

5.2 AIR QUALITY

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for the 109th Street Pool and Bathhouse Replacement project (proposed project) to impact air quality in the local and regional contexts. The analysis in this section is based on an air quality analysis completed by The Planning Center in January 2008. The air quality model output sheets are included as Appendix C.

5.2.1 Environmental Setting

South Coast Air Basin

The project site lies within the South Coast Air Basin (SoCAB), which includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino Counties. The air basin is in a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean in the southwest quadrant, with high mountains forming the remainder of the perimeter. The general region lies in the semipermanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds.

Temperature and Precipitation

The annual average temperature varies little throughout the 6,645-square-mile SoCAB, ranging from the low 60s to the high 80s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The Western Regional Climate Center maintains historical climate information for the western United States. The closest meteorological monitoring station to the project site that monitors average monthly temperatures and average annual precipitation patterns is the Los Angeles WSO Airport Monitoring Station (ID No. 045114). The average low is reported at 47°F in January, and the average high is 76°F in August. All areas in the SoCAB have recorded temperatures above 100°F in recent years (WRCC 2007).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all annual rains fall between November and April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains. Rainfall averages around 12.09 inches per year in the project area (WRCC 2007).

Humidity

Although the SoCAB has a semiarid climate, the air near the earth's surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds, the "ocean effect" is dominant. Periods of heavy fog, especially along the coast, are frequent; and low clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB.

Wind

Wind patterns across the south coastal region are characterized by westerly or southwesterly onshore winds during the day and by easterly or northeasterly breezes at night. Wind speed is somewhat greater during the dry summer months than during the rainy winter season.



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Between periods of wind, air stagnation may occur, both in the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During the winter and fall months, surface high-pressure systems over the SoCAB, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally continue a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east affect the transport and diffusion of pollutants by inhibiting the eastward transport of pollutants. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions.

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, there are two similarly distinct types of temperature inversions that control the vertical depth through which pollutants are mixed. These inversions are the marine/subsidence inversion and the radiation inversion. The height of the base of the inversion at any given time is known as the "mixing height." The combination of winds and inversions are critical determinants in leading to the highly degraded air quality in summer and the generally good air quality in the winter in the project area.

Air Pollutants of Concern

Criteria Air Pollutants

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. These regulated air pollutants are known as "criteria air pollutants" and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb) are primary air pollutants. Of these, CO, SO₂, NO_x, PM₁₀, and PM_{2.5} are criteria pollutants. VOC and NO_x are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O₃) and nitrogen dioxide (NO₂) are the principal secondary pollutants.

Presented below is a description of each of the primary and secondary criteria air pollutants and their known health effects. Other pollutants, such as carbon dioxide, a natural by-product of animal respiration that is also produced in the combustion process, have been linked to such phenomena as global warming. These emissions are unregulated, and there are no thresholds for their release.

Carbon Monoxide (CO) is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (SCAQMD 2005).

Volatile Organic Compounds (VOC) are compounds comprised primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. VOCs are synonymous with reactive organic gases (ROG). Other sources of VOC include evaporative emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by VOC, but rather by reactions of VOC to form secondary pollutants such as ozone (SCAQMD 2005).

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Nitrogen Oxides (NO_x) serve as integral participants in the process of photochemical smog production. The two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO₂). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO₂ is a reddish-brown irritating gas formed by the combination of NO and oxygen. NO_x acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens (SCAQMD 2005).

NO₂ is a by-product of fuel combustion. The principal form of NO₂ produced by combustion is NO, but NO reacts with oxygen to form NO₂, creating the mixture of NO and NO₂ commonly called NO_x. NO₂ acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO₂ is only potentially irritating. There is some indication of a relationship between NO₂ and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 part per million (ppm). NO₂ absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO₂ also contributes to the formation of PM₁₀, PM_{2.5}, and ozone (SCAQMD 2005).

Sulfur Dioxide (SO₂) is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. Fuel combustion is the primary source of SO₂. At sufficiently high concentrations, SO₂ may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO₂ may do greater harm by injuring lung tissue. A primary source of SO₂ emissions is high-sulfur-content coal. Gasoline and natural gas have very low sulfur content and hence do not release significant quantities of SO₂ (SCAQMD 2005).

Particulate Matter (PM) consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized. Inhalable coarse particles, or PM₁₀, include the particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 millionths of a meter or 0.0004 inch) or less. Inhalable fine particles, or PM_{2.5}, have an aerodynamic diameter of 2.5 microns (i.e., 2.5 millionths of a meter or 0.0001 inch) or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind action on arid landscapes also contributes substantially to local particulate loading. Both PM₁₀ and PM_{2.5} may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems (SCAQMD 2005).

Fugitive dust primarily poses two public health and safety concerns. The first concern is that of respiratory problems attributable to the particulates suspended in the air. Diesel particulates are classified by the CARB as a carcinogen. The second concern is that of motor vehicle accidents caused by reduced visibility during severe wind conditions. Fugitive dust may also cause significant property damage during strong windstorms by acting as an abrasive material agent (much like sandblasting). Finally, fugitive dust can result in a nuisance factor due to the soiling of proximate structures and vehicles (SCAQMD 2005).

Ozone (O₃), or smog, is one of a number of substances called photochemical oxidants that are formed when VOC and NO_x (both by-products of the internal combustion engine) react with sunlight. O₃ is present in relatively high concentrations in the SoCAB, and the damaging effects of photochemical smog are generally related to the concentrations of O₃. O₃ poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Additionally, O₃ has been tied to crop damage, typically in the form of stunted growth and premature death. O₃ can also act as a corrosive, resulting in property damage such as the degradation of rubber products (SCAQMD 2005).

Toxic Air Contaminants

The public's exposure to toxic air contaminants (TACs) is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to



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reduce exposure to these contaminants to protect the public health. The Health and Safety Code defines a TAC as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health.” A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal Clean Air Act (42 USC Sec. 7412[b]) is a toxic air contaminant. Under state law, the California Environmental Protection Agency (Cal/EPA), acting through the California Air Resources Board (CARB), is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or to an increase in serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics “Hot Spot” Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an “airborne toxics control measure” for sources that emit designated TACs. If there is a safe threshold for a substance (a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. CARB has, to date, established formal control measures for 11 TACs, all of which are identified as having no safe threshold.

Air toxics from stationary sources are also regulated in California under the Air Toxics “Hot Spot” Information and Assessment Act of 1987. Under AB 2588, toxic air contaminant emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

Since the last update to the TAC list in December 1999, CARB has designated 244 compounds as TACs (CARB 1999). Additionally, the CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to a relatively few compounds, the most important being particulate matter from diesel-fueled engines.

In 1998, the CARB identified particulate emissions from diesel-fueled engines (diesel PM) as a TAC. Previously, the individual chemical compounds in the diesel exhaust were considered as TACs. Almost all diesel exhaust particle mass is 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

In 2008, the South Coast Air Quality Management District (SCAQMD) conducted its third update to their study on ambient concentrations of TACs and estimated the potential health risks from air toxics. The results showed that the overall risk for excess cancer from a lifetime exposure to ambient levels of air toxics was about 1,200 in a million. The largest contributor to this risk was diesel exhaust, accounting for approximately 84 percent of the air toxics risk (SCAQMD 2008).

Greenhouse Gases and Climate Change

Climate change refers to the variation of the Earth’s climate over time, whether due to natural variability or as a result of human activities. The climate system consists of five major interactive components: the atmosphere, the hydrosphere (ocean, rivers, and lakes), the cryosphere (sea ice, ice sheets, and glaciers), the land surface, and the biosphere (flora and fauna). The earth’s atmosphere is the most unstable and rapidly changing part of the system. The atmosphere is made up of 78.1 percent nitrogen (N₂), 20.9 percent oxygen (O₂), and 0.93 percent argon (Ar). These gases have only limited interaction with the incoming solar radiation and do not interact with infrared (long-wave) radiation emitted by the Earth. However, there are a

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number of trace gases, such as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and ozone (O₃), that absorb and emit infrared radiation and therefore have an affect on the Earth's climate. These are greenhouse gases (GHG), and while they comprise less than 0.1 percent of the total volume mixing ratio in dry air, they play an essential role in influencing the Earth's climate (IPCC 2001).

Non-CO₂ GHG include those listed in the Kyoto Protocol¹ (CH₄, N₂O, hydrofluorocarbons [HFC], perfluorocarbons [PFC], and sulfur hexafluoride [SH₆]) and those listed under the Montreal Protocol and its Amendments² (chlorofluorocarbons [CFC], hydrochlorofluorocarbons [HCFC], and halons). Table 5.2-1 lists a selection of some of the GHG and their relative global warming potential (GWP) compared to CO₂. The global warming potential of these gases are compared to CO₂ as a way of normalizing all GHG emissions relative to CO₂. This is referred to as the CO₂ equivalent, or CO_{2e}. Although not included in this table, water vapor (H₂O) is the strongest GHG, but is also the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant in the atmosphere (IPCC 2001). The major GHG are described below.

**Table 5.2-1
Greenhouse Gases and Their Relative Global Warming Potential**

GHG	Atmospheric Lifetime (years)	Global Warming Potential ¹
Carbon Dioxide (CO ₂)	50 to 200	1
Methane (CH ₄) ²	12 (±3)	21
Nitrous Oxide (N ₂ O)	120	310
Hydrofluorocarbons:		
HFC-23	264	11,700
HFC-32	5.6	650
HFC-125	32.6	2,800
HFC-134a	14.6	1,300
HFC-143a	48.3	3,800
HFC-152a	1.5	140
HFC-227ea	36.5	2,900
HFC-236fa	209	6,300
HFC-4310mee	17.1	1,300
Perfluoromethane: CF ₄	50,000	6,500
Perfluoroethane: C ₂ F ₆	10,000	9,200
Perfluorobutane: C ₄ F ₁₀	2,600	7,000
Perfluoro-2-methylpentane: C ₆ F ₁₄	3,200	7,400
Sulfur Hexafluoride (SF ₆)	3,200	23,900

Source: United States Environmental Protection Agency (USEPA), *Non-CO₂ Gases Economic Analysis and Inventory: Global Warming Potentials and Atmospheric Lifetimes*, <http://www.epa.gov/nonco2/econ-inv/table.html>, 2006, accessed May 2007.

¹ 100-Year Time Horizon.

² The methane GWP includes the direct effects and those indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO₂ is not included.

¹ Kyoto Protocol: Established by the United Nations Framework Convention on Climate Change (UNFCC) and signed by more than 160 countries (excluding the United States) to state that they commit to reduce their GHG emissions by 55 percent or engage in emissions trading.

² Montreal Protocol and Amendments: International Treaty signed in 1987 and amended in 1990 and 1992. Stipulates that the production and consumption of compounds that deplete ozone in the stratosphere (CFC, halons, carbon tetrachloride, and methyl chloroform) are to be phased out by 2000 (2005 for methyl chloroform).



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Carbon Dioxide (CO₂) enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (or “sequestered”) when it is absorbed by plants as part of the biological carbon cycle.

Ozone (O₃) is a gaseous atmospheric constituent. In the troposphere (lower atmosphere closest to the Earth’s surface), it is created both naturally and by photochemical reactions involving gases resulting from human activities (e.g., smog). In high concentrations, tropospheric ozone can be harmful to a wide range of living organisms. In the stratosphere (lower atmosphere above the troposphere), ozone is created by the interaction between solar ultraviolet radiation and molecular oxygen (O₂). Stratospheric ozone plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric ozone through chemical reactions that may be enhanced by climate change results in an increased ground-level flux of ultraviolet B radiation (short-wave).

Methane (CH₄) is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.

Nitrous Oxide (N₂O) is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.

Fluorinated Gases are synthetic, strong greenhouse gases that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but because they are potent greenhouse gases, they are sometimes referred to as High Global Warming Potential gases.

- *Chlorofluorocarbons (CFCs)* are greenhouse gases covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down ozone. These gases are being replaced by other compounds that are greenhouse gases covered under the Kyoto Protocol.
- *Perfluorocarbons (PFCs)* are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF₄] and perfluoroethane [C₂F₆]) were introduced as alternatives, along with HFCs, to the ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are also used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they are strong greenhouse gases.
- *Sulfur Hexafluoride (SF₆)* is a colorless gas soluble in alcohol and ether, slightly soluble in water. SF₆ is a strong greenhouse gas used primarily in electrical transmission and distribution systems as an insulator.
- *Hydrochlorofluorocarbons (HCFCs)* contain hydrogen, fluorine, chlorine, and carbon atoms. Although ozone-depleting substances, they are less potent than CFCs. They have been introduced as temporary replacements for CFCs and are also greenhouse gases.
- *Hydrofluorocarbons (HFCs)* contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances for serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing.

They do not significantly deplete the stratospheric ozone layer, but they are strong greenhouse gases (USEPA 2007).

California's GHG Sources and Relative Contribution

California is the second largest emitter of GHG in the United States, only surpassed by Texas, and the tenth largest GHG emitter in the world (CEC 2005). However, because of more stringent air emission regulation, in 2001 California ranked fourth lowest in carbon emissions per capita and fifth lowest among states in CO₂ emissions from fossil fuel consumption per unit of gross state product (total economic output of goods and services). In 2004, California produced 492 million metric tons of CO₂-equivalent GHG emissions,³ of which 81 percent are CO₂ from the combustion of fossil fuels, 2.8 percent were from other sources of CO₂, 5.7 percent were from methane, and 6.8 percent were from N₂O. The remaining 2.9 percent of GHG emissions were from High Global Warming Potential gases (CEC 2006).

CO₂ emissions from human activities represent 84 percent of the total GHG emissions. California's transportation sector is the single largest source of GHG emissions, producing 40.7 percent of the state's total emissions. Electricity consumption is the second largest source, comprising 22.2 percent. While out-of-state electricity generation comprises one-fifth to one-third of California's total electricity supply, it contributes 39 to 57 percent of the GHG emissions associated with electricity consumption in the state. Industrial activities are California's third largest source of GHG emissions, comprising 20.5 percent of state's total emissions. Other major sources of GHG emissions include mineral production, waste combustion and land use, and forestry changes. Agriculture, forestry, commercial, and residential activities comprise the balance of California's greenhouse gas emissions (CEC 2006).

Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHG in the atmosphere remained relatively constant. During the 20th century, however, scientists observed a rapid change in the climate and climate change pollutants that is attributable to human activities. The amount of CO₂ has increased by more than 30 percent since preindustrial times and is still increasing at a rate of 0.4 percent per year, mainly due to combustion of fossil fuels and deforestation (IPCC 2001). These recent changes in climate change pollutants far exceed the extremes of the ice ages and the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants (CCAT 2006).

Climate-change scenarios are affected by varying degrees of uncertainty (IPCC 2001). The Intergovernmental Panel on Climate Change's (IPCC) *2001 IPCC Third Assessment Report* projects that the range of global mean temperature increase from 1990 to 2100, under different climate-change scenarios, will range from 2.0 to 4.5°C (3.6 to 8.1°F). In the past, gradual changes in the earth's temperature changed the distribution of species, availability of water, etc. However, human activities are accelerating this process so that the environmental impacts associated with climate change are no longer occurring in a geologic time frame but within a human lifetime.

³ CO₂-equivalence is used to show the relative potential that different GHG have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.



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Potential Climate Change Impacts for California

Climate change is not a local environmental impact; it is a global impact. Unlike criteria pollutants, CO₂ emissions cannot be attributed to a direct health effect. However, human-caused increases in GHG have been shown to be highly correlated with increases in the surface and ocean temperatures on earth (IPCC 2001). What is not clear is the extent of the impact on environmental systems.

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences from gradual changes in the earth's temperature are also hard to predict. Likewise, there are varying degrees of uncertainty in environmental impact scenarios. Because of this uncertainty, the IPCC uses five different confidence levels to quantify climate change impacts on the environment: Very High Confidence (95 percent or greater), High Confidence (67 to 95 percent), Medium Confidence (33 to 67 percent), Low Confidence (5 to 33 percent), and Very Low Confidence (5 percent or less).

In California and western North America, 1) observations in the climate have showed a trend toward warmer winter and spring temperatures, 2) a smaller fraction of precipitation is falling as rain instead of snow, 3) there is a decrease in the amount of spring snow accumulation in the lower and middle elevation mountain zones, 4) there is an advanced snowmelt of 5 to 30 days earlier in the springs, and 5) there is a similar shift (5 to 30 days earlier) in the timing of spring flower blooms (CCAT 2006). According to the California Climate Action Team (CCAT), even if actions could be taken to immediately curtail climate change emissions, the potency of emissions that have already built up, their long atmospheric lifetimes (see Table 5.2-1) and the inertia of the Earth's climate system could produce as much as 0.6°C (1.1°F) of additional warming. Consequently, some impacts from climate change are now unavoidable.

CCAT and the Cal/EPA use the results from the recent analysis of global climate change impacts for California under three IPCC scenarios: a lower emissions scenario (B1), a medium-high emissions scenario (A2), and a high emissions scenario (A1F1); each is associated with an increasing rise in average global surface temperatures. According to the California Energy Commission (CEC) in their 2006 report, *Our Changing Climate, Assessing the Risks to California*, global climate change risks to California include public health impacts (poor air quality made worse and more severe heat), water resources impacts (decreasing Sierra Nevada snow pack, challenges in securing adequate water supply, potential reduction in hydropower, and loss of winter recreation), agricultural impacts (increasing temperatures, increasing threats from pests and pathogens, expanded ranges of agricultural weeds, and declining productivity), coast sea level impacts (rising coastal sea levels, increasing coastal floods, and shrinking beaches), forest and biological resource impacts (increasing wildfires, increasing threats from pest and pathogens, declining forest productivity, and shifting vegetation and species distribution), and electricity (increased energy demand).

Baseline Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site are best documented by measurements made by the SCAQMD. The project site is in Source Receptor Area (SRA) 12 – South Central Los Angeles County (Metropolitan) The SCAQMD air quality monitoring station closest to the proposed project site is the Lynwood Monitoring Station, at 11220 Long Beach Boulevard in the community of Lynwood. As this monitoring station does not monitor PM₁₀ and SO₂, data were supplemented from the Los Angeles – North Main Street Monitoring Station for these criteria pollutants. Data from these stations are summarized in Table 5.2-2.

**Table 5.2-2
Ambient Air Quality Monitoring Summary**

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels During Such Violations				
	2002	2003	2004	2005	2006
Ozone (O₃)¹					
State 1-hour \geq 0.09 ppm	0	0	0	1	0
Federal 8-hour $>$ 0.08 ² ppm	0	0	0	0	0
Max. 1-hour Conc. (ppm)	0.072	0.081	0.083	0.111	0.088
Max. 8-hour Conc. (ppm)	0.052	0.063	0.069	0.081	0.067
Carbon Monoxide (CO)¹					
State 8-hour $>$ 9.0 ppm	1	0	0	0	0
Federal 8-hour \geq 9.0 ppm	1	0	0	0	0
Max. 8-hour Conc. (ppm)	10.1	7.3	6.5	5.9	6.2
Nitrogen Dioxide (NO₂)¹					
State 1-hour \geq 0.25 ³ ppm	0	0	0	0	0
Max. 1-hour Conc. (ppm)	0.036	0.031	0.030	0.031	0.031
Sulfur Dioxide (SO₂)⁴					
State 24-Hour \geq 0.04 ppm	0	0	0	0	0
Federal 24-Hour \geq 0.14 ppm	0	0	0	0	0
Max 24-Hour Conc. (ppm)-	0.002	0.002	0.002	0.002	0.002
Coarse Particulates (PM₁₀)⁴					
State 24-Hour $>$ 50 $\mu\text{g}/\text{m}^3$	7	6	5	3	3
Federal 24-Hour $>$ 150 $\mu\text{g}/\text{m}^3$	0	0	0	0	0
Max. 24-Hour Conc. ($\mu\text{g}/\text{m}^3$)	65	81	72	70	59
Fine Particulates (PM_{2.5})¹					
Federal 24-Hour $>$ 65 ⁵ $\mu\text{g}/\text{m}^3$	0	0	0	0	0
Max. 24-Hour Conc. ($\mu\text{g}/\text{m}^3$)	64	54.8	55.8	54.6	55

Source: South Coast Air Quality Management District. Ambient Air Quality Data Monitoring Data 2002–2006. <http://www.arb.ca.gov/adam/cgi-bin/db2www/>

ppm: parts per million; $\mu\text{g}/\text{m}^3$, or micrograms per cubic meter

¹ Data obtained from the Lynwood Monitoring Station, at 11220 Long Beach Boulevard, Lynwood CA 90262.

² The USEPA recently revised the 8-hour O₃ standard from 0.08 ppm to 0.075 ppm, effective May 2008.

³ The NO_x standard was amended on February 22, 2007, to lower the 1-hr standard to 0.18 ppm.

⁴ Data obtained from the Los Angeles – North Main Street Monitoring Station, located at 1630 North Main Street, Los Angeles CA 90012.

⁵ The USEPA recently revised the 24-hour PM_{2.5} standard from 65 $\mu\text{g}/\text{m}^3$ to 35 $\mu\text{g}/\text{m}^3$ in December 2006.

The data show a violation of the state one-hour standard for ozone in 2005. In 2002, both the state and federal eight-hour standards for CO were exceeded. The data also indicate that the area regularly exceeds the state PM₁₀ standards. The SO₂, NO₂, and PM₁₀ standards have not been violated in the last five years at these stations.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases.

Residential areas are considered to be sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are



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generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Existing and proposed industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

Regulatory Setting

The proposed project has the potential to release gaseous emissions of criteria pollutants into the ambient air; therefore, it falls under the ambient air quality standards (AAQS) promulgated at the local, state, and federal levels. The project site is in the SoCAB and is subject to the rules and regulations imposed by the SCAQMD. However, the SCAQMD reports to CARB, and all criteria emissions are also governed by the California and national AAQS. Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized below.

Ambient Air Quality Standards

The Federal Clean Air Act (FCAA) was passed in 1963 by the US Congress and has been amended several times. The 1970 Clean Air Act Amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting NAAQS and the Prevention of Significant Deterioration program. The 1990 Amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The FCAA allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain the CAAQS by the earliest practical date. The CAAQS tend to be more restrictive than the NAAQS and are based on even greater health and welfare concerns.

The AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect those receptors most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both the State of California and the federal government have established health-based AAQS for seven air pollutants. As shown in Table 5.2-3, these pollutants include O₃, NO₂, CO, SO₂, PM₁₀, PM_{2.5}, and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

**Table 5.2-3
Ambient Air Quality Standards for Criteria Pollutants**

<i>Pollutant</i>	<i>Averaging Time</i>	<i>California Standard</i>	<i>Federal Primary Standard</i>	<i>Major Pollutant Sources</i>
Ozone (O ₃)	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.07 ppm	0.075 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO ₂)	Annual Average	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	*	
Sulfur Dioxide (SO ₂)	Annual Average	*	0.03 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	*	
	24 hours	0.04 ppm	0.14 ppm	
Suspended Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m ³	150 µg/m ³	
Suspended Particulate Matter (PM _{2.5})	Annual Arithmetic Mean	12 µg/m ³	15 µg/m ³	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m ³	
Lead (Pb)	Monthly	1.5 µg/m ³	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	*	1.5 µg/m ³	
Sulfates (SO ₄)	24 hours	25 µg/m ³	*	Industrial processes.

Source: California Air Resource Board (CARB), updated April 2008.

ppm: parts per million; µg/m³: micrograms per cubic meter

* Standard has not been established for this pollutant/duration by this entity.



The FCAA requires the creation of plans to provide for the implementation of all reasonably available control measures, including the adoption of reasonably available control technology, for reducing emissions from existing sources. The following describes recent amendments to the FCAA and CCAA standards for criteria pollutants.

- Ozone (O₃):** The USEPA has phased out and replaced the one-hour primary ozone standard with a new eight-hour standard to protect against longer exposure periods. The new ozone standard is set at a concentration of 0.075 part ppm and represents a tightening of the former one-hour ozone standard. Under the standard adopted by the USEPA, areas are allowed to disregard their three worst measurements every year and average their fourth highest measurements over three years to determine if they meet the standard.

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- **Fine Particulate Matter (PM_{2.5}):** For particulate matter, the USEPA established new annual and 24-hour standards for PM_{2.5} to complement the existing PM₁₀ standards. The new annual PM_{2.5} standard is set at 15 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), and the original 24-hour PM_{2.5} standard was set at $65 \mu\text{g}/\text{m}^3$. In September 2006, the USEPA tightened the 24-hour PM_{2.5} standard from $65 \mu\text{g}/\text{m}^3$ to $35 \mu\text{g}/\text{m}^3$. The annual component of the standard was set to provide protection against typical day-to-day exposures as well as longer-term exposures, while the daily component protects against more extreme short-term events. For the new 24-hour PM_{2.5} standard, the form of the standard is based on the 98th percentile of 24-hour PM_{2.5} concentrations measured in a year (averaged over three years) at the monitoring site with the highest measured values in an area. This form of the standard reduces the impact of a single high-exposure event that may be due to unusual meteorological conditions, and thus provides a more stable basis for effective control programs.
- **Coarse Particulate Matter (PM₁₀):** As of September 21, 2006, the USEPA has revoked the annual PM₁₀ standard of $50 \mu\text{g}/\text{m}^3$ and replaced it with a new 24-hour PM₁₀ standard set at $150 \mu\text{g}/\text{m}^3$. More specifically, the USEPA revised the one-expected exceedance form of the current standard with a 99th percentile form, averaged over three years.
- **Nitrogen Dioxide (NO₂):** On February 23, 2007, CARB approved new, stricter standards for NO₂ that lowered the existing one-hour standard from 0.25 ppm to 18 ppm and established a new annual-average state standard at 0.030 ppm.

Air Quality Management Planning

The SCAQMD and the Southern California Association of Governments (SCAG) are the agencies responsible for preparing the Air Quality Management Plan (AQMP) for the SoCAB. Since 1979, a number of AQMPs have been prepared.

The most recently adopted comprehensive plan is the 2007 AQMP, which was adopted on June 1, 2007. The 2007 AQMP builds upon the approaches for attainment in the 2003 AQMP. It incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2007 AQMP proposes attainment demonstration of the federal PM_{2.5} standards through a more focused control of SO_x, directly emitted PM_{2.5}, NO_x, and VOC by 2015. The eight-hour ozone control strategy builds upon the PM_{2.5} strategy, augmented with additional NO_x and VOC reductions to meet the standard by 2024, assuming a bump-up (i.e., extended attainment date) is obtained.

The AQMP provides local guidance for the State Implementation Plan, which provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards. Areas that meet ambient air quality standards are classified as attainment areas, and areas that do not meet these standards are classified as nonattainment areas. Severity classifications for ozone nonattainment range in magnitude: marginal, moderate, serious, severe, and extreme. The attainment status for the SoCAB is included in Table 5.2-4. The SoCAB is also designated as attainment of the CAAQS for SO₂, lead, and sulfates. According to the 2007 AQMP, the SoCAB will have to meet the new federal PM_{2.5} standards by 2015 and the eight-hour ozone standard by 2024, and will most likely have to achieve the recently revised 24-hour PM_{2.5} standard by 2020.

Table 5.2-4
Attainment Status of Criteria Pollutants in the South Coast Air Basin

<i>Pollutant</i>	<i>State</i>	<i>Federal</i>
Ozone – 1-hour	Extreme Nonattainment	Revoked June 2005
Ozone – 8-hour	Extreme Nonattainment	Nonattainment
PM ₁₀	Serious Nonattainment	Nonattainment Annual Standard Revoked September 2006
PM _{2.5}	Nonattainment	Nonattainment
CO	Attainment	Attainment ¹
NO ₂	Attainment	Attainment/Maintenance
SO ₂	Attainment	Attainment
Lead	Attainment	Attainment
All others	Attainment/Unclassified	Attainment/Unclassified

Source: CARB, based on 2004 State Area Designations and National Area Designations current as of July 2007.

¹ The USEPA granted the request to redesignate the SoCAB from nonattainment to attainment for the CO NAAQS on May 11, 2007 (Federal Register Volume 71, No. 91), which became effective as of June 11, 2007.

Regulatory Framework for Global Climate Change

Regulation of GHG Emissions on a National Level

Currently there are no adopted regulations to combat global climate change on a national level. However, recent statutory authority has been granted to the USEPA that may change the voluntary approach taken under our current administration to address this issue. On April 2, 2007, the United States Supreme Court ruled that the USEPA has the authority to regulate CO₂ emissions under the FCAA. Consequently, the regulation of GHG emissions by the USEPA with regard to global climate change on a national level is forthcoming.

Regulation of GHG Emissions on a State Level

Assembly Bill 32 (AB 32), the Global Warming Solutions Act, was passed by the California state legislature on August 31, 2006. AB 32 requires the state's global warming emissions to be reduced to 1990 levels by year 2020 and by 80 percent of 1990 levels by year 2050. In December 2007, CARB approved a 2020 emissions limit of 427 million metric tonnes of CO_{2e} for the state. Pursuant to the requirements of AB 32, the state's reduction in global warming emissions will be accomplished through an enforceable statewide cap on global warming emissions that will be phased in starting in 2012. Pursuant to the requirements of AB 32, the state's reduction in global warming emissions will be accomplished through an enforceable statewide cap on global warming emissions that will be phased in starting in 2012.

In order to effectively implement the cap, AB 32 directs CARB to develop appropriate regulations and establish a mandatory reporting system to track and monitor global warming emissions levels by January 2008. The Climate Action Registry Reporting Online Tool was established to track GHG emissions. By January 1, 2009, CARB must prepare a plan demonstrating how the 2020 deadline can be met. However, as immediate progress in reducing GHG can and should be made, AB 32 directed CARB and the newly created CCAT to identify a list of "discrete early action GHG reduction measures" that can be adopted and made enforceable by January 1, 2010. CCAT is a consortium of representatives from state agencies that have been charged with coordinating and implementing GHG emission reduction programs that fall outside of CARB's jurisdiction. In June 2007, CARB adopted 37 early actions for reducing GHG emissions, of which three were identified as discrete early action measures. Since adoption of the initial early actions, CARB has expanded the early action list to include a total of 44 measures.



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To address GHG emission and global climate change in General Plans and CEQA documents, Senate Bill 97 (Chapter 185, 2007) requires the Governor's Office of Planning and Research (OPR) to develop CEQA guidelines on how to address global warming emissions and mitigate project-generated GHG. OPR is required to prepare, develop, and transmit these guidelines on or before July 1, 2009.

5.2.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- AQ-1 Conflict with or obstruct implementation of the applicable air quality plan.
- AQ-2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- AQ-3 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- AQ-4 Expose sensitive receptors to substantial pollutant concentrations.
- AQ-5 Create objectionable odors affecting a substantial number of people.

The Initial Study, included as Appendix A, substantiates that impacts associated with the following thresholds would be less than significant:

- Threshold AQ-1
- Threshold AQ-5

These impacts will not be addressed in the following analysis.

South Coast Air Quality Management District Thresholds

CEQA allows for the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. The SCAQMD has established thresholds of significance for regional air quality emissions for construction activities and project operation. In addition to the daily thresholds listed above, projects are also subject to the AAQS. These are addressed through an analysis of localized CO impacts and Localized Significance Thresholds (LSTs).

Regional Significance Thresholds

The SCAQMD has adopted regional construction and operational emissions thresholds to determine project-specific and cumulative impacts on air quality within the SoCAB, as shown in Table 5.2-5.

**Table 5.2-5
SCAQMD Regional Significance Thresholds**

<i>Air Pollutant</i>	<i>Construction Phase</i>	<i>Operational Phase</i>
Volatile organic compounds (VOC)	75 lbs/day	55 lbs/day
Carbon monoxide (CO)	550 lbs/day	550 lbs/day
Nitrogen oxides (NO _x)	100 lbs/day	55 lbs/day
Sulfur oxides (SO _x)	150 lbs/day	150 lbs/day
Coarse particulates (PM ₁₀)	150 lbs/day	150 lbs/day
Fine particulates (PM _{2.5})	55 lbs/day	55 lbs/day
Source: SCAQMD 1993		

CO Hotspot Analysis

In addition to the daily thresholds listed above, projects are also subject to the ambient air quality standards. These are addressed through an analysis of localized CO impacts. The California one-hour and eight-hour CO standards are:

- 1 hour = 20 parts per million
- 8 hour = 9 parts per million

The significance of localized project impacts depends on whether ambient CO levels in the vicinity of the project are above or below state and federal CO standards. If ambient levels are below the standards, a project is considered to have significant impacts if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a state or federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. The SCAQMD defines a measurable amount as 1.0 ppm or more for the one-hour CO concentration or 0.45 ppm or more for the eight-hour CO concentration.

Localized Significance Thresholds

In addition to the CO hot spot analysis for congested roadways, the SCAQMD developed LSTs for emissions of NO₂, CO, PM₁₀, and PM_{2.5} generated at the project site (off-site mobile-source emissions are not included in the LST analysis). LSTs are the maximum emissions from a project site that are not expected to cause or contribute to an exceedance of the most stringent national or state AAQS. LSTs are based on the ambient concentrations of that pollutant within the project SRA and the distance to the nearest sensitive receptor. LST analysis for construction is applicable for all projects of five acres and fewer; however, it may be used as screening criteria for larger projects to determine whether or not dispersion modeling may be required. The construction LSTs for a 0.75-acre project site within SRA 12 for sensitive receptors located within 25 meters (81 feet) are shown in Table 5.2-6. If emissions exceed the LST for a five-acre site, then dispersion modeling needs to be conducted.



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Table 5.2-6
SCAQMD Localized Significance Thresholds

<i>Air Pollutant</i>	<i>Construction Phase</i>	<i>Operational Phase¹</i>
Nitrogen oxides (NO _x)	137 lbs/day	137 lbs/day
Carbon monoxide (CO)	151 lbs/day	151 lbs/day
Coarse inhalable particulates (PM ₁₀)	4 lbs/day	1 lbs/day
Fine inhalable particulates (PM _{2.5})	3 lbs/day	1 lbs/day

Source: SCAQMD 2006, for a 0.75-acre site in SRA 12 at 25-meters and Appendix C Mass-Rate Localized Significance Threshold Look-up Tables

5.2.3 Environmental Impacts

The project includes the construction and operation of the 109th Street Pool and Bathhouse Replacement project. Construction emissions were calculated using the Urban Emissions (URBEMIS2007) model. The URBEMIS2007 model compiles an emissions inventory of stationary and vehicle emissions sources. The calculated emissions for the construction phases of the proposed project are compared to the SCAQMD thresholds of significance to determine whether project emissions would result in significant air quality impacts. Air quality modeling is included as Appendix C.

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

IMPACT 5.2-1: CONSTRUCTION ACTIVITIES WOULD NOT GENERATE SHORT-TERM EMISSIONS THAT EXCEED THE SCAQMD'S REGIONAL THRESHOLD CRITERIA OR SIGNIFICANTLY CONTRIBUTE TO THE NONATTAINMENT DESIGNATIONS OF THE SoCAB. [THRESHOLDS AQ-2 AND AQ-3]

Impact Analysis: Construction activities produce combustion emissions from various sources such as demolition, asphalt paving, on-site construction vehicles and equipment hauling materials to and from the site, and motor vehicles transporting the construction crew. Exhaust emissions from construction activities would vary daily.

Construction activities associated with new development occurring in the project area would temporarily increase localized PM₁₀, PM_{2.5}, VOC, NO_x, SO_x, and CO concentrations in the project vicinity and regional emissions within the SoCAB. The primary source of construction-related CO, SO_x, VOC, and NO_x emissions is gasoline- and diesel-powered mobile construction equipment. Primary sources of PM₁₀ and PM_{2.5} emissions would be demolition activities, construction vehicle traffic, and wind blowing over exposed earth surfaces.

Construction equipment mix and grading activities were forecast using the URBEMIS2007 computer model, which generates equipment mix and fugitive dust emissions based on development activities on a quarter of the total project acreage. A list of construction equipment used in each phase can be found in the model outputs in Appendix C within this Draft EIR. Table 5.2-7 lists the regional construction emissions associated with the proposed project. As shown in this table, project-related construction air pollutant emissions would not exceed the SCAQMD standards. Consequently, no significant regional construction-related impacts to air quality would occur.

**Table 5.2-7
Project-Related Regional Construction Emissions
(pounds per day)¹**

<i>Construction²</i>	<i>VOC</i>	<i>NO_x</i>	<i>CO</i>	<i>SO₂</i>	<i>PM₁₀</i>	<i>PM_{2.5}</i>	<i>CO₂³</i>
Construction Phase							
Site Preparation							
Demolition	1	9	6	0	1	1	919
Fine Grading ⁴	3	27	14	0	3	1	2,366
Building Construction							
Building Construction	1	6	4	0	<1	<1	557
Asphalt Paving	2	12	9	0	1	1	1,195
Architectural Coating	3	0	<1	0	0	0	5
Total Building Construction	4	18	12	0	1	1	1,752
Maximum Daily Construction Emissions	4	27	14	0	3	2	2,366
SCAQMD Regional Standard	75	550	100	150	150	55	NA
Significant?	No	No	No	No	No	No	NA

Source: URBEMIS2007, Version 9.2.4.

¹ Pollutant emissions (lbs/day) from project-related construction activities calculated using URBEMIS2007 are based on a construction start date of February 2009 and completion date of June 2010 (16 months) and are therefore conservative.

² Construction equipment mix based on the default equipment list provided by URBEMIS2007 for mass grading activities; however, cranes were removed based on information provided by the City of Los Angeles Department of Recreation and Parks

³ CO₂ emissions provided for information purposes only. OPR, CARB, and SCAQMD have yet to establish regional significance thresholds for this air pollutant.

⁴ Includes fugitive dust control measures as promulgated by SCAQMD Rule 403 requiring an application of water at least twice per day to at least 80 percent of the unstabilized disturbed on-site surface areas and maintaining at least six inches of freeboard and placing a protective tarp on haul vehicles, and replacing disturbed ground cover quickly.



The SCAQMD, OPR, or CARB have yet to establish regional emissions thresholds for CO₂ emissions. However, because the project is not a regionally significant project and the project would not exceed the SCAQMD thresholds for criteria pollutants (CO, NO, PM₁₀, and PM_{2.5}), which were established to identify substantial new sources of air pollution, CO₂ emissions are likely not to be considered substantial enough to result in a significant cumulative impact relative to GHG emissions and climate change impacts. Therefore, the project's cumulative contribution to GHG emissions is also less than significant.

IMPACT 5.2-2: LONG-TERM OPERATION OF THE PROJECT WOULD NOT GENERATE ADDITIONAL MOBILE- OR STATIONARY-SOURCE EMISSIONS THAT WOULD EXCEED THE SCAQMD'S REGIONAL THRESHOLD CRITERIA OR SIGNIFICANTLY CONTRIBUTE TO THE NONATTAINMENT DESIGNATIONS OF THE SoCAB. [THRESHOLDS AQ-2 AND AQ-3]

Impact Analysis: Long-term air emission impacts are those associated with changes in stationary and mobile sources related to the proposed project. The proposed aquatic facility is anticipated to open in June of 2011. As the project is replacing the existing facilities with similar facilities, no additional vehicle trips are expected to be generated by the project. The project would replace the existing swimming pool (approximately 45 by 120 feet) with a smaller pool (approximately 45 by 75 feet), and replace the existing bathhouse (approximately 4,200 square feet) with a smaller bathhouse (approximately 3,500 square feet). Additionally, the new bathhouse would be built in accordance to Title 24 of the California Code of Regulations (California Building Standards Code) and operate more efficiently compared to the existing bathhouse. Consequently, as no additional vehicle trips would be generated by the project, and the

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proposed use would be similar to the existing use, the impact from operational emissions from both stationary and mobile sources are less than significant. Furthermore, because the proposed building would replace the existing building with a more energy-efficient structure and would not generate a substantial increase in vehicle trips, the project would result in a net reduction in GHG emissions. Therefore, the project's cumulative contribution to global climate change impacts is also less than significant.

IMPACT 5.2-3: CONSTRUCTION ACTIVITIES WOULD NOT EXPOSE SENSITIVE RECEPTORS IN THE VICINITY OF THE PROJECT TO SUBSTANTIAL POLLUTANT CONCENTRATIONS. [THRESHOLD AQ-4]

Impact Analysis: The proposed project could expose sensitive receptors to elevated pollutant concentrations if it would cause or contribute significantly to elevated pollutant concentration levels. Unlike the mass (weight) of operational emissions shown in Tables 5.2-7 (pounds per day), localized concentrations refer to the amount of pollutant in a volume of air (ppm or $\mu\text{g}/\text{m}^3$) and can be correlated to potential health effects.

LSTs were developed by the SCAQMD to identify whether or not a project may generate significant adverse localized air quality impacts. LSTs are the maximum emissions from a project that would cause or contribute to an exceedance of the most stringent applicable federal or state AAQS and were developed based on the ambient concentrations of that pollutant for each SRA. LSTs are applicable only to NO_2 , CO, PM_{10} , and $\text{PM}_{2.5}$. Because pollutants emitted during construction greatly depend on the proximity of the source to the receptor, LSTs are based on the location of the emission source relative to the sensitive receptors as well as the quantity of emission.

As shown in Table 5.2-8, project-related construction emissions would not exceed the LSTs for NO_x , CO, PM_{10} , or $\text{PM}_{2.5}$. Because the project's construction emissions would not exceed the LSTs for the 0.75-acre site, air pollutant concentrations from project-related construction activities would not exceed the California or federal AAQS, and no significant air quality impact would occur from exposure of persons to substantial air pollutant concentrations.

**Table 5.2-8
Maximum Daily Construction Emissions Compared with the LST¹**

Maximum Emissions	Pollutants			
	NO_x	CO	PM_{10}	$\text{PM}_{2.5}$
Demolition	9	6	1	1
Fine grading ²	27	14	3	1
Building construction	6	4	<1	<1
Asphalt paving	12	9	1	1
Architectural coating	0	<1	0	0
Maximum combined emissions	27	14	3	2
SCAQMD localized significance threshold	137	151	4	3
Exceeds threshold	No	No	No	No

Source: SCAQMD 2006, for a 0.75-acre site in SRA 12 at 25-meters and Appendix C Mass-Rate Localized Significance Threshold Look-up Tables

¹ Pollutant emissions (lbs/day) from project-related construction activities calculated using URBEMIS2007 are based on a construction start date of February 2009 and completion date of June 2010 (16 months) and are therefore conservative.

² Includes fugitive dust control measures as promulgated by SCAQMD Rule 403, requiring an application of water at least twice per day to at least 80 percent of the unstabilized disturbed on-site surface areas and maintaining at least six inches of freeboard and placing a protective tarp on haul vehicles, and replacing disturbed ground cover quickly.

5.2.4 Cumulative Impacts

In accordance with the SCAQMD methodology, any project that produces a significant project-level regional air quality impact in an area that is in nonattainment adds to the cumulative impact. Cumulative projects within the local area include new development as well as general growth within the project area. The greatest source of emissions within the SoCAB is mobile sources. Due to the extent of the area potentially impacted cumulative project emissions, the SCAQMD considers a project cumulatively significant when project-related emissions exceed the SCAQMD regional and localized emissions thresholds shown in Tables 5.2-5 and 5.2-6.

Construction

The SoCAB is in nonattainment for O₃, PM₁₀, and PM_{2.5}. Construction of cumulative projects will further degrade the regional and local air quality. Air quality will be temporarily impacted during construction activities that occur. However, air pollutants from project-related construction emissions would not exceed the SCAQMD significance thresholds for NO_x, VOC, PM₁₀, and PM_{2.5}, and cumulative emissions. Therefore, the project's contribution to cumulative air quality impacts would be less than considerable, and the project's incremental contribution to cumulative impacts is also less than considerable.

Operation

For operational air quality emissions, any project that does not exceed or can be mitigated to less than the daily regional threshold values is not considered by the SCAQMD to be a substantial source of air pollution and does not add significantly to a cumulative impact. Operation of the project would not increase mobile- or stationary-source emissions associated with the project site. Consequently, the project would not substantially contribute to the cumulative increases in SoCAB nonattainment criteria pollutants.



Global Warming

Project-related GHG emissions are not confined to a particular air basin, but are dispersed worldwide. As a result, it is speculative to determine how project-related GHG emissions would contribute to global climate change and how global climate change may impact California. Therefore, any impacts identified under Impact 5.2-1 and 5.2-2 are not project-specific impacts to global warming, but the project's contribution to this cumulative impact. As stated previously, the proposed project would remain similar to the existing uses and activities, would not introduce additional vehicle trips, and project-related emissions of criteria pollutants would not exceed the SCAQMD's thresholds (see Impacts 5.2-1 and 5.2-2). In addition, thresholds from which to compare project-related emissions have yet to be established by any agency. Consequently, project-related CO₂ emissions and their contribution to global climate change impacts in California are less than considerable.

5.2.5 Existing Regulations and Standard Conditions

- SCAQMD Rule 201: Permit to Construct
- SCAQMD Rule 402: Nuisance Odors
- SCAQMD Rule 403: Fugitive Dust
- SCAQMD Rule 1403: Asbestos Emissions from Demolition/Renovation Activities (A comprehensive explanation of local SCAQMD rules and regulations is provided in Appendix C)

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- CARB Rule 2840: Airborne Toxics Control Measure (ATCM)
- Building Energy Efficiency Standards (Title 24)
- Appliance Energy Efficiency Standards (Title 20)
- Motor Vehicle Standards (AB 1493)

5.2.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant:

- Impact 5.2-1 Construction activities would not generate short-term emissions that exceed the SCAQMD's regional threshold criteria or significantly contribute the nonattainment designations of the SOCAB.
- Impact 5.2-2 Long-term operation of the project would not generate additional mobile- or stationary-source emissions that would exceed the SCAQMD's regional threshold criteria or significantly contribute the nonattainment designations of the SOCAB.
- Impact 5.2-3 Construction activities would not expose sensitive receptors in the vicinity of the project to substantial pollutant concentrations.

5.2.7 Mitigation Measures

No significant impacts are identified, and no mitigation measures are necessary.

5.2.8 Level of Significance After Mitigation

No significant impacts are identified, and no significant unavoidable impacts relating to air quality remain.