IV. ENVIRONMENTAL IMPACT ANALYSIS
C. AIR QUALITY

This section examines the degree to which the proposed project may result in significant adverse changes to air quality. Both short-term construction emissions occurring from activities such as site grading and haul truck trips, as well as long-term effects related to the ongoing operation of the proposed project are discussed in this section. The analysis contained herein focuses on air pollution from two perspectives: daily emissions and pollutant concentrations. "Emissions" refer to the actual quantity of pollutant measured in pounds per day (ppd). "Concentrations" refer to the amount of pollutant material per volumetric unit of air and are measured in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$).

The potential for the proposed project to conflict with or obstruct implementation of the applicable air quality plan, to violate an air quality standard or contribute substantially to an existing or projected air quality violation, to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment, to expose sensitive receptors to substantial pollutant concentrations, or to create objectionable odors affecting a substantial number of people are also discussed. Documents used in the preparation of this section include the South Coast Air Quality Management District (SCAQMD) CEQA Air Quality Handbook and the 2007 Air Quality Management Plan (AQMP), as amended, as well as federal and State regulations and guidelines.

ENVIRONMENTAL SETTING

Air Quality Background

The City of Los Angeles is located within the South Coast Air Basin (Basin), named so because its geographical formation is that of a basin, with the surrounding mountains trapping the air and its pollutants in the valleys below. This Basin includes all of Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties. The regional climate within the Basin is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. The air quality within the Basin is primarily influenced by a wide range of emissions sources – such as dense population centers, heavy vehicular traffic, and industry – and meteorology.

Air pollutant emissions within the Basin are generated by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at an identified location and are usually associated with manufacturing and industry. Examples are boilers or combustion equipment that produces electricity or generates heat. Area sources are widely distributed and produce many small emissions. Examples of area sources include residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and consumer products such as barbeque lighter fluid and hair spray. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may

be legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, racecars, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment such as when fine dust particles are pulled off the ground surface and suspended in the air during high winds.

Both the federal and State governments have established ambient air quality standards for outdoor concentrations of various pollutants in order to protect public health and welfare. These pollutants are referred to as "criteria air pollutants" as a result of the specific standards, or criteria, that have been adopted for them. The national and State standards have been set at levels considered safe to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly with a margin of safety; and to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

The criteria air pollutants which are most relevant to current air quality planning and regulation in the Basin include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), sulfur dioxide (SO_2), and lead. In addition, toxic air contaminants (TACs) and greenhouse gas (GHG) emissions are of a concern in the Basin.

Ozone

Ozone is a gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NOx)—both byproducts of internal combustion engine exhaust—undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable.

Individuals exercising outdoors, children and people with preexisting lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible sub-groups for ozone effects. Short-term exposures (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated ozone levels are associated with increased school absences. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in high ozone communities.

Ozone exposure under exercising conditions is known to increase the severity of the above mentioned observed responses. Animal studies suggest that exposures to a combination of pollutants that include ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.

Carbon Monoxide

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

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of worsening oxygen supply to the heart.

Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport by competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving heart and blood vessels, fetuses, and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes.

Reduction in birth weight and impaired neurobehavioral development has been observed in animals chronically exposed to CO resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels. These include pre-term births and heart abnormalities. Additional research is needed to confirm these results.

Nitrogen dioxide

Nitrogen dioxide (NO_2) is byproduct of fuel combustion. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), which reacts quickly to form NO_2, creating the mixture of NO and NO_2 commonly called NOx. NO_2 absorbs blue light and result is a brownish-red cast to the atmosphere and reduced visibility. NO_2 also contributes to the formation of PM_{10}.

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposures to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy individuals. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups.

In animals, exposure to levels of NO_2 considerably higher than ambient concentrations results in increased susceptibility to infections, possibly due to the observed changes in cells involved in

maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of O_3 and NO_2.

Sulfur dioxide

Sulfur dioxide (SO_2) is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries.

A few minutes exposure to low levels of SO_2 can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2.

Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.

Most of the health effects associated with fine particles and SO_2 at ambient levels are also associated with SO_4. Thus, both mortality and morbidity effects have been observed with an increase in ambient SO_4 concentrations. However, efforts to separate the effects of SO_4 from the effects of other pollutants have generally not been successful.

Clinical studies of asthmatics exposed to sulfuric acid suggest that adolescent asthmatics are possibly a subgroup susceptible to acid aerosol exposure. Animal studies suggest that acidic particles such as sulfuric acid aerosol and ammonium bisulfate are more toxic than non-acidic particles like ammonium sulfate. Whether the effects are attributable to acidity or to particles remains unresolved.

Particulate Matter

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

A consistent correlation between elevated ambient fine particulate matter (PM_{10} and $PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in life-span, and an increased mortality from lung cancer.

Daily fluctuations in fine particulate matter concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long-term exposure to particulate matter.

The elderly, people with pre-existing respiratory or cardiovascular disease and children appear to be more susceptible to the effects of PM_{10} and $PM_{2.5}$.

Lead

Lead occurs in the atmosphere as particulate matter. The combustion of leaded gasoline used to be the primary source of airborne lead in the Basin, although the use of leaded gasoline is no longer permitted for on-road motor vehicles. Today the primary sources of airborne lead pollution include the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and secondary lead smelters.

Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence levels. In adults, increased lead levels are associated with increased blood pressure.

Lead poisoning can cause anemia, lethargy, seizures and death. It appears that there are no direct effects of lead on the respiratory system. Lead can be stored in the bone from early-age environmental exposure, and elevated blood lead levels can occur due to the breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of lead because of previous environmental lead exposure of their mothers.

Other contaminants

California has also established standards for sulfates, visibility reducing particles, hydrogen sulfide, and vinyl chloride. However, these pollutants are not directly monitored in the Basin.[1] In accordance with CEQA requirements and the CEQA review process, the Lead Agency assesses the air quality impacts of

[1] *Visibility reducing particles are indirectly monitored as PM_{10} and $PM_{2.5}$.*

new development projects. The Lead Agency relies on the expertise of the SCAQMD and utilizes the *CEQA Air Quality Handbook* as the guidance document for project sites within its jurisdiction. Since sulfates, visibility reducing particles, hydrogen sulfide and vinyl chloride are neither monitored by the SCAQMD nor addressed in SCAQMD's *CEQA Air Quality Handbook*, they are not considered to be pollutants of concern in the Basin; therefore they are not evaluated or discussed further in this EIR.

Toxic Air Contaminants

Toxic Air Contaminants (TACs) refer to a diverse group of air pollutants that are capable of causing chronic (i.e., of long duration) and acute (i.e., severe but of short duration) adverse effects on human health. TACs are known to cause or contribute to cancer or non-cancer health effects such as birth defects, genetic damage, and other adverse health effects.

They include both organic and inorganic chemical substances that may be emitted from a variety of common sources including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. Toxic air contaminants are different than "criteria" pollutants in that ambient air quality standards have not been established for them, largely because there are hundreds of air toxics and their effects on health tend to be felt on a local scale rather than on a regional basis.

TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., benzene near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide average). According to the California Air Resources Board (ARB), diesel exhaust is a complex mixture of gases, vapors and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the ARB and are listed as carcinogens either under the State's Proposition 65 or under the federal Hazardous Air Pollutants programs. California has adopted a comprehensive diesel risk reduction program. The United States Environmental Protection Agency (U.S. EPA) has adopted low sulfur diesel fuel standards that will reduce diesel particulate matter substantially. These went into effect in June 2006.

Greenhouse Gas

Greenhouse Gas (GHG) emissions refer to a group of emissions that are believed to affect global climate conditions. Simply put, the greenhouse effect compares the Earth and the atmosphere surrounding it to a greenhouse with glass panes. The glass panes in a greenhouse let heat from sunlight in and reduce the amount of heat that escapes. Greenhouse gases such as carbon dioxide (CO_2), methane, and nitrous oxide keep the average surface temperature of the Earth close to a hospitable 60 degrees Fahrenheit. Without

the greenhouse effect, the Earth would be a frozen globe with an average surface temperature of about 5 degrees Fahrenheit.

An increase in GHG emissions has been associated with an increase in the temperature of the atmosphere. Climate change poses a threat to the economy, public health, natural resources, and the environment of California. According to the CAT 2006 Report, if emissions from GHGs are not reduced significantly, the warming increase could have the following consequences in California:

- The Sierra snowpack would decline between 70 and 90 percent, threatening California's water supply;
- Attainment of air quality standards would be impeded by increasing emissions, accelerating chemical processes, and raising inversion temperatures during stagnation episodes;
- Erosion of California's coastlines would increase as well as sea water intrusion;
- Pest infestation and vulnerability to fires of the State's forests would increase; and
- Rising temperatures would increase power demand, especially in the summer season.

GHGs include carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Carbon dioxide is the most abundant GHG. Other GHGs are less abundant, but have higher global warming potential than CO_2. Thus, emissions of other GHGs are frequently expressed in the equivalent mass of CO_2, denoted as CO_2e. GHGs are the result of human activities. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions. According to the California Energy Commission (CEC), emissions from fossil fuel consumption represent approximately 81 percent of all GHG emissions and transportation creates 41 percent of all GHG emissions in the United States.[2] A general description of the GHGs discussed is provided in Table IV.C-1, Description of Identified Greenhouse Gases.

Regulatory Setting

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

[2] *California Energy Commission, Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004, Staff Final Report, December 2006.*

Table IV.C-1
Description of Identified Greenhouse Gases

Greenhouse Gas	General Description
Carbon Dioxide (CO_2)	An odorless, colorless GHG, which has both natural and anthropocentric sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic (human caused) sources of carbon dioxide are from burning coal, oil, natural gas, and wood.
Methane	A flammable gas and is the main component of natural gas. When one molecule of methane is burned in the presence of oxygen, one molecule of carbon dioxide and two molecules of water are released. There are no ill health effects from methane. A natural source of methane is from the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and cattle.
Nitrous Oxide (N_2O)	A colorless GHG. High concentrations can cause dizziness, euphoria, and sometimes slight hallucinations. Nitrous oxide is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used in rocket engines, race cars, and as an aerosol spray propellant.
Hydrofluorocarbons (HFCs)	HFCs are synthetic man-made chemicals that are used as a substitute for chlorofluorocarbons (CFCs) for automobile air conditioners and refrigerants. CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. Because they destroy stratospheric ozone, their production was stopped as required by the Montreal Protocol in 1987.
Perfluorocarbons (PFCs)	PFCs have stable molecular structures and do not break down though the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above the earth's surface are able to destroy the compounds. PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane and hexafluoroethane. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.
Sulfur Hexafluoride (SF_6)	An inorganic, odorless, colorless, non-toxic, and nonflammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Source: Association of Environment Professionals, Alternative Approaches to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, Final, June 29, 2007.

Federal

U.S. EPA

The U.S. Environmental Protection Agency (U.S. EPA) is responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives.

The U.S. EPA also has jurisdiction over emissions sources outside state waters (outer continental shelf), and establishes various emissions standards for vehicles sold in states other than California.

As part of its enforcement responsibilities, the U.S. EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, State, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the SIP.

State

ARB

The California Air Resources Board (ARB), a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and State air pollution control programs within California. In this capacity, the ARB conducts research, sets California Ambient Air Quality Standards, compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP. The ARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hair spray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

California Global Warming Solutions Act

In August, 2006, the California Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. This bill requires the ARB to adopt regulations to require the reporting and verification of statewide greenhouse gas emissions and to monitor and enforce compliance with that program. As part of this effort, the ARB will adopt a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions levels in 1990, to be achieved by 2020. The ARB will adopt rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emission reductions. These are expected to include market-based compliance mechanisms. The statute would further require the ARB to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism that it adopts. In October 2006, the Governor issued an Executive Order in which he designated the Cal/EPA Secretary with the primary responsibility for implementing AB 32 (rather than providing the ARB with unfettered discretion as the law required). In late December, the Governor announced the members of a blue-ribbon Market Advisory Committee board to devise approaches to develop a market for carbon trading. More developments are likely as the Governor and the Legislature determine who has primary responsibility for implementation and the relationship between regulations and market-based mechanisms. Because, the intent of AB 32 is to limit 2020 emissions to the equivalent of 1990, and the present year (2008) is near the midpoint of this timeframe, it is expected that the regulations would affect many existing sources of greenhouse and not just new general development projects.

In response to the Executive Order, the Secretary of Cal/EPA created the Climate Action Team (CAT), which, in March 2006, published the *Climate Action Team Report to Governor Schwarzenegger and the Legislature* (the "2006 CAT Report"). The 2006 CAT Report identifies a recommended list of strategies that the State could pursue to reduce climate change greenhouse gas emissions. These are strategies that could be implemented by various State agencies to ensure that the Governor's targets are met and can be met with existing authority of the State agencies.

In June 2008, the Governor's Office of Planning and Research (OPR) released a technical advisory entitled, *CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review* (the "OPR Climate Change Report"). The advisory provides lead agencies an approach to comply with CEQA climate change analysis for projects that generate GHG emissions.

Regional

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is a council of governments for Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. It is a regional planning agency and serves as a forum for regional issues relating to transportation, the economy and community development, and the environment.

Although the SCAG is not an air quality management agency, it is responsible for developing transportation, land use, and energy conservation measures that affect air quality. SCAG's Regional Comprehensive Plan and Guide (RCPG) provides growth forecasts that are used in the development of air quality-related land use and transportation control strategies by the SCAQMD. The RCPG is a framework for decision-making for local governments, assisting them in meeting federal and State mandates for growth management, mobility, and environmental standards, while maintaining consistency with regional goals regarding growth and changes through the year 2015, and beyond. Policies within the RCPG include consideration of air quality, land use, transportation, and economic relationships by all levels of government.

SCAQMD

The South Coast Air Quality Management District (SCAQMD) is the agency principally responsible for comprehensive air pollution control in the Basin. To that end, the SCAQMD, a regional agency, works directly with the Southern California Association of Governments (SCAG), county transportation commissions, and local governments, and cooperates actively with all State and federal government agencies. The SCAQMD develops rules and regulations, establishes permitting requirements, inspects emissions sources, and provides regulatory enforcement through such measures as educational programs or fines, when necessary.

The SCAQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources to meet federal and State ambient air quality standards. It has responded to this

requirement by preparing a series of Air Quality Management Plans (AQMPs). The most recent of these was adopted by the Governing Board of the SCAQMD on June 1, 2007. This AQMP, referred to as the 2007 AQMP, was prepared to comply with the federal and State Clean Air Acts and amendments, to accommodate growth, to reduce the high levels of pollutants in the Basin, to meet federal and State air quality standards, and to minimize the fiscal impact that pollution control measures have on the local economy. The 2007 AQMP identifies the control measures that will be implemented over a 20-year horizon to reduce major sources of pollutants. Implementation of control measures established in the previous AQMPs has substantially decreased the population's exposure to unhealthful levels of pollutants, even while substantial population growth has occurred within the Basin.

According to the Final Program EIR for the 2007 AQMP, the 2007 AQMP as a whole will promote a net decrease in greenhouse gases. The transportation control measures are intended to reduce vehicle miles traveled and will consequently reduce carbon dioxide production from motor vehicles. Other strategies that promote fuel efficiency and pollution prevention will also reduce greenhouse gas emissions. Measures that stimulate the development and use of new technologies such as fuel cells will also be beneficial. In general, strategies that conserve energy and promote clean technologies usually also reduce greenhouse gas emissions.

The SCAQMD has prepared the *CEQA Air Quality Handbook* and other supplemental guidance documents to assist Lead Agencies, as well as consultants, project proponents, and other interested parties, in evaluating potential air quality impacts of projects and plans proposed in the Basin. Through the issuance of air permits, the SCAQMD can enforce rules and regulations to reduce specific emissions by requiring specific pollution reduction measures. Applicable rules to this project include:

- Rule 403 requires fugitive dust sources to implement Best Available Control Measures for all sources and all forms of visible particulate matter are prohibited from crossing any property line. Rule 403 is intended to reduce PM_{10} emission from any transportation, handling, construction, or storage activity that has the potential generate fugitive dust.
- Rule 1113 requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

Local

City of Los Angeles

Local jurisdictions, such as the City of Los Angeles, have the authority and responsibility to reduce air pollution through its police power and decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The City of Los Angeles is also responsible for the implementation of transportation control measures as outlined in the AQMP. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals.

The Air Quality Element of the City of Los Angeles General Plan was adopted on November 24, 1992 and sets forth the goals, objectives and policies which will guide the City in the implementation of its air quality improvement programs and strategies. The Air Quality Element acknowledges that numerous efforts are underway at the regional, county and city levels addressing clean air concerns and that coordination of these various efforts and the involvement of the area's residents are crucial to the achievement of state and federal air quality standards.

The Air Quality Element acknowledges the interrelationships among transportation and land use planning in meeting the City's mobility and clean air goals. Mutually reinforcing strategies need to be developed which work to reduce the use of single occupant vehicles and which work to reduce vehicle trips and vehicle miles traveled.

The Air Quality Element establishes six goals:

- Good air quality in an environment of continued population growth and healthy economic structure;
- Less reliance on single-occupant vehicles with fewer commute and non-work trips;
- Efficient management of transportation facilities and system infrastructure using cost-effective system management and innovative demand-management techniques;
- Minimal impacts of existing land use patterns and future land use development on air quality by addressing the relationship between land use, transportation and air quality;
- Energy efficiency through land use and transportation planning, the use of renewable resources and less-polluting fuels and the implementation of conservation measures including passive measures such as site orientation and tree planting; and
- Citizen awareness of the linkages between personal behavior and air pollution and participation in efforts to reduce air pollution.

In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation. The City utilizes the *CEQA Air Quality Handbook* as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

The City of Los Angeles has begun to address the issue of global climate change by publishing *Green LA, An Action Plan to Lead the Nation in Fighting Global Warming* (LA Green Plan). This document outlines the goals and actions the City has established to reduce the generation and emission of GHGs from both public and private activities. According to the LA Green Plan, the City of Los Angeles is committed to the goal of reducing emissions of CO_2 to 35 percent below 1990 levels. To achieve this, the City will:

- Increase the generation of renewable energy;
- Improve energy conservation and efficiency; and
- Change transportation and land use patterns to reduce dependence on automobiles.

As part of the LA Green Plan, the Los Angeles Green Building Ordinance was passed in April 2008 that promotes green building practices by creating a series of requirements and incentives for developers to meet the U.S. Building Council's Energy and Design (LEED) standards. The requirements apply to all new projects greater than 50 units or 50,000 square feet. However, the Los Angeles Green Building Ordinance does not apply to the proposed project because the date of submission of the proposed project is prior to the ordinance effective date of May 1, 2009. Although the ordinance does not apply, project design features do include enhanced energy efficiency (14% above 2005 Title 24 requirements), which is one aspect of LEED conformance.

Existing Regional Air Quality

Ambient air quality is determined primarily by the type and amount of pollutants emitted into the atmosphere, as well as the size, topography, and meteorological conditions of a geographic area. The Basin has low mixing heights and light winds, which help to accumulate air pollutants. Measurements of ambient concentrations of the criteria pollutants are used by the U.S. EPA and the ARB to assess and classify the air quality of each regional air basin, county, or, in some cases, a specific urbanized area. The classification is determined by comparing actual monitoring data with national and State standards. If a pollutant concentration in an area is lower than the standard, the area is classified as being in "attainment" for that pollutant. If the pollutant concentration meets or exceeds the standard (depending on the specific standard for the individual pollutants), the area is classified as a "nonattainment" area. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated "unclassified." The U.S. EPA and the ARB use different standards for determining whether the Basin is in attainment. Federal and State standards are summarized in Table IV.C-2. The attainment status for the South Coast Air Basin with regard to the NAAQS and CAAQS is shown in Table IV.C-3.

Existing Local Air Quality

The SCAQMD monitors ambient air pollutant concentrations through a series of monitoring stations located throughout the Basin. In doing so, the SCAQMD has divided the region into 27 source receptor areas (SRAs) in which 31 monitoring stations operate. The project site is located within SRA 8, which covers the West San Gabriel Valley area. Table IV.C-4 identifies the ambient pollutant concentrations that have been measured in SRA 8 through the period of 2005 to 2007.

Existing land-uses surrounding the project site include residences and commercial uses. Air pollutant emissions are generated in the local vicinity by stationary and area-wide sources, such as space and water heating, landscape maintenance from leaf blowers and lawn mowers, consumer products, and mobile sources, primarily automobile traffic. Motor vehicles are the primary source of pollutants in the local vicinity.

Table IV.C-2
Ambient Air Quality Standards

Air Pollutant	Averaging Time	State Standard	Federal Standard
Ozone	1 Hour	0.09 ppm	--
	8 Hour	0.07 ppm	0.075 ppm
Carbon Monoxide	1 Hour	20.0 ppm	35.0 ppm
	8 Hour	9.0 ppm	9.0 ppm
Nitrogen Dioxide	1 Hour	0.18 ppm	--
Sulfur Dioxide	1 Hour	0.25 ppm	--
	24 Hour	0.04 ppm	0.14 ppm
PM_{10}	24 Hour	50 $\mu g/m^3$	150 $\mu g/m^3$
$PM_{2.5}$	24 Hour	--	35 $\mu g/m^3$

Notes:
The lead standard is not listed because of the phase-out of leaded gasoline. Atmospheric lead remains a toxic air contaminant, but unless there is reason to suspect lead in the source emissions there is no reason to analyze for it.

Source: California standards based on CARB data available as of March 2008 (http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm). Federal Standards based on USEPA data available as of March 2008 (http://epa.gov/air/criteria.html).

Table IV.C-3
Attainment Status for the South Coast Air Basin (Los Angeles County Portion)

Pollutant	Attainment Status	
	CAAQS	NAAQS
Ozone	Non-attainment	Non-attainment
Carbon Monoxide	Attainment	Attainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
PM_{10}	Non-attainment	Non-attainment
$PM_{2.5}$	Non-attainment	Non-attainment

Notes:

"Attainment" means that the regulatory agency has determined, based on established criteria, that the Basin meets the identified standard. "Non-attainment" means that the regulatory agency has determined that the Basin does not meet the standard.

Source: California standard attainment status based on CARB data available as of 2006 (www.arb.ca.gov/desig/adm/adm.htm). Federal standard attainment status based on USEPA websites (www.epa.gov/air/oaqps/greenbk/index.html and www.arb.ca.gov/desig/adm/adm.htm).

Table IV.C-4
Summary of Ambient Air Quality in the Project Vicinity

Emissions Source	Year		
	2005	2006	2007
Ozone			
Maximum 1-hour concentration measured	0.145 ppm	0.15 ppm	0.149 ppm
Days exceeding State 0.09 ppm 1-hour standard	13	7	13
Maximum 8-hour concentration	0.114 ppm	0.117 ppm	0.10 ppm
Days exceeding national 0.08 ppm 8-hour standard	5	7	6
Days exceeding State 0.07 ppm 8-hour standard	12	24	21
Respirable Particulate Matter (PM_{10})[a]			
Maximum 24-hour concentration measured	76.0 $\mu g/m^3$	81.0 $\mu g/m^3$	83 $\mu g/m^3$
Days exceeding national 150 $\mu g/m^3$ 24-hour standard	0	0	0
Days exceeding State 50 $\mu g/m^3$ 24-hour standard	12	7	11
Fine Particulate Matter ($PM_{2.5}$)			
Maximum 24-hour concentration measured	62.9 $\mu g/m^3$	45.9 $\mu g/m^3$	68.9 $\mu g/m^3$
Days exceeding national 35 $\mu g/m^3$ 24-hour standard[b]	--	1	3
Carbon Monoxide (CO)			
Maximum 1-hour concentration measured	4.0 ppm	4.0 ppm	3.0 ppm
Maximum 8-hour concentration measured	2.8 ppm	2.8 ppm	2.4 ppm
Nitrogen Dioxide (NO_2)			
Maximum 1-hour concentration measured	0.10 ppm	0.12 ppm	0.09 ppm
AAM	0.0241 ppm	0.0245 ppm	0.0246 ppm

Note: ppm = parts per million by volume
$\mu g/m^3$ = micrograms per cubic meter
AAM = annual arithmetic mean

[a] *SRA8, does not measure for PM_{10}, therefore the measurements from SRA 9 (East San Gabriel Valley 1) were used.*

[b] *Value not available for 2005 because federal standard was 65 $\mu g/m^3$.*

Source: South Coast Air Quality Management District, August 2008 http://www.arb.ca.gov/adam/welcome.html

Sensitive Receptors

Some population groups are considered more sensitive to air pollution than others. Sensitive receptors for air quality include children, the elderly, and the acutely and chronically ill, especially those with cardio-respiratory diseases including, but not limited to, angina.

Residences, schools, playgrounds, childcare facilities, long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes and outdoor athletic facilities are considered to be sensitive land uses.[3] Residential areas are considered to be sensitive to air pollution because residents

[3] *L.A. CEQA Threshold Guide, p. B.3-4.*

(including children and the elderly) tend to be at home for extended periods of time resulting in sustained exposure to any pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, physical 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. Schools and childcare facilities are also considered to be sensitive uses. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods in these areas are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time.

Sensitive receptors in the immediate vicinity of the project site indicated in the project description include the following:

- Residential developments are located adjacent to the east and northeast of the project site.
- Single-family homes and neighborhoods are located adjacent to the north and northwestern portion of the project site.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix G to the State CEQA Guidelines, a project may be deemed to have a significant adverse air quality impact if it would:

(a) Conflict with or obstruct implementation of the applicable air quality plan;

(b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

(c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);

(d) Expose sensitive receptors to substantial pollutant concentrations; or

(e) Create objectionable odors affecting a substantial number of people.

The thresholds discussed below are currently recommended by the SCAQMD in the *CEQA Air Quality Handbook* to translate the State CEQA Guidelines thresholds into numerical values or performance standards. As discussed previously in this EIR section, the City utilizes the *CEQA Air Quality Handbook* as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

Consistency with the Applicable AQMP

For general development projects, the SCAQMD recommends that consistency with the current AQMP be determined by comparing the population generated by the project to the population projections used in the development of the AQMP. Exceeding the AQMP population projections could jeopardize attainment of the air quality conditions projected in the AQMP and is considered to be a significant impact.

Violation of Air Quality Standards or Substantial Contribution to Air Quality Violations

The thresholds of significance were published by the SCAQMD in October 2006 and are presented in Table IV.C-5.

Table IV.C-5
Air Quality Significance Thresholds

Mass Daily Thresholds		
Pollutant	Construction	Operation
NO_x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Localized Concentration Thresholds		
CO	20 ppm over 1-hour average 9.0 ppm over 8-hour average	
PM_{10}	10.4 µg/m^3 averaged over a 24-hour period construction	
$PM_{2.5}$	10.4 µg/m^3 averaged over a 24-hour period	
NO_2	0.18 ppm averaged over a 1-hour period	

Notes:
µg/m^3 = microgram per cubic meter; mg/m3 = milligram per cubic meter; ppm = parts per million
lbs/day = pounds per day; ≥ = greater than or equal to

[a] *Corresponds to National and State Ambient Air Quality Standard for CO.*

Source: SCAQMD Air Quality Significance Thresholds accessed July 2008. http://www.aqmd.gov/ceqa/handbook/signthres.pdf.

Construction Period Emissions – Mass Daily Emissions

The SCAQMD currently recommends that projects with construction-related mass daily emissions that exceed any of the emissions thresholds in Table IV.C-5 should be considered significant. The SCAQMD also recommends that any construction-related emissions from individual development projects that exceed these thresholds be considered cumulatively considerable. With respect to cumulative air quality

impacts, the SCAQMD uses a summary of projection approach based on consistency with the AQMP and in addition recommends that a project's potential contribution to cumulative impacts should be assessed utilizing the same significance criteria as those for project-specific impacts.[4]

Construction Period Emissions – Localized Pollutant Concentrations

The SCAQMD currently recommends that projects with site-specific construction-related emissions that generate the following localized pollutant concentrations at existing human receptors should be considered significant:

- 10.4 micrograms per cubic meter ($\mu g/m^3$) of PM_{10} averaged over a 24-hour period
- 10.4 micrograms per cubic meter of $PM_{2.5}$ averaged over a 24-hour period

Because the Basin is currently in attainment of the national and State ambient air quality standards for NO_2 and CO, the SCAQMD currently recommends that projects with construction-related emissions that cause the following ambient air quality standards to be exceeded or contributes substantially to an exceeded standard at existing human receptors should be considered significant:

- 0.18 parts per million NO_2 averaged over a 1-hour period (State standard)
- 20 parts per million of CO averaged over a 1-hour period (State standard)
- 9.0 parts per million of CO averaged over an 8-hour period (national and State standard)

Operational Emissions – Mass Daily Emissions

The SCAQMD currently recommends that projects with operational mass daily emissions that exceed any of the emissions thresholds in Table IV.C-5 should be considered significant The SCAQMD also recommends that any operational emissions from individual projects that exceed these thresholds be considered cumulatively considerable. With respect to cumulative air quality impacts, the SCAQMD uses a summary of projection approach based on consistency with the AQMP and in addition recommends that

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[4] *The SCAQMD's* CEQA Air Quality Handbook *identifies several methods to determine the cumulative significance of land use projects (i.e., whether the contribution of a project is cumulatively considerable). However, the SCAQMD no longer recommends the use of these methodologies (see Appendix G for email correspondence between Mike Wolf, CAJA and Steve Smith, South Coast Air Quality Management District, September 2006). Instead, the SCAQMD recommends that any construction-related emissions and operational emissions from individual development projects that exceed the project-specific mass daily emissions thresholds identified above also be considered cumulatively considerable (White Paper on Regulatory Options for Addressing Cumulative Impacts from Air Pollution Emissions. South Coast Air Quality Management District Board Meeting. September 5, 2003, Agenda No. 29, Appendix D, p. D-3) The SCAQMD neither recommends quantified analyses of the emissions generated by a set of cumulative development projects nor provides thresholds of significance to be used to assess the impacts associated with these emissions.*

a project's potential contribution to cumulative impacts should be assessed utilizing the same significance criteria as those for project specific impacts.[5]

Localized Pollutant Concentrations

The SCAQMD currently recommends that impacts to sensitive receptors be considered significant when a project generates localized pollutant concentrations of NO_2, CO, PM_{10}, or $PM_{2.5}$ at sensitive receptors near a project site that exceed the localized pollutant concentration thresholds listed above or when a project's traffic causes CO concentrations at sensitive receptors located near congested intersections to exceed the national or State ambient air quality standards. The roadway CO thresholds would also apply to the contribution of emissions associated with cumulative development.

Toxic Air Contaminants

The SCAQMD also recommends that projects that could emit carcinogenic or toxic air contaminants that exceed the maximum individual cancer risk of 10 in one million be considered significant and cumulatively considerable.

Greenhouse Gas Emissions

There are currently no adopted thresholds or guidance adopted by the SCAQMD or other agencies in California to assess the significance of potential impacts associated with greenhouse gases. As stated earlier, the OPR released a technical advisory to provide lead agencies with an approach to comply with CEQA climate change analysis for projects that generate GHG emissions. The steps include the following:

- Determine if project generates GHG emissions;
- Estimate GHG emissions from project;
- Determine significance threshold; and
- Apply mitigation measures and evaluate impacts

The OPR document does not provide guidance on determining a GHG significance threshold. In the absence of established thresholds, a quantitative analysis containing an inventory of a project's GHG emissions and a qualitative analysis involving a project's compliance with adopted programs and policies to reduce GHG emissions have been suggested as a method to evaluate a project's potential effect on climate change.[6]

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[5] *See footnote 10.*

[6] *Association of Environmental Professionals (AEP), Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, Final, June 29, 2007.*

This EIR assumes that the proposed project would be considered to generate a substantial increase in greenhouse gas emissions if it is not consistent with any strategies from the 2006 CAT Report that the Lead Agency deems to be applicable and feasible for the proposed land use. This would be considered a significant impact with respect to global climate change.

Analysis Methodology

The analyses in this report focus on the nature and magnitude of the change in the air quality environment due to implementation of the proposed Project. Air pollutant emissions associated with the proposed project would result from operation of the proposed development and from project-related traffic volumes. Construction activities would also generate emissions at the project site and on roadways resulting from construction-related traffic. The net increase in project site emissions generated by these activities and other secondary sources over the emissions generated by the existing land uses at the Project site have been quantitatively estimated and compared to thresholds of significance recommended by the SCAQMD.

Construction Emissions

Construction emissions are calculated using the URBEMIS 2007 computer model developed for the CARB by estimating the types and number of pieces of equipment that would be used to remove existing facade, excavate the project site, and construct the proposed development. Construction emissions are analyzed according to the regional thresholds established by the SCAQMD and published in the CEQA *Air Quality Handbook*. The construction activities associated with the proposed project would cause diesel emissions, and would generate emissions of dust. Construction equipment within the project site that would generate criteria air pollutants could include excavators, dump trucks, and loaders. Some of this equipment would be used during demolition activities as well as when structures are constructed on the project site. In addition, emissions during construction activities include export truck trips off-site to remove debris and delivery truck trips during the demolition phase. URBEMIS 2007 evaluates all diesel-powered equipment used during construction activities.

To determine whether or not construction activities associated with the proposed project could create significant adverse localized air quality impacts on nearby sensitive receptors located offsite, the emissions contribution from the Proposed Project are also analyzed according to SCAQMD's localized significance threshold (LST) methodology. Under this methodology, projects that are greater than five acres in size should perform air quality dispersion modeling to determine whether construction activities would cause or contribute to adverse localized air quality impacts. The criteria pollutants that are required to be analyzed include NO_x, CO, PM_{10}, and $PM_{2.5}$. In terms of NO_x emissions, the two principal species of NO_x are nitric oxide (NO) and nitrogen dioxide (NO_2), with the vast majority (95 percent) of the NO_x emissions being comprised of NO. However, because adverse health effects are associated with NO_2, not NO, the analysis of localized air quality impacts associated with NO_x emissions is focused on NO_2 levels. NO is converted to NO_2 by several processes, the two most important of these are (1) the reaction of NO with ozone, and (2) the photochemical reaction of NO with hydrocarbons. When

modeling NO_2 emissions from combustion sources, the SCAQMD assumes that the conversion of NO to NO_2 is complete at a distance of 5,000 meters from the source. For the purpose of conducting a worst-case analysis, this analysis will assume that all of the NO_x emissions generated at the project site are NO_2.

The air quality dispersion modeling is done by defining the construction area footprint for the project site and setting up a series of volume sources across each site such that an appropriate distribution of construction-related emissions (i.e., combustion and fugitive dust emissions) across each project site is generated. In accordance with the SCAQMD's LST methodology, the volume sources were used to model the gaseous emissions (NO_x and CO) and area sources were used to model particulate emissions. At the project site, the construction emissions modeled for each criteria pollutant are those representing the worst-case day emissions based on the mass emissions calculations for each pollutant at the site. Meteorological data provided by the SCAQMD for La Canada, which represents the area within SRA 8 where the project site is located, is used to run the dispersion model for the proposed project.

Upon determining the peak concentration levels of NO_2 and CO that are generated by construction activities associated with the proposed project at the project site, these peak concentration levels are then added to their respective ambient concentrations to determine whether the most stringent applicable State and/or federal ambient air quality standards are exceeded for each pollutant. If the most stringent State and/or federal ambient air quality standards for NO_2 and CO are exceeded, then significant localized air quality impacts associated with these pollutants is concluded. As shown in Table IV.C-4, the most current peak background concentrations for NO_2, 1-hour CO, and 8-hour CO are 0.09 ppm, 3.0 ppm, and 2.4 ppm, respectively.

The determination of localized air quality impacts associated with PM_{10} and $PM_{2.5}$ generated during construction is done differently than CO and NO_2, since nearly the entire Basin exceeds the State or federal PM_{10} and $PM_{2.5}$ standards.[7] As such, determining the background PM_{10} and $PM_{2.5}$ concentrations are unnecessary. For PM_{10} and $PM_{2.5}$, the peak concentration levels of these pollutants determined from air quality dispersion modeling at the project site was analyzed to determine whether their concentrations would exceed the established threshold set by the SCAQMD. If the established threshold is exceeded, then significant adverse localized air quality impacts associated with PM_{10} and $PM_{2.5}$ would result.

It should be noted that the SCAQMD considers a sensitive receptor to be a receptor where it is possible that an individual could remain for 24 hours. Thus, according to the SCAQMD, the LSTs for PM_{10} and $PM_{2.5}$, which are based on a 24-hour averaging period, would be appropriate to evaluate the localized air quality impacts of a project on nearby sensitive receptors. Additionally, since a sensitive receptor is considered to be present onsite for 24 hours, LSTs based on shorter averaging times, such as the one-hour NO_2 or the 1-hour and 8-hour CO ambient air quality standards, would also apply when evaluating localized air quality impacts on sensitive receptors. However, LSTs based on shorter averaging periods, such as the NO_2 and CO LSTs, are applied to receptors such as industrial or commercial facilities since it

[7] *SCAQMD, Final Localized Significance Threshold Methodology, July 2008.*

is reasonable to assume that workers at these sites could be present for periods of one to eight hours.[8] Therefore, this analysis evaluates localized air quality impacts from construction activities associated with the Proposed Project on sensitive receptors for NO_2, CO, PM_{10}, and $PM_{2.5}$, and on "non-sensitive" receptors (*e.g.*, industrial or commercial facilities) for NO_2 and CO.

Operational Emissions

Operational emissions associated with the proposed project are estimated using the URBEMIS 2007 computer model developed for the ARB and the information provided in the traffic study prepared for the proposed project. Operational emissions would be comprised of mobile source emissions and area source emissions. Mobile source emissions are generated by the increase in motor vehicle trips to and from the project site associated with operation of the proposed project. Area source emissions are generated by natural gas consumption for space and water heating, and landscape maintenance equipment. To determine if an air quality impact would occur, the net increase in operational emissions generated by the proposed project in 2012 (proposed project buildout year) would be compared with the SCAQMD's recommended thresholds.

As for localized air quality impacts associated with operational emissions generated by the proposed project, the SCAQMD indicated that the LST methodology do not apply to the operational phase of a project because emissions are primarily generated by mobile sources traveling on local roadways over potentially large distances or areas. As such, the LST methodology would only apply to the operational phase of a project if the project includes stationary sources or attracts mobile sources that may spend long periods queuing and idling at the site, such as warehouse/transfer facilities.[9] In terms of stationary sources, operational emissions associated with these sources are typically analyzed if their operation requires permitting by the SCAQMD (e.g., boilers, combustion equipment, large HVAC units, etc.).[10] Such stationary sources are usually associated with manufacturing and industrial land uses. As the proposed project is not a distribution center or warehouse/transfer facility, and would not involve the use of stationary sources that generate high levels of emissions, localized air quality impacts associated with operational emissions generated by the proposed project are not required to be analyzed.

Localized Hotspot CO Concentrations

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed national and/or state standards for CO are termed CO "hotspots." The SCAQMD considers CO as a localized problem requiring additional analysis when a project is likely to subject sensitive receptors to CO hotspots. Land uses such as primary and secondary schools, hospitals, and convalescent homes are considered to be sensitive receptors to poor air quality

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[8] *Ibid.*

[9] *SCAQMD, Final Sample Construction Scenario Report, February 2005.*

[10] *Phone correspondence with James Koizumi, Air Quality Specialist, SCAQMD, April 25, 2007.*

because the very young, the old, and the infirm are more susceptible to respiratory infections and other air quality-related health problems than the general public. Residential uses are considered sensitive because people in residential areas are often at home for extended periods of time, so they could be exposed to pollutants for extended periods. Recreational areas are considered moderately sensitive to poor air quality because vigorous exercise associated with recreation places a high demand on the human respiratory function.

The SCAQMD recommends the use of CALINE4, a dispersion model for predicting CO concentrations, as the preferred method of estimating localized pollutant concentrations at sensitive receptors near congested roadways and intersections. For each intersection analyzed, CALINE4 adds roadway-specific CO emissions calculated from peak-hour turning volumes to ambient CO air concentrations. For this analysis, localized CO concentrations were calculated based on a simplified CALINE4 screening procedure developed by the Bay Area Air Quality Management District and accepted by the SCAQMD. The simplified procedure is intended as a screening analysis, which identifies a potential CO hotspot. This methodology assumes worst-case conditions and provides a screening of maximum, worst-case CO concentrations. However, the emission factors used in the analysis have been updated to EMFAC2007 by the EIR consultant.[11]

Maximum existing 8-hour CO concentrations for the intersections included in the project traffic impact analysis that have sensitive receptors in close proximity and would be most affected by the traffic generated by the proposed project and cumulative development.

Greenhouse Gas Emissions

There are currently no thresholds or guidance adopted by the SCAQMD or other agencies in California to assess the significance of this potential impact. Global climate change is an international phenomenon; the regulatory background and scientific data are changing rapidly.

This EIR assumes that the project would be considered to contribute to a cumulatively considerable net increase in greenhouse gas emissions if it is inconsistent with strategies from the 2006 CAT Report that the Lead Agency deems to be applicable and feasible for the proposed land use.

In terms of generating an inventory of the proposed Project's GHG emissions, the California Climate Action Registry (CCAR) has published version 3.0 of its General Reporting Protocol (Protocol) in April 2008 as a means for businesses, government agencies, and non-profit organizations to calculate GHG emissions from a number of general and industry-specific activities and participate in the Registry. This Protocol is not intended for CEQA purposes, but it does provide methods that can be used to quantify the

[11] *The emission factors used in the BAAQMD's localized CO screening procedure are based on EMFAC7G, which is out of date by several years and has been superceded by newer emission factor models, the current version of which is EMFAC2007.*

GHG emissions of CO_2, methane, and nitrous oxide associated with a project's increase in on-road motor vehicle operations, electricity consumption, and natural gas consumption.

The consumption of fossil fuels to generate electricity and to provide heating and hot water for the proposed project, as well as the consumption of fuel by on-road motor vehicles associated with the proposed project, creates GHG emissions. As such, in generating the GHG emissions for the proposed project, the future fuel consumption rates for the proposed project by these sources are estimated based on the proposed retail square footage. Natural gas and electricity demand factors derived from the SCAQMD's *CEQA Air Quality Handbook* are used to project fuel consumption rates. The future fuel consumption rates by the on-road motor vehicles are estimated using the vehicle fleet mix and daily vehicle miles traveled data generated by the URBEMIS 2007 computer model for the proposed Project, and data obtained from the National Highway Traffic Safety Administration and U.S. Department of Energy pertaining to the fuel economy of each vehicle class. The GHG emission factors from the CCAR Protocol for natural gas, electricity, and mobile sources are then applied to the respective consumption rates, to calculate annual GHG emissions in metric tons. It should be noted that it is difficult to identify the specific generating source of electricity. The Los Angeles DWP produces power at City-operated plants and also imports power during peak demand periods. The emission factors used in this analysis represent a State-wide average of known power producing facilities, utilizing various technologies and emission control strategies, and do not take into account the DWP's unique emissions profile nor do they reflect targeted future reductions in GHG emissions under SB 1368 or the LA Green Plan. As such, these emission factors are considered conservative and representative.

Not all greenhouse gases exhibit the same ability to induce climate change; as a result, greenhouse gas contributions are commonly quantified in carbon dioxide equivalencies (CO_2e). The GHG mass emissions for the proposed Project are calculated by converting pollutant specific emissions to CO_2e emissions by applying the applicable global warming potential (GWP) value.[12] These GWP ratios are published in the CCAP Protocol. By applying the GWP ratios, the proposed Project-related CO_2e emissions are converted to metric tons per year.

For the qualitative GHG emissions analysis for the proposed Project, the 2006 CAT Report, as discussed previously, has recommended a list of strategies that the State could pursue to reduce climate change greenhouse gas emissions. Thus, in the absence of regulatory guidance, this analysis will also address the potential impacts associated with GHG emissions resulting from implementation of the proposed Project by evaluating qualitatively whether the proposed Project would be consistent with the emission reduction strategies identified by the CAT. It should be noted that many of the CAT strategies are applicable only to State agencies such as CARB. Whereas some of the CAT strategies that apply to GHG emissions from the operational activities of a project can be implemented at the project level, the identified CAT strategies pertaining to construction-related GHG emissions can only be implemented by CARB. In

[12] *CO_2e was developed by the Intergovernmental Panel on Climate Change (IPCC), and published in its Second Assessment Report (SAR) 1996.*

particular, the only two CAT strategies that are relevant to the construction-related GHG emissions associated with the proposed Project include the development of regulations to require the use of one to four percent biodiesel displacement of California diesel fuel, and increasing the efficiency in the design of heavy duty vehicles. As neither of the recommended CAT strategies that are relevant to construction emissions can be implemented independently by the Applicant, the analysis of the proposed Project's GHG emissions focuses on GHG emissions generated during the proposed Project's operational phase.

Project Impacts

Consistency with the 2007 AQMP

The 2007 AQMP, discussed previously, was prepared to accommodate growth, to reduce the high levels of pollutants within the areas under the jurisdiction of SCAQMD, to return clean air to the region, and to minimize the impact of pollution control on the economy. Projects that are considered to be consistent with the AQMP would not interfere with attainment because this growth is included in the projections utilized in the formulation of the AQMP. Therefore, projects, uses, and activities that are consistent with the applicable assumptions used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's recommended daily emissions thresholds.

Projects that are consistent with the projections of employment and population forecasts identified in the Growth Management Chapter of the RCPG are considered consistent with the AQMP growth projections, since the Growth Management Chapter forms the basis of the land use and transportation control portions of the AQMP.

As discussed in Section IV.J. Population and Housing, SCAG estimates that population within the City of Los Angeles will increase from 3,844,923 persons in 2000 to 4,570,707 persons by 2020. Section IV.J Population and Housing concludes that implementation of the proposed project would not directly or indirectly induce substantial population or employment growth beyond current growth projections. Because, the proposed project would be consistent with the regional populations forecasts for the City of Los Angeles, and it would not jeopardize attainment of State and national ambient air quality standards in the Basin and the Los Angeles County portion of the Basin.

Another measurement tool in determining consistency with the AQMP is to determine how a project accommodates the expected increase in population or employment. Generally, if a project is planned in a way that results in the minimization of vehicle miles traveled (VMT) both within the project site and the community in which it is located, thus minimizing air pollutant emissions, that aspect of the project is consistent with the AQMP.

Based on this information, the proposed project would not jeopardize attainment of air quality standards in the 2007 AQMP for the Basin and the Los Angeles County portion of the Basin, and this impact would be less than significant.

Construction Period Emissions – Mass Daily Emissions

During construction of the proposed project, five basic types of activities would be expected to occur and generate emissions. First, the existing structures would be demolished. Second, the development site would be prepared and excavated. Third, the site would be graded to accommodate building foundations. Fourth, the proposed residential units would be constructed. Fifth, architectural coatings will be applied to the proposed residential units and certain areas will be paved.

Overall, construction of the proposed project would occur over a 29-month period beginning in January 2009 with completion in May 2011. Table IV.C-6 provides the duration of each phase and the equipment used during each phase. It is assumed that these pieces of equipment would run for a maximum of eight hours per day five days per week.

Table IV.C-6
Duration and Equipment Used During Construction Phases

Phase	Duration (month/year)	Equipment
Demolition	01/09 – 03/09	1 Concrete/Industrial Saw 2 Crawler Tractors 3 Dumpers/Tenders 1 Excavator 2 Rubber Tired Loaders
Site Preparation	02/09 – 07/09	2 Excavators 1 Other Construction Equipment 1 Tractor/Loader/Backhoe
Grading	04/09 - 06/09	1 Crawler Tractor 1 Excavator 5 Scrapers
Building Construction	05/09 - 05/11	1 Cement and Mortar Mixer 2 Concrete/Industrial Saws 1 Excavator 1 Forklift 3 Generator Sets
Finishing	10/10-05/11	2 Cement and Mortar Mixers 1 Excavator 1 Haul Truck 1 Off-Highway Tractor 1 Paver 1 Roller 2 Rubber Tired Loaders

Construction Period Emissions – Localized Emissions of CO, NOx, PM_{10}, and $PM_{2.5}$

The daily construction emissions generated by the proposed project are also analyzed to determine whether or not they would result in significant adverse localized air quality impacts on nearby sensitive receptors located off-site. In accordance with SCAQMD's methodology for analyzing localized air quality impacts, air quality dispersion modeling was performed for the proposed project to determine whether construction activities at the project site would cause or contribute to adverse localized air quality impacts on nearby off-site sensitive receptors. As shown in Table IV.C-7, the criteria pollutants that are required to be analyzed include NO_x, CO, PM_{10}, and $PM_{2.5}$.

For air quality dispersion modeling purposes, the input data related to the construction emissions generated during the different phases of construction at the project site is required to be more precise than the mass daily emissions calculated by URBEMIS. To generate more precise construction emissions for a project, the SCAQMD recommends that their sample scenario LST spreadsheets be used for this purpose.[13] The individual LST spreadsheets showing the calculations of NO_x, CO, PM_{10}, and $PM_{2.5}$ emissions during each phase of construction are available in Appendix C.

The estimated daily emissions generated by construction on the project site from the LST spreadsheets are shown in Table IV.C-8, Localized Construction Emissions. For the purpose of analyzing the worst-case scenario, the total emission for the three concurrent phases (site preparation, grading, and building construction) for each criteria pollutant is used for input into the dispersion model to determine the potential localized air quality impacts associated with that pollutant. The concentrations of each criteria pollutant that are inputted into the dispersion model for analysis are as follows:

- NO_x: 235.6 lbs/day
- CO: 105.2 lbs/day
- PM_{10}: 14.1 lbs/day
- $PM_{2.5}$: 9.5 lbs/day

Data sheets from the dispersion modeling software are provided in Appendix C.

[13] *South Coast Air Quality Management District, Sample LST spreadsheet: Appendix E – Five Acre Site Example, SCAQMD website: http://www.aqmd.gov/ceqa/handbook/LST/LST.html, July 2008.*

Table IV.C-7
Estimated Mass Daily Construction Emissions

Emissions Source	Emissions in Pounds per Day					
	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Demolition Phase						
Fugitive Dust	0.00	0.00	0.00	0.00	0.16	0.03
Off-Road Diesel Equipment	4.35	33.48	17.15	0.00	1.92	1.76
On-Road Diesel Equipment	0.02	0.27	0.11	0.00	0.01	0.01
Worker Trips	0.09	0.16	2.61	0.00	0.02	0.01
Total Demolition Emissions	4.46	33.90	19.87	0.00	2.11	1.82
Site Preparation						
Off-Road Diesel Equipment	2.18	18.90	8.32	0.00	0.93	0.86
Worker Trips	0.04	0.07	1.16	0.00	0.01	0.00
Total Site Preparation Emissions	2.22	18.97	9.48	0.00	0.94	0.86
Grading Phase						
Fugitive Dust	0.00	0.00	0.00	0.00	14.78	3.09
Off-Road Diesel Equipment	11.50	104.97	48.78	0.00	4.56	4.19
On-Road Diesel Equipment	8.84	111.99	45.20	0.13	5.32	4.62
Worker Trips	0.07	0.12	2.03	0.00	0.02	0.01
Total Grading and Excavation Emissions	20.41	217.08	96.02	0.13	24.67	11.91
Building Construction Phase						
Building Construction Off-Road Diesel Equip.	4.20	16.54	12.46	0.00	1.25	1.15
Building Construction Worker Trips	0.58	6.51	5.04	0.01	0.32	0.27
Building Construction Vendor Trips	1.25	2.32	38.30	0.04	0.30	0.16
Total Building Construction Emissions	6.03	25.37	55.80	0.05	1.88	1.59
Site Finishing Phase						
Asphalt Paving Off-Gas	0.15	0.00	0.00	0.00	0.00	0.00
Asphalt Paving Off-Road Diesel Equip.	6.56	52.35	25.82	0.00	2.80	2.58
Asphalt Paving On-Road Diesel Equip.	0.05	0.64	0.26	0.00	0.03	0.03
Asphalt Paving Worker Trips	0.08	0.15	2.45	0.00	0.02	0.01
Architectural Coatings Off-Gas	6.69	0.00	0.00	0.00	0.00	0.00
Architectural Coatings Worker Trips	0.03	0.06	1.00	0.00	0.01	0.00
Total Site Finishing Emissions	13.56	53.2	29.53	0.00	2.86	2.62

Table IV.C-7 (Continued)
Estimated Mass Daily Construction Emissions

Emissions Source	Emissions in Pounds per Day					
	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
2009	28.66	261.41	161.30	0.18	27.49	14.36
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00	55.00
Significant Impact?	No	Yes	No	No	No	No
2010	19.21	77.16	82.35	0.06	4.66	4.14
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00	55.00
Significant Impact?	No	No	No	No	No	No
2011	23.21	72.35	78.20	0.06	4.37	3.87
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00	55.00
Significant Impact?	No	No	No	No	No	No

Note: Subtotals may not appear to add correctly due to rounding in the URBEMIS2007 model.
Source: Christopher A. Joseph & Associates, 2008. Calculation sheets are provided in Appendix C.

Nitrogen Dioxide

Based on the dispersion modeling results, the maximum localized emissions of 1-hour NO_2 would result in a concentration of 1.22 ppm. As shown in Table IV.C-8, localized air quality impacts would be significant if the 1-hour NO_2 level generated during construction would exceed 0.18 ppm at the sensitive receptors surrounding the project site. As such, impacts associated with NO_2 concentrations would be significant.

Table IV.C-8
Localized Construction Emissions

Construction Activity	Total On-Site Construction Emissions				
	NOx (ppm)	CO 1- HR (ppm)	CO 8-HR (ppm)	PM10 ($\mu g/m^3$)	PM2.5 ($\mu g/m^3$)
Demolition	0.33	3.18	2.42	5.14	4.73
Site Preparation	0.27	3.12	2.41	6.05	3.64
Grading	0.69	3.43	2.44	9.89	8.87
Building Construction	0.27	3.15	2.42	3.97	0.91
Asphalt	0.26	3.13	2.41	3.49	3.22
Concurrent	1.22	9.70	7.27	19.91	13.42
LST Significance Thresholds	0.18	20	9.0	10.4	10.4
Significant Impact?	Yes	No	No	Yes	Yes

Notes:
Source: Christopher A. Joseph & Associates, May 2008. Calculation sheets are provided in Appendix C

Carbon Monoxide

Based on the dispersion modeling results, the maximum localized emissions of CO would result in concentrations of 9.70 ppm for the 1-hour CO and 7.27 ppm for the 8-hour CO. Localized air quality impacts would be significant if the 1-hour and 8-hour CO levels generated during construction would exceed 20 ppm and 9.0 ppm, respectively, at any of the receptors surrounding the project site. As the 1-hour and the 8-hour maximum CO concentration would not exceed their respective thresholds outlined above, impacts associated with CO concentrations would be less than significant.

PM_{10}

Based on the dispersion modeling results, the maximum localized emissions of PM_{10} would result in a maximum concentration of 19.91 $\mu g/m^3$. As such, impacts associated with PM_{10} concentrations would be significant.

$PM_{2.5}$

Based on the dispersion modeling results, the maximum localized emission of $PM_{2.5}$ would result in a maximum concentration of 13.42 $\mu g/m^3$. As the highest $PM_{2.5}$ concentration would exceed the SCAQMD threshold of 10.4$\mu g/m^3$, impacts associated with localized $PM_{2.5}$ concentrations would be significant.

Operational Emissions – Mass Daily Emissions

Operational emissions generated by both stationary and mobile sources would result from normal day-to-day activities on the project site after occupation. Stationary area source emissions would be generated by the consumption of natural gas for space and water heating devices and cooking appliances, the operation of landscape maintenance equipment, the use of consumer products, and the application of architectural coatings (paints). Mobile emissions would be generated by the motor vehicles traveling to and from the project site.

The analysis of daily operational emissions has been prepared utilizing the URBEMIS 2007 computer model recommended by the SCAQMD. The results of these calculations for existing operations are presented in Table IV.C-9.

Emissions from the operation of the proposed project are presented in Table IV.C-10. As shown, the proposed project would generate a net increase in average daily emissions that does not exceed the thresholds of significance recommended by the SCAQMD. This is a less-than-significant impact.

Operational Emissions – Localized CO Concentrations

The localized CO concentration impacts associated with the proposed project have been evaluated with the addition of traffic growth associated with cumulative development.

Table IV.C-9
Estimated Daily Operational Emissions – Existing Project Site Land Uses – 2008

Emissions Source	Emissions in Pounds per Day					
	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Summertime (Smog Season) Emissions						
Water and Space Heating	0.00	0.00	0.00	0.00	0.00	0.00
Landscape Maintenance Equipment	0.25	0.04	3.09	0.00	0.01	0.01
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coatings	0.00					
Motor Vehicles	9.07	8.87	111.85	0.09	15.78	2.98
Total Emissions	9.32	8.91	114.94	0.09	15.79	2.99
Wintertime (Non-Smog Season) Emissions						
Water and Space Heating	0.00	0.00	0.00	0.00	0.00	0.00
Landscape Maintenance Equipment	0.25	0.04	3.09	0.00	0.01	0.01
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coatings	0.00					
Motor Vehicles	10.23	11.01	108.55	0.07	15.78	2.98
Total Emissions	10.48	11.05	111.64	0.07	15.79	2.99

Note: Subtotals may not appear to add correctly due to rounding in the URBEMIS 2007 model.

Source: Christopher A. Joseph & Associates, 2008. Calculation sheets are provided in Appendix C.

As shown in Table IV.C-11, under worst-case conditions, existing CO concentrations near all of the study-area intersections do not exceed national or State ambient air quality standards. Therefore, CO hotspots do not exist near these intersections.

As was done to assess existing CO concentrations, the simplified CALINE4 screening procedure was used to predict future CO concentrations at the study-area intersections in the vicinity of the project site in the year 2012 with cumulative development in order to provide a worst-case analysis of future conditions. The results of these calculations are provided in Table IV.C-12.

As shown, future CO concentrations near these intersections would not exceed the national and State ambient air quality standards for CO. Therefore, implementation of the proposed project and cumulative development would not expose any possible sensitive receptors (such as residential uses, schools, hospitals) located in close proximity to these intersections to substantial localized pollutant concentrations. This would be a less-than-significant impact regarding the exposure of sensitive receptors to substantial pollutant concentrations.

Table IV.C-10
Estimated Daily Operational Emissions – Proposed Project

Emissions Source	Emissions in Pounds per Day					
	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Summertime (Smog Season) Emissions						
Proposed Land Uses						
Water and Space Heating	0.29	3.73	1.59	0.00	0.01	0.01
Landscape Maintenance Equipment	1.85	0.12	10.22	0.00	0.03	0.03
Consumer Products	11.75	0.00	0.00	0.00	0.00	0.00
Architectural Coatings	0.83	0.00	0.00	0.00	0.00	0.00
Motor Vehicles	13.00	12.30	158.91	0.18	31.55	5.99
Subtotal	27.72	16.15	170.72	0.18	31.59	6.03
Existing Land Uses (2009 emissions)	9.32	8.91	114.94	0.09	15.79	2.99
Total Net Increase (Proposed – Existing)	18.4	7.24	55.78	0.09	15.8	3.04
SCAQMD Thresholds	55.00	55.00	550.00	150.00	150.00	55.00
Significant Impact?	No	No	No	No	No	No
Wintertime (Non-Smog Season) Emissions						
Proposed Land Uses						
Water and Space Heating	0.29	3.73	1.59	0.00	0.01	0.01
Landscape Maintenance Equipment	1.85	0.12	10.22	0.00	0.03	0.03
Consumer Products	11.75	0.00	0.00	0.00	0.00	0.00
Architectural Coatings	0.83	0.00	0.00	0.00	0.00	0.00
Motor Vehicles	13.83	15.20	150.40	0.14	31.55	5.99
Subtotal	28.55	19.05	162.21	0.14	31.59	6.03
Existing Land Uses (2009 emissions)	10.48	11.05	111.64	0.07	15.79	2.99
Total Net Increase (Proposed – Existing)	18.07	8.00	50.57	0.07	15.8	3.04
SCAQMD Thresholds	55.00	55.00	550.00	150.00	150.00	55.00
Significant Impact?	No	No	No	No	No	No

Note: Subtotals may not appear to add correctly due to rounding in the URBEMIS 2007 model.

Source: Christopher A. Joseph & Associates, 2007. Calculation sheets are provided in Appendix C.

Operational Emissions – Toxic Air Contaminants

Diesel particulate emissions, a known toxic air contaminant, would occur from trucks picking up garbage and recyclable materials, and making deliveries to the project site. To address diesel particulate emissions, statewide programs and regulations are presently being developed and implemented by the ARB and U.S. EPA to reduce the risks of exposure to diesel exhaust. These programs include emission control requirements along with subsidies for upgrading older diesel engines to low-emissions models. The project site would be expected to be served by delivery and trash trucks. Such HRAs could be prepared for uses that generate many daily trucks trips (e.g., distribution centers, truck stops, etc.) that are located in close proximity to sensitive uses. In the case of the proposed project, it is anticipated that the

amount of trucks and the associated diesel emissions would not come close to the concentrations that could pose a potential health risk and would warrant a health risk assessment. Therefore, the effects of the toxic emissions from future vehicle operations at the project site are not expected to be substantial.

Table IV.C-11
Existing Localized Carbon Monoxide Concentrations

Intersection	CO Concentrations in Parts Per Million					
	Roadway Edge		25 Feet		50 Feet	
	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour
I-210 Eastbound Ramp and La Tuna Canyon Road	4.3	3.4	3.8	3.0	3.6	2.9
I-210 Westbound Ramp and La Tuna Canyon Road	4.6	3.7	4.0	3.2	3.7	3.0
Tujunga Canyon Boulevard and Foothill Avenue	5.9	4.7	4.9	4.0	4.6	3.7
Tujunga Canyon Boulevard and Pali Avenue	5.9	4.7	4.6	3.7	4.2	3.4
Tujunga Canyon Boulevard and La Tuna Canyon Road-Honolulu Avenue	5.1	4.1	4.4	3.5	4.1	3.3
Lowell Avenue and Foothill Boulevard	5.4	4.3	4.6	3.7	4.3	3.4
Lowell Avenue and Honolulu Avenue	5.6	4.5	4.8	3.9	4.5	3.6
Lowell Avenue and I-210 Eastbound Ramp	6.0	4.8	4.7	3.8	4.3	3.5
Pennsylvania Avenue and Foothill Avenue	5.3	4.3	4.6	3.7	4.3	3.4
Pennsylvania Avenue and Honolulu Avenue	4.6	3.7	4.0	3.2	3.8	3.1

Note: National 1-hour standard is 35.0 ppm
State 1-hour standard is 20.0 ppm
National and State 8-hour standard is 9.0 ppm

Source: Christopher A. Joseph & Associates, 2008. Calculation sheets are provided in Appendix IV.C.

Toxic or carcinogenic air pollutants are not expected to occur in any meaningful amounts in conjunction with operation of the proposed land uses at the project site. Only small quantities of common forms of hazardous or toxic substances, such as cleaning agents, which are typically used or stored in conjunction with residential uses, would be present. Most uses of such substances would occur indoors. Based on the common uses expected on the site, any emission would be minor.

This would be a less-than-significant impact regarding the exposure sensitive receptors to substantial pollutant concentrations.

Operational Emissions – Airborne Odors

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source, the wind speeds and direction, and the sensitivity of the receiving location each contribute to the intensity of the impact. While offensive odors rarely cause any physical harm, they can be unpleasant and cause distress among the public and generate citizen complaints.

Table IV.C-12
Predicted Future Localized Carbon Monoxide Concentrations

Intersection	CO Concentrations in Parts Per Million					
	Roadway Edge		25 Feet		50 Feet	
	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour
I-210 Eastbound Ramp and La Tuna Canyon Road	4.0	3.2	3.6	2.9	3.4	2.8
I-210 Westbound Ramp and La Tuna Canyon Road	4.3	3.4	3.8	3.0	3.6	2.9
Tujunga Canyon Boulevard and Foothill Avenue	5.2	4.2	4.5	3.6	4.2	3.4
Tujunga Canyon Boulevard and Pali Avenue	5.2	4.1	4.2	3.4	3.9	3.1
Tujunga Canyon Boulevard and La Tuna Canyon Road-Honolulu Avenue	4.6	3.7	4.1	3.3	3.9	3.1
Lowell Avenue and Foothill Boulevard	4.8	3.9	4.2	3.4	4.0	3.2
Lowell Avenue and Honolulu Avenue	5.0	4.0	4.4	3.5	4.1	3.3
Lowell Avenue and I-210 Eastbound Ramp	5.2	4.2	4.3	3.4	4.0	3.2
Pennsylvania Avenue and Foothill Avenue	4.8	3.8	4.2	3.4	4.0	3.2
Pennsylvania Avenue and Honolulu Avenue	4.2	3.3	3.8	3.0	3.6	2.9

Note: National 1-hour standard is 35.0 ppm
State 1-hour standard is 20.0 ppm
National and State standard is 9.0 ppm

Source: Christopher A. Joseph & Associates, 2008. Calculation sheets are provided in Appendix IV.C.

Odors are typically associated with the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes. The proposed project would include residential and commercial uses, and would not contain any of the above-listed odor producing uses. Instead potential operational airborne odors could result from cooking activities associated with the new residential units and restaurants. These odors would be minimal, if noticeable at all; would be similar to existing residential and commercial uses in the local vicinity; and would be confined to the immediate vicinity of the new buildings. Therefore, implementation of the proposed project is not expected to create objectionable odors affecting a substantial number of people. This is a less-than-significant impact.

Operational Emissions – Proximity to Freeway

The project site is located in close proximity of Interstate 210, and as such, future occupants at the site may be exposed to vehicular emissions traveling along this freeway. Residential proximity to freeway traffic has been associated with detrimental affects on human health. Therefore, implementation of the proposed project would affect the future occupants of the site and result in a significant impact. However, implementation of Mitigation Measures C-11 and C-12 will reduce project impacts to below the level of significance.

Greenhouse Gas Emissions

An individual project cannot generate enough greenhouse gas emissions to influence global climate change. However, an individual project may contribute an incremental amount of GHG emissions. For most projects, the main contribution of GHG emissions is from motor vehicles, but how much of those emissions are "new" is uncertain. New projects do not create new drivers, although they can lead to an increase in VMT through creating inefficient land patterns. Larger projects will certainly affect a larger geographic area, but again, would not cause the creation of new drivers. Some mixed-use and transportation-oriented projects can actually reduce the number of vehicle miles traveled that a person drives.

Greenhouse Gas Inventory

The GHG emissions for the proposed project have been calculated in metric tons per year as shown in Table IV.C-13. The URBEMIS 2007 model was used to estimate GHG emissions from construction activities. The California Climate Action Registry (CCAR) protocol (CCAR Protocol) was used to calculating the operational GHG emissions resulting from on-road mobile vehicles, electricity, and natural gas.

Table IV.C-13
Predicted Proposed Project Greenhouse Gas Emissions

Emissions Source	CO_2e Emissions in Metric Tons per Year
Proposed Construction	
2009 – Demolition, Site Preparation, Grading, and Building Construction	1,113.36
2010 - Building Construction and Finishing	942.59
2010 - Building Construction and Finishing	526.58
Proposed Operation	
Natural Gas Consumption	994.34
Electricity Generation	514.28
Motor Vehicles	2,429.77
Total from Proposed Operation	3,938.39
Existing Operation	
Natural Gas Consumption	12.57
Electricity Generation	40.44
Motor Vehicles	1,216.16
Total from Existing Operation	1,269.17
Net Increase (Proposed – Existing)	2,669.22
Source: Christopher A. Joseph & Associates, 2008. Calculation sheets are provided in Appendix C.	

For the qualitative GHG emissions analysis for the proposed project, the 2006 CAT Report has recommended a list of strategies that the State could pursue to reduce climate changing greenhouse gas emissions. Thus, in the absence of regulatory guidance, this EIR will also address the potential impacts associated with GHG emissions resulting from implementation of the proposed project by evaluating qualitatively whether the proposed project would be consistent with any of the emission reduction strategies identified by the CAT. It should be noted that many of the CAT strategies are applicable only to State agencies such as the ARB. The consistency of the proposed project with the strategies from the 2006 CAT Report is evaluated in Table IV.C-14. As shown, the proposed project would be consistent with all feasible and applicable strategies to reduce greenhouse gas emissions in California. Therefore, the impact of the proposed project would be less than significant.

Table IV.C-14
Project Consistency with 2006 CAT Report Greenhouse Gas Emission Reduction Strategies

Strategy	Project Consistency
California Air Resources Board	
Vehicle Climate Change Standards. AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by the ARB September 2004.	**Consistent.** The vehicles that travel to and from the project site on public roadways would be in compliance with ARB vehicle standards that are in effect at the time of vehicle purchase.
Diesel Anti-Idling. In July 2004, the ARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	**Consistent.** Current State law restricts diesel truck idling to five minutes or less. Diesel trucks making deliveries to the project site are subject to this State-wide law.
Hydrofluorocarbon Reduction. 1) Ban retail sale of HFC in small cans. 2) Require that only low GWP refrigerants be used in new vehicular systems. 3) Adopt specifications for new commercial refrigeration. 4) Add refrigerant leak-tightness to the pass criteria for vehicular inspection and maintenance programs. 5) Enforce federal ban on releasing HFCs.	**Consistent.** This strategy applies to consumer products. All applicable products purchased by customers or employees of the proposed project would comply with the regulations that are in effect at the time of manufacture.
Transportation Refrigeration Units, Off-Road Electrification, Port Electrification (ship to shore). Require all new transportation refrigeration units (TRU) to be equipped with electric standby. Require cold storage facilities to install electric infrastructure to support electric standby TRUs. Off-road Electrification and Port Electrification.	**Consistent.** All new TRUs used at the project site will be equipped with electric standby and the project site will install electric infrastructure to support the TRUs.
Alternative Fuels: Biodiesel Blends. ARB would develop regulations to require the use of 1 to 4 percent biodiesel displacement of California diesel fuel.	**Consistent.** The diesel vehicles that travel to and from the project site on public roadways could utilize this fuel once it is commercially available.

Table IV.C-14 (Continued)
Project Consistency with 2006 CAT Report Greenhouse Gas Emission Reduction Strategies

Strategy	Project Consistency
Alternative Fuels: Ethanol. Increased use of E-85 fuel.	**Consistent.** Customers and employees of the proposed project could purchase flex-fuel vehicles and utilize this fuel once it is commercially available in the region and local vicinity.
Heavy-Duty Vehicle Emission Reduction Measures. Increased efficiency in the design of heavy duty vehicles and an education program for the heavy duty vehicle sector.	**Consistent.** The heavy-duty vehicles that travel to and from the project site on public roadways would be subject to all applicable ARB efficiency standards that are in effect at the time of vehicle manufacture.
Achieve 50% Statewide Recycling Goal. Achieving the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48% has been achieved on a statewide basis. Therefore, a 2% additional reduction is needed.	**Consistent.** The City of Los Angeles is required to divert a minimum of 50 percent of its solid waste under AB 939. Since the proposed project site is located within the City of Los Angeles, it would be subject to this requirement. The City is currently developing a plan known as the Solid Waste Integrated Resource Plan (SWIRP) that will outline the City's objectives to lead Los Angeles towards being a "zero waste" city.
Zero Waste – High Recycling. Efforts to exceed the 50 percent goal would allow for additional reductions in climate change emissions.	**Consistent.** As discussed above, the City of Los Angeles is currently developing the SWIRP that will outline the City's objectives to lead Los Angeles towards being a "zero waste" city.
Department of Water Resources	
Water Use Efficiency. Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce greenhouse gas emissions.	**Consistent.** The project would eliminate 54,520 gallons per day, currently consumed by the golf course. In addition, the project will implement required water conservation procedures, including landscaping with native vegetation. Also, groundwater recharge will be enhanced through seepage from the underground storm water storage tanks.
E**nergy Commission (CEC)**	
Building Energy Efficiency Standards in Place and in Progress. Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions to and alterations to existing buildings).	**Consistent.** The project would be constructed to exceed the 2005 standards of Title 24 by a minimum of 14 %, or meet 2008 Title 24 standards, whichever is more stringent.
Appliance Energy Efficiency Standards in Place and in Progress. Public Resources Code 25402 authorizes the Energy Commission to adopt and periodically update its appliance energy efficiency standards (that apply to devices and equipment using energy that are sold or offered for sale in California).	**Consistent.** Under State law, appliances that are purchased for the project – both pre- and post-development – would be consistent with energy efficiency standards that are in effect at the time of manufacture.
Fuel-Efficient Replacement Tires & Inflation Programs. State legislation established a statewide program to encourage the production and use of more efficient tires.	**Consistent.** Customers and employees of the proposed project could purchase tires for their vehicles that comply with State programs for increased fuel efficiency.

Table IV.C-14 (Continued)
Project Consistency with 2006 CAT Report Greenhouse Gas Emission Reduction Strategies

Strategy	Project Consistency
Municipal Utility Electricity Sector Carbon Policy. State agencies to address ways to transition investor-owned utilities away from carbon-intensive electricity sources.	**Not applicable.** While this strategy is not applicable, the project would not preclude the implementation of this strategy by municipal utility providers.
Alternative Fuels: Non-Petroleum Fuels. Increasing the use of non-petroleum fuels in California's transportation sector, as recommended as recommended in the CEC's 2003 and 2005 Integrated Energy Policy Reports.	**Consistent.** Customers and employees of the proposed projects could purchase alternative fuel vehicles and utilize these fuels once they are commercially available in the regional and local vicinity.
Business, Transportation and Housing	
Measures to Improve Transportation Energy Efficiency. Builds on current efforts to provide a framework for expanded and new initiatives including incentives, tools and information that advance cleaner transportation and reduce climate change emissions.	**Consistent.** The location of the project promotes fuel conservation as it is located close to public transportation, providing patrons and employees of the project an alternative to the single occupancy vehicle.
Smart Land Use and Intelligent Transportation Systems (ITS). Smart land use strategies encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density residential/commercial development along transit corridors. ITS is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services. The Governor is finalizing a comprehensive 10-year strategic growth plan with the intent of developing ways to promote, through state investments, incentives and technical assistance, land use, and technology strategies that provide for a prosperous economy, social equity and a quality environment. Smart land use, demand management, ITS, and value pricing are critical elements in this plan for improving mobility and transportation efficiency. Specific strategies include: promoting jobs/housing proximity and transit-oriented development; encouraging high density residential/commercial development along transit/rail corridor; valuing and congestion pricing; implementing intelligent transportation systems, traveler information/traffic control, incident management; accelerating the development of broadband infrastructure; and comprehensive, integrated, multimodal/intermodal transportation planning.	**Consistent.** The project is located near a number of public transportation services, thereby reducing the number of vehicles miles traveled.
State and Consumer Services Agency	
Green Buildings Initiative. Green Building Executive Order, S-20-04 (CA 2004), sets a goal of reducing energy use in public and private buildings by 20 percent by the year 2015, as compared with 2003 levels. The Executive Order and related action plan spell out	**Consistent.** As discussed previously, the project would be constructed to exceed the 2005 standards of Title 24 by 14 % , or meet 2008 Title 24 standards, whichever is more stringent.. Moreover, the 2005 Title 24 standards are approximately 8.5 percent more efficient than those

Table IV.C-14 (Continued)
Project Consistency with 2006 CAT Report Greenhouse Gas Emission Reduction Strategies

Strategy	Project Consistency
specific actions state agencies are to take with state-owned and –leased buildings. The order and plan also discuss various strategies and incentives to encourage private building owners and operators to achieve the 20 percent target.	of the 2001 standards.
California Solar Initiative. The solar initiative includes installation of 1 million solar roofs or an equivalent 3,000 MW by 2017 on homes and businesses, increased use of solar thermal systems to offset the increasing demand for natural gas, use of advanced metering in solar applications, and creation of a funding source that can provide rebates over 10 years through a declining incentive schedule.	**Consistent.** Although solar roofs are not proposed as part of the project, the project could purchase and install them in the future if they become cost effective from a purchase and maintenance standpoint.
Sources: Climate Action Team, 2006 and Christopher A. Joseph & Associates, 2008.	

In addition, a number of local and state agencies will implement GHG emission reduction initiatives. These include:

- The City of Los Angeles, under its Green LA Plan seeks to reduce GHG emissions by 35 percent below 1990 levels by 2030. This will be achieved implementing, among other things:
    - Decreasing emissions from Department of Water and Power electrical generation and import activities;
    - Providing compact fluorescent light (CFL) bulbs to encourage acceptance and use of CFLs; and
    - Expanding the regional rail network to reduce VMT.
- The State introduced in 2007 the Low-Carbon Fuel Standard with the goal to reduce carbon intensity of California's passenger vehicles by at least 10 percent by 2020 and further reduce GHG emissions.
- As indicated in the CAT table, the green building initiative will reduce energy use by 20 percent by 2015, compared to 2003.

As stated earlier, the proposed project will comply with these initiatives and will, as a result, further reduce GHG emissions.

Consistency with General Plan Air Quality Element

Local jurisdictions, such as the City of Los Angeles, have the authority and responsibility to reduce air pollution through its police power and decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions.

The Air Quality Element of the City of Los Angeles sets forth the goals, objectives, and policies that would guide the City in the implementation of its air quality improvement programs and strategies. A detailed analysis of the consistency of the proposed project with relevant policies in the City's General Plan Air Quality Element is presented in Table IV.C-15, Project Consistency with Applicable Policies of the General Plan Air Quality Element.

Table IV.C-15
Project Consistency with Applicable Policies of the General Plan Air Quality Element

Policy	Consistency Analysis
Policy 1.3.1: Minimize particulate emissions from construction sites.	**Consistent.** Construction activities associated with the proposed project would comply with all required dust control measures during each phase of construction. Consequently, particulate emissions at the project site during construction of the proposed project would be minimized. Therefore, the proposed project would be consistent with this policy.
Policy 1.3.2: Minimize particulate emissions from unpaved roads and parking lots which are associated with vehicular traffic.	**Consistent.** Construction activities associated with the proposed project would be required to comply with the provisions under SCAQMD Rule 403—Fugitive Dust, which would require appropriate dust control measures to be implemented during each phase of development. Some of these dust control measures include daily watering of unpaved areas and roads, and reducing vehicle speed on unpaved roads to less than 15 miles per hour. Therefore, the proposed project would be consistent with this policy.
Policy 4.2.2: Improve accessibility for the City's residents to places of employment, shopping centers, and other establishments.	**Consistent.** The accessibility of transit and the accessibility of multiple transit lines at and near the project site would encourage residents to utilize mass transit to places of employment. Therefore, the proposed project would be consistent with this policy.
Policy 4.2.3: Ensure that new development is compatible with pedestrians, bicycles, transit, and alternative fuel vehicles.	**Consistent.** Section IV.K, Traffic and Transportation, of this Draft EIR includes a detailed discussion of existing public transit and pedestrian opportunities associated with the proposed project. The proposed project would be consistent with this policy.
Policy 4.2.4: Require that air quality impacts be a consideration in the review and approval of all discretionary projects.	**Consistent.** The air quality analysis conducted for the proposed project in this Draft EIR serves to identify potential air quality impacts and, if necessary, recommend mitigation measures to reduce these impacts to a less-than-significant level. Where no feasible mitigation measures are available to address a particular impact, a significant and unavoidable impact is identified for the proposed project in this Draft EIR. The analysis in this Draft EIR will be used by the City's Planning Commission in its review and approval process for the proposed project. Therefore, the proposed project would be consistent with this policy.

Source: Christopher A. Joseph & Associates, June 2008

The proposed project would be consistent with goals, objectives, and policies set forth in the City's General Plan Air Quality Element, as it would be generally consistent with the applicable air quality policies discussed above. Therefore, no impact would occur with respect to consistency with the applicable air quality policies in the General Plan.

CUMULATIVE IMPACTS

AQMP Consistency

Cumulative development could possibly result in a significant impact in terms of conflicting with, or obstructing implementation of, the 2007 AQMP. The 2007 AQMP was prepared to accommodate growth, to reduce the high levels of pollutants within the areas under the jurisdiction of SCAQMD, to return clean air to the region, and to minimize the impact on the economy. Growth considered to be consistent with the 2007 AQMP would not interfere with attainment because this growth is included in the projections utilized in the formulation of the AQMP. Consequently, as long as growth in the Basin is within the projections for growth identified in the Growth Management Chapter of the RCPG, implementation of the 2007 AQMP will not be obstructed by such growth. Since the proposed project would not jeopardize attainment of air quality standards in the 2007 AQMP for the Basin and the Los Angeles County portion of the Basin, they would not have a cumulatively considerable contribution to this impact regarding a potential conflict with or obstruction of the implementation of the applicable air quality plan.

Construction Impacts

Because the Basin is currently in nonattainment for ozone, PM_{10} and $PM_{2.5}$, cumulative development could exceed an air quality standard or contribute a substantial increase to an existing or projected air quality exceedance. With regard to cumulative air quality impacts, the SCAQMD neither recommends quantified analyses of the emissions generated by a set of cumulative development projects nor provides thresholds of significance to be used to assess these emissions. According to the SCAQMD, individual construction projects that exceed the SCAQMD recommended daily thresholds for project-specific impacts would cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in non-attainment. While construction of the proposed project would not exceed the SCAQMD significance thresholds for ROG, CO, and SO_x construction activities would exceed the SCAQMD significance threshold for $NO_{x,}$ PM_{10} and $PM_{2.5}$. However, with implementation of Mitigation Measures C-2 through C-10, the peak daily construction emissions of these criteria pollutants are anticipated to be below the threshold of significance recommended by the SCAQMD. Thus, the cumulative impact of the proposed project for construction emissions would be less-than-significant with mitigation.

Localized CO Impacts

Cumulative development is not expected to expose sensitive receptors to substantial pollutant concentrations. As discussed previously, the future CO concentrations at the study intersections in 2012 are based on the projected future traffic volumes from the study intersections contained in the traffic study

for the proposed project, which takes into account emissions from the proposed project, future ambient growth, and related projects in the project area. As shown in Table IV.C-13, CO concentrations near the study intersections would not exceed national or State ambient air quality standards. Therefore, CO hotspots would not occur near these intersections in the future, and this cumulative impact would be less than significant; no significant project cumulative impact would occur for CO. It is also unlikely that future projects will result in long-term future exposure of sensitive receptors to substantial pollutant concentrations because CO levels are projected to be lower in the future due to improvements in vehicle emission rates predicted by the ARB. Therefore, the cumulative impact of the proposed project with respect to CO hot spots is considered to be less than significant.

Consistency with General Plan Air Quality Element

As is true for the proposed project, development of the related projects would also be reviewed for consistency with the City's air quality policies by the City of Los Angeles, in accordance with the requirements of CEQA, which require findings of policy consistency prior to approval of entitlements for development. As such, the related projects are not anticipated to conflict with or obstruct implementation of the Air Quality Element and the cumulative impact associated with consistency of related projects with the City's air quality policies would be less than significant. In addition, as demonstrated in Table IV.C-15, development of the proposed project would be consistent with the City's applicable air quality policies. Therefore, the cumulative impact of the related projects in combination with the proposed project would be less than significant.

MITIGATION MEASURES

Construction-Related Project Impacts

Although not considered mitigation measures, the project developer will implement measures in accordance with SCAQMD Rule 403 (fugitive dust) and Rule 1113 (architectural coatings)

C-1 The project Developer shall include in construction contracts the control measures required and recommended by the SCAQMD at the time of development. Examples of the types of measures currently required and recommended include the following:

Rule 403 - Fugitive Dust Rule

- Use watering to control dust generation during demolition of structures or break-up of pavement.
- Water active grading/excavation sites and unpaved surfaces at least three times daily.
- Cover stockpiles with tarps or apply non-toxic chemical soil binders.
- Limit vehicle speed on unpaved roads to 15 miles per hour.

- Sweep daily (with water sweepers) all paved construction parking areas and staging areas.
- Provide daily clean-up of mud and dirt carried onto paved streets from the site.
- Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 15 miles per hour over a 30-minute period or more.
- An information sign shall be posted at the entrance to each construction site that identifies the permitted construction hours and provides a telephone number to call and receive information about the construction project or to report complaints regarding excessive fugitive dust generation. Any reasonable complaints shall be rectified within 24 hours of their receipt.

Rule 1113 - Architectural Coatings

- Apply rust-preventative coating below the VOC limit based on coating categories as specified in the Table of Standards VOC Limits table in Rule 1113.
- Ensure that all architectural coating containers (including drums, buckets, cans, pails, and trays) be closed when not in use.
- Add up to 10% by volume of VOC to a lacquer to avoid blushing of the finish if on the day of application:
  - ◊ Relative humidity is greater than 70% and temperature is below 65°F,
  - ◊ The coating is not applied from April 1 to October 31, and,
  - ◊ The coating contains acetone and no more than 550 g of VOC per liter of coating (less water and exempt compounds) prior to addition of the VOC.

The following mitigation measures are recommended in addition to the required SCAQMD rules above to reduce construction emissions associated with the proposed project:

C-2 All clearing, grading, earth moving, or excavation activities shall be discontinued during periods of high winds (i.e., greater than 15 miles per hour [mph]), so as to prevent excessive amounts of dust.

C-3 The Project Developer shall require by contract specifications that construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for an extended period of time (i.e., 5 minutes or longer).

C-4 The Project Developer shall require by contract specifications that construction operations rely on the electricity infrastructure surrounding the construction site rather than electrical generators powered by internal combustion engines to the extent feasible.

C-5 The maximum amount of soil imported to the project site during the grading phase shall not exceed 1,114 cubic yards on any given day. In order to fulfill the projected total amount of soil to be imported (96,900 cubic yards), the grading phase period will be approximately 87 days.

C-6 The Project Developer shall require by contract specifications that all heavy-duty diesel-powered equipment operating and refueling at the project site as well as haul trucks would use low- NO_x diesel fuel.

C-7 The Project Developer shall require by contract specifications that alternative fuel construction equipment (i.e., electric, compressed natural gas, liquid petroleum gas, and unleaded gasoline) would be utilized to the extent that it is economically feasible and the equipment is readily available in the South Coast Air Basin. Specifically, all concrete/industrial saws used during construction shall be electric.

C-8 The Project Developer shall limit the use of scrapers to four per day during grading activities.

C-9 The Project Developer shall require all scrapers, excavators, crawlers, forklifts, water trucks, pavers, and tractors used in the construction phases will be equipped with diesel oxidation catalyst systems CARB recognizes a 80% reduction of NOx emissions and 50% reduction of PM_{10} and $PM_{2.5}$ from approved systems.

C-10 The Project Developer shall revise the construction schedule to limit emissions by ensuring the demolition, site preparation, grading, construction, paving, and coating phases are all conducted sequentially (i.e., the various phases do not overlap).

Operational Impacts

To reduce impacts upon future occupants from existing ambient air pollution levels associated with vehicle travel along I-210 in the project vicinity, the following mitigation measures are recommended:

C-11 For all residential dwelling units within or partially within 500 feet of I-210, an air filtration system shall be installed and maintained with filters meeting or exceeding the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) Standard 52.2 Minimum Efficiency Reporting Value (MERV) of 13, to the satisfaction of the Department of Building and Safety.

C-12 For all residential dwelling units further than 500 feet from I-210, an air filtration system shall be installed and maintained with filters meeting or exceeding the ASHRAE Standard 52.2 MERV of 11, to the satisfaction of the Department of Building and Safety.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed project's impacts on air quality resulting from construction activities would be potentially significant for NO_x, PM_{10}, and $PM_{2.5}$ as previously outlined in Table IV.C-7 and Table IV.C-8. Implementation of Mitigation Measures C-2 through C-10 would ensure that construction-related air quality impacts associated with NO_x, PM_{10} and $PM_{2.5}$ emissions are reduced to a less-than significant level. The results from regional and local emissions after implementation of Mitigation Measures C-2 to C-10 are shown in Tables IV-C.16 and IV-C.17.

Table IV.C-16
Estimated Mass Daily Construction Emissions With Mitigation

Emission Source	Emissions in Pounds per Day					
	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
2009 Total Emissions	28.66	261.41	161.30	0.18	27.49	14.36
2009 Emissions after Mitigation	14.07	64.95	63.78	0.06	18.13	6.05
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00	55.00
Significant Impact?	No	No	No	No	No	No
2010 Total Emissions	19.21	77.16	82.35	0.06	4.66	4.14
2010 Emissions after Mitigation	5.52	17.54	52.38	0.05	1.46	1.20
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00	55.00
Significant Impact?	No	No	No	No	No	No
2011 Total Emissions	23.21	72.35	78.20	0.06	4.37	3.87
2011 Emissions after Mitigation	30.54	37.12	77.81	0.06	2.77	2.40
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00	55.00
Significant Impact?	No	No	No	No	No	No

Note: Subtotals may not appear to add correctly due to rounding in the URBEMIS2007 model.
Source: Christopher A. Joseph & Associates, 2008. Calculation sheets are provided in Appendix C.

The operational emissions associated with the proposed project would not exceed the established SCAQMD threshold levels for any criteria pollutants during both the summertime (smog season) and wintertime (non-smog season). Therefore, this impact would be less than significant. In addition, implementation of Mitigation Measures C-11 and C-12 would ensure that exposure to emissions associated with vehicle travel along the freeway are reduced to a less-than-significant level for the future occupants of the project site.

Table IV.C-17
Localized Construction Emissions

Construction Activity	Total On-Site Construction Emissions				
	NOx (ppm)	**CO 1- HR (ppm)**	**CO 8-HR (ppm)**	**PM10 ($\mu g/m^3$)**	**PM2.5 ($\mu g/m^3$)**
Demolition	0.12	3.11	2.41	0.83	0.77
Site Preparation	0.17	3.12	2.41	4.31	2.03
Grading	0.18	3.36	2.44	2.27	1.98
Building Construction	0.17	3.10	2.41	1.77	0.41
Asphalt	0.16	3.18	2.42	1.69	1.55
Maximum Period	0.18	3.36	2.42	4.31	2.03
LST Significance Thresholds	0.18	20	9.0	10.4	10.4
Significant Impact?	No	No	No	No	No

Notes:
Source: Christopher A. Joseph & Associates, May 2008. Calculation sheets are provided in Appendix C