m^3$, and is in the process of establishing a 24-hour standard. Preliminary $PM_{2.5}$ data suggests that San Diego will be close to the new $PM_{2.5}$ standards; however, it is unclear whether San Diego will be in attainment.

9.2.2.2 Air Quality Trends

Ambient air quality data in the SDAB clearly shows a continuing improving trend with an occasional peak due primarily to meteorological influences. For example, in 1996 there were two days over the Federal one-hour ozone standard; in 1997, one day; in 1998, nine days; in 1999 and 2000, no days; and in 2001, two days. The brief increase in exceedances in 1998 was strongly influenced by adverse meteorological conditions.

San Diego has not had a Stage I smog (ground level ozone) alert since 1991 and no Stage II alerts since 1979. A Stage I alert occurs when smog levels reach 0.20 ppm. A Stage II alert occurs when smog levels reach 0.35 ppm. The State adopted a Health Advisory level of 0.15 ppm for ozone in 1991 after medical research showed that ozone posed a health threat at this lower concentration, especially for children, the elderly, and persons with heart or lung disease, and during strenuous exercise. A Health Advisory is issued when smog levels reach 0.15 ppm, and the community is advised to reduce vigorous outdoor activity. In the SDAB, no Health Advisories have been issued since July 1998.

9.2.3 Air Toxics

TACs are airborne substances that are capable of causing short-term or long-term adverse human health effects. TACs include both organic and inorganic chemical substances. TACs may be emitted from a variety of common sources, including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. Research and teaching facilities where a variety of chemicals are used for various experiments may also be a source of TACs.

The 1990 Federal CAA Amendments expanded the regulation of hazardous air pollutants (HAPs, the Federal government terminology for TACs), establishing a list of 172 individual compounds and 17 compound categories to be regulated as HAPs. The Federal CAA required the U.S. EPA to establish a stringent, technology-based emissions standard for stationary sources of emissions of these listed substances. The Federal CAA Amendments also required the U.S. EPA to list "major" and "area" source categories that the U.S. EPA finds sufficiently threatening to human

health or the environment by November 1993, to establish emissions standards for at least 40 stationary source categories by November 1994, and to establish standards for all regulated sources by November 2002.

"Major sources for HAPs" are defined as any stationary source that emits at least 10 tons per year of any single HAP or 25 tons per year of any combination of HAPs. "Area sources" are stationary sources encompassing small diverse facilities that routinely release a small amount of HAPs. By November 1997, the U.S. EPA must list sufficient categories and subcategories of area sources to ensure that 90 percent of the emissions of the 30 HAPs presenting the greatest threat to the public health in the largest number of urban areas are subject to regulation.

9.2.3.1 Air Toxics Control Measures

At the State level, CARB continues to implement an ongoing program to identify toxic air contaminants, assess their public health risks, and develop air toxics control measures to reduce toxic emissions from specific source categories statewide. Under this program, known as AB 1807 or the Tanner program, CARB, in cooperation with the Office of Environmental Health Hazard Assessment, develops priorities for identification of toxic compounds, investigates and documents the adverse health risks posed by such compounds, identifies statewide sources of emissions, evaluates public health risks and available control technologies, and approves statewide emission control measures. Local air districts then must adopt and implement the State-approved emission reduction measures.

9.3 IMPACTS AND MITIGATION

9.3.1 Standards of Significance

The significance of potential impacts to air quality was determined based on CEQA guidelines (CCR §§ 15000-15387, Appendix G) and other relevant considerations. These guidelines identify certain thresholds that may be considered to determine whether an impact is significant. Using these thresholds, Proposed Project facilities would be considered to have significant air quality impacts if it were to:

- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors); or
- Expose sensitive receptors to substantial pollutant concentrations.

9.3.2 Impacts and Mitigation Measures

This section identifies the potentially significant adverse program-level impacts and required mitigation measures for implementation of the Proposed Project. **Table 9-4** presented at the end of this section identifies the potential program-level impacts of each of the Proposed Project facilities. This program-level analysis is not intended to describe or address the impacts in detail; detailed evaluations of the impacts of specific projects will be conducted as part of a site-specific CEQA review.

Unless otherwise noted, all identified impacts are considered to be potentially significant adverse impacts. Corresponding mitigation measures, unless otherwise noted, are expected to be sufficient to reduce impacts to a less than significant level.

Air Quality Impact 1: *Construction of the Proposed Project could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors); or could expose sensitive receptors to substantial pollutant concentrations.*

As described in Section 9.2, the SDAB is presently designated as a non-attainment area for ozone and PM_{10}. During construction of various Proposed Project facilities, vehicles and other construction equipment such as graders, excavators, dozers, scrapers, tractors, water trucks, generator sets, and associated equipment would generate exhaust emissions of CO, NO_2, SO_2, and PM_{10}. Since NO_2 is an ozone precursor, Proposed Project construction activities could contribute to a net increase in ozone concentrations in the region.

PM_{10} would also be generated in the form of fugitive dust emissions from earth clearing and grading, and vehicle traffic on unpaved surfaces at the project sites and on access roads. Fugitive dust represents the particles of dust generated and introduced into the atmosphere that do not readily fall back to the ground due to their size or mass (including PM_{10}). Although fugitive dust related to construction activities would be temporary in nature, the resulting airborne particulate matter may have a measurable impact on the air quality in the vicinity of the construction area. Fugitive dust emissions would vary depending on the construction schedule, activities being performed at the site, and the site location relative to paved access roads. In addition, soil conditions and meteorological conditions, such as rain and wind, would also influence the creation and dispersion of fugitive dust.

Construction activities associated with the Proposed Project could generate vehicle emissions and fugitive dust that could have an adverse impact on sensitive receptors, such as residential neighborhoods, schools, hospitals, and parks. These construction-related vehicle and fugitive dust emissions would be short-term in nature, however.

Based on these emissions of ozone precursors and fugitive dust, construction activities could contribute to existing non-attainment conditions for ozone and PM_{10}. However, since the Proposed Project construction would be temporary, these impacts on air quality would be short-term in nature.

Long-term operation and maintenance of the Proposed Project would produce minimal emission of ozone precursors or fugitive dust due to occasional operation of emergency generators and sporadic operation and maintenance vehicle trips on unpaved roads and surfaces. These emissions related to operation and maintenance would not result in a considerable cumulative increase in ozone or PM_{10} levels in the region and would represent a less than significant air quality impact.

Air Quality Mitigation Measure 1:

The following mitigation measure will be implemented during construction of the Proposed Project to reduce exhaust emissions of CO, NO_2, SO_2, and PM_{10}.

- Heavy-duty diesel equipment engines will be properly tuned and maintained to manufacturers' specifications to ensure minimum emissions under normal operations. The Water Authority will require its construction contractors to implement this measure to the extent practical.

The following mitigation measures will be implemented to reduce fugitive dust and PM_{10} emissions:

- Apply water or chemical dust suppressants to unstabilized disturbed areas and/or unpaved roadways in sufficient quantity and frequency to maintain a stabilized surface.
- Water or water-based chemical additives will be used in such quantities to control dust on areas with extensive traffic including unpaved access roads.
- Vehicles hauling dirt or fill will be covered with a tarp or other means.

Air Quality Impact 2: *Operation of Proposed Project facilities could create objectionable odors affecting sensitive receptors.*

New or expanded WTPs envisioned in the Proposed Project could emit odors as a result of the aeration process due to the presence of algae, microorganisms, sediments, and dissolved gases in the untreated feed water. Odors could be emitted at varying degrees, depending on the rate at which the plants would be operated, and temperature and wind conditions.

Air Quality Mitigation Measure 2:

Design standards would incorporate odor-reducing measures when necessary to reduce odor levels to less than significant levels.

9.4 EFFECTS FOUND NOT TO BE SIGNIFICANT

None identified.

Table 9-4
Potential Program-Level Air Quality Impacts of Proposed Project Facilities

#	Project	Impact 1[a]	Impact 2[b]
Expand Internal System Capacity			
	Flow Regulatory Storage		
1	Hubbard Hill FRS	**X**	
2	Slaughterhouse Terminal Reservoir	**X**	
3	North County Distribution Pipeline FRS	**X**	
4	Mission Trails FRS II	**X**	
	➢ Mission Trails Tunnel Pipeline and Vent Demolition	**X**	
	Projects to Increase Regional Untreated Water Conveyance Capacity		
5	Restore Untreated Water Delivery in La Mesa-Sweetwater Extension	**X**	
6	Second Crossover Pipeline	**X**	
7	San Diego 24/25/26 FCF	**X**	
8	San Diego 12 FCF Expansion	**X**	
9	Lower Otay Pump Station	**X**	
10	Convert Pipeline 3 to Untreated Water from Crossover to Miramar	**X**	
Additional Water Treatment Capacity			
	Projects to Supplement Treated-Water Aqueducts		
11	Padre Dam Pump Station Expansion	**X**	
12	Pipeline from Otay FCF 14 to Regulatory Reservoir	**X**	
13	Poway Pump Station and Treated Water Connection	**X**	
14	Escondido-Vista WTP Connection		
	a) Escondido-Vista Pipeline Conversion	**X**	
	b) Escondido-Vista Pump Station	**X**	
	c) Escondido-Dixon Pipeline	**X**	
	Projects to Expand Regional Water Treatment Capacity		
Options for Expanding Regional Treatment Capacity			
15a	Olivenhain WTP – 50 mgd Expansion	**X**	**X**
15b	Weese WTP – 50 mgd Expansion	**X**	**X**
15c	Red Mountain WTP – new 50 mgd plant	**X**	**X**
15d	Diversion Structure WTP – new 100 mgd plant	**X**	**X**
Additional Seasonal/Carryover Storage			
16	Additional San Vicente Dam Raise Beyond ESP	**X**	
New Conveyance and Supply			
17	Phase I – Seawater Desalination: Project at Encina (50 mgd)		
	➢ Desalination Plant	**X**	
	➢ Desalinated Water Conveyance Facilities	**X**	
18	Expand Existing or Site New Seawater Desalination Plant*		
	Phase II – Seawater Desalination: Expand Capacity up to 100 mgd		
	Phase III – Seawater Desalination: Expand Capacity up to 150 mgd		
Seawater Desalination Site Options for Phases II and III:			
	a) San Onofre – at San Onofre Nuclear Generating Station	**X**	
	b) Carlsbad – at Encina Power Station	**X**	
	c) South Bay – at South Bay Power Plant	**X**	
	d) Encina Water Pollution Control Facility	**X**	
	e) South Bay Ocean Outfall Site	**X**	

Table 9-4 (continued)
Potential Program-Level Air Quality
Impacts of Proposed Project Facilities

* The ultimate level of seawater desalination development in the region would depend largely upon actual regional population growth, economics, availability of other high quality water sources, as well as an evaluation of the performance of the Encina seawater desalination facility, should it be approved and constructed.

[a] Construction of the Proposed Project could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors); or could expose sensitive receptors to substantial pollutant concentrations.

[b] Operation of Proposed Project facilities could create objectionable odors affecting sensitive receptors.