IV.C AIR QUALITY AND GREENHOUSE GAS

1. Introduction

This section evaluates the impact of implementation of the proposed Grand Park Specific Plan on air quality and greenhouse gas resources in the project area and the region. The analysis presented in this section is based on information contained in the City of Ontario The Ontario Plan (City TOP), relevant maps and reports and correspondence received from the South Coast Air Quality Management District.

2. Environmental Setting

a) Regulatory Framework

1) Air Quality

The development of the Grand Park Specific Plan has the potential to release gaseous criteria pollutants and dust into the ambient air and therefore comes under the ambient air quality standards promulgated at the local, state, and federal levels. Air pollutants are regulated at the national, state, and air basin level; each agency has a different level of regulatory responsibility. The United States Environmental Protection Agency (EPA) regulates at the national level. The California Air Resources Board (CARB) regulates at the state level. The South Coast Air Quality Management District (SCAQMD) regulates at the air basin level.

Following are summaries of the national, state, local, and City regulations. Full descriptions are contained in the Air Quality and Greenhouse Gas Assessment Report included as Appendix C of this EIR.

National and State

The EPA is responsible for national and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, provides research and guidance for air pollution programs, and sets National Ambient Air Quality Standards, also known as federal standards. There are federal standards for six common air pollutants, called criteria air pollutants, which were identified from provisions of the Clean Air Act of 1970. The criteria pollutants are:

- Ozone
- Nitrogen dioxide
- Lead
- Particulate matter (PM_{10} and $PM_{2.5}$)
- Carbon monoxide (CO)
- Sulfur dioxide

The federal standards were set to protect public health, including that of sensitive individuals; thus, the standards continue to change as more medical research is available regarding the health effects of the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health.

State Implementation Plan. The State Implementation Plan is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The State Implementation Plan for the State of California is administered by the ARB, which has overall responsibility for statewide air quality maintenance and air pollution prevention. California's State Implementation Plan incorporates individual federal attainment plans for regional air districts-- air district prepares their federal attainment plan, which sent to ARB to be approved and incorporated into the California State Implementation Plan. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms.

California Ambient Air Quality Standards. The ARB also administers California Ambient Air Quality Standards (state standards) for the 10 air pollutants designated in the California Clean Air Act. The 10 state air pollutants are the six federal standards listed above as well as visibility-reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride.

Asbestos. Asbestos is listed as a toxic air contaminant by ARB and as a Hazardous Air Pollutant by the EPA. Asbestos occurs naturally in surface deposits of several types of rock formations. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Crushing or breaking these rocks, through construction or other means, can release asbestoform fibers into the air. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining.

State of California - California Air Resources Board

Carl Moyer Memorial Air Quality Standards Attainment Program. Since 1998, the Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) has provided funding to encourage the voluntary purchase of cleaner engines, equipment, and emission reduction technologies. The Carl Moyer Program plays a complementary role to California's regulatory program by funding emission reductions that are surplus, i.e., early and/or in excess of what is required by regulation. The Carl Moyer Program accelerates the turnover of old highly-polluting engines, speeds the commercialization of advanced emission controls, and reduces air pollution impacts on environmental justice communities. Emission reductions achieved through the Carl Moyer Program are an important component of the California State Implementation Plan.

Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 horsepower and Greater. Effective February 19, 2011, each fleet shall comply with weighted reduced particulate matter emission fleet averages by compliance dates listed in the regulation.

ARB Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling adopts new section 2485 within Chapter 10, Article 1, Division 3, title 13 in the California Code of Regulations. The measure limits the idling of diesel vehicles to reduce emissions of toxics and criteria pollutants.

ARB Final Regulation Order, Requirements to Reduce Idling Emissions from New and In-Use Trucks, requires that new 2008 and subsequent model-year heavy-duty diesel engines be equipped with an engine shutdown system that automatically shuts down the engine after 300 seconds of continuous idling operation once the vehicle is stopped, the transmission is set to "neutral" or "park," and the parking brake is engaged.

ARB Regulation for In-Use Off-Road Diesel Vehicles. On July 26, 2007, the ARB adopted a regulation to reduce diesel particulate matter and NOx emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The regulation limits idling to no more than five consecutive minutes, requires reporting and labeling, and requires disclosure of the regulation upon vehicle sale.

Statewide Truck and Bus Rule. On December 12, 2008, the CARB approved this regulation to reduce emissions from existing on-road diesel trucks and buses operating in California. This regulation applies to all on-road heavy-duty diesel-fueled vehicles with a gross vehicle weight rating greater than 14,000 pounds, agricultural yard trucks with off-road certified engines, and certain diesel fueled shuttle vehicles of any gross vehicle weight rating. Out-of-state trucks and buses that operate in California are also subject.

State of California Code Sections

Public Resources Code Section 21151.8 and Education Code Section 17213 prohibit the approval of an environmental impact report or negative declaration for a project involving the purchase of a school site or construction of a new elementary or secondary school unless the following occur:

- Facilities located within a 1/4 mile radius of the proposed site that might reasonably emit hazardous or acutely hazardous air emissions have been identified and;
- It has been determined that the health risks from facilities do not and will not constitute an actual or potential endangerment of public health to persons who attend or are employed at the school or;

- If impacts are identified, mitigation of all chronic or accidental hazardous air emissions must be made prior to school occupancy and a determination of no actual or potential endangerment shall be certified by the governing board.
- If identified impacts cannot be mitigated, the governing board may adopt a statement of overriding considerations if it makes the finding that no suitable alternative sites exist due to a severe shortage of qualifying school site locations.

For a school site located within 500 feet from the edge of a freeway traffic lane or busy traffic corridor, the governing board shall additionally determine through analysis pursuant to paragraph (2) of subdivision (b) of Section 44360 of the Health and Safety Code, based on appropriate air dispersion modeling, and after considering any potential mitigation measures, that the air quality at the proposed site is such that neither short term nor long term exposure poses significant health risks to pupils.

South Coast Air Quality Management District

The agency for air pollution control for the South Coast Air Basin (basin) is the South Coast Air Quality Management District (SCAQMD). The SCAQMD is responsible for controlling emissions primarily from stationary sources. The SCAQMD maintains air quality monitoring stations throughout the basin. The SCAQMD is also responsible for the following:

Air Quality Management Plans

SCAQMD, in coordination with the Southern California Association of Governments, is also responsible for developing, updating, and implementing the Air Quality Management Plan (AQMP) for the basin. An AQMP is a plan prepared and implemented by an air pollution district for a county or region designated as nonattainment of the federal and/or California ambient air quality standards. The term nonattainment area is used to refer to an air basin where one or more ambient air quality standards are exceeded.

2003 AQMP

One of the purposes of the 2003 AQMP is to lead the basin and portions of the Salton Sea Air Basin under SCAQMD jurisdiction into compliance with the 1-hour ozone and PM_{10} federal standards (South Coast Air Quality Management District 2003). One of the purposes of the 2007 AQMP is to lead the basin into compliance of the federal 8-hour ozone and $PM_{2.5}$ standards.

The 2003 AQMP also replaced the 1997 attainment demonstration for the federal CO standard and provided a basis for a maintenance plan for CO for the future, and updated the maintenance plan for the federal nitrogen dioxide standard that the South Coast Air Basin has met since 1992 (2003 AQMP, page 1-1).

The 2003 AQMP also incorporated new scientific data in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2003 AQMP utilized complex modeling to show that with the control measures, the basin would be in compliance with the federal and state standards for all pollutants by 2010, except for the state ozone and PM_{10} standards and the state ozone and PM_{10} standard after 2010 or by the earliest practicable date, as mandated by the California Health and Safety Code Section 40462. The ARB approved the 2003 AQMP on August 1, 2003. The EPA's adequacy finding on the emissions budgets for conformity determination in the basin was published in the Federal Register (69 FR 15325-15326).

2007 AQMP

The 2007 AQMP was adopted by the SCAQMD on June 1, 2007 (SCAQMD 2007a). On July 13, 2007, the SCAQMD Board adopted the 2007 Final AQMP Transportation Conformity Budgets and directed the Executive Officer to forward them to ARB for its approval and subsequent submittal to the EPA. On September 27, 2007, ARB adopted the State Strategy for the 2007 State Implementation Plan and the 2007 AQMP as part of the State Implementation Plan. On January 15, 2009, the EPA's regional administrator signed a final rule to approve in part and disapprove in part the SCAQMD 2003 1-hour ozone plan and the nitrogen dioxide maintenance plan. The parts of the plan that were approved strengthen the State Implementation Plan. The Clean Air Act does not require the disapproved portions of the plan, and the disapprovals do not start sanctions clocks.

The 2007 AQMP outlines a detailed strategy for meeting the federal health-based standards for $PM_{2.5}$ by 2015 and 8-hour ozone by 2024 while accounting for and accommodating future expected growth. The 2007 AQMP incorporates significant new emissions inventories, ambient measurements, scientific data, control strategies, and air quality modeling. Most of the reductions will be from mobile sources, which are currently responsible for about 75 percent of all smog and particulate forming emissions. The 2007 AQMP includes 37 control measures proposed for adoption by the SCAQMD, including measures to reduce emissions from new commercial and residential developments, more reductions from industrial facilities, and reductions from wood burning fireplaces and restaurant charbroilers.

2012 AQMP

The 2012 AQMP was adopted December 7, 2012 (SCAQMD 2012a). The purpose of the 2012 AQMP for the Basin is to set forth a program that will lead the Basin into compliance with the federal 24-hour $PM_{2.5}$ air quality standard, and to provide an update of the Basin's projections in meeting the federal 8-hour ozone standards. The AQMP will be submitted to the U.S. EPA as the State Implementation Plan (SIP) once it is approved by the SCAQMD Governing Board and the ARB. Specifically, the AQMP will serve as the official SIP submittal for the federal 2006 24-hour $PM_{2.5}$ standard, for which the U.S. EPA has established a due date of December 14, 2012. In addition, the AQMP will update specific elements of the previously approved 8-hour ozone SIP: 1) an updated emissions inventory

and, 2) new control measures and commitments for emissions reductions to help fulfill the Section 182(e)(5) portion of the 8-hour ozone SIP.

The 2012 AQMP states, "The remarkable historical improvement in air quality since the 1970's is the direct result of Southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs."

The 2012 AQMP proposes Basin-wide $PM_{2.5}$ measures that will be implemented by the 2014 attainment date, episodic control measures to achieve air quality improvements (would only apply during high $PM_{2.5}$ days), Section 182(e)(5) implementation measures (to maintain progress towards meeting the 2023 8-hour ozone national standard), and transportation control measures. Most of the control measures focus on incentives, outreach, and education.

Proposed $PM_{2.5}$ reduction measures in the 2012 AQMP include the following:

- Further NOx reductions from RECLAIM
- Further reductions from residential wood burning devices
- Further reductions from open burning
- Emission reductions from under-fired charbroilers
- Further ammonia reductions from livestock waste
- Backstop measures for indirect sources of emissions from ports and port-related sources
- Further criteria pollutant reductions from education, outreach and incentives

There are multiple VOC and NOx reductions in the 2012 AQMP to attempt to reduce ozone formation, including further VOC reductions from architectural coatings, miscellaneous coatings, adhesives, solvents, lubricants, and mold release products.

The 2012 AQMP also contains proposed mobile source implementation measures for the deployment of zero- and near-zero emission on-road heavy-duty vehicles, locomotives, and cargo handling equipment. There are measures for the deployment of cleaner commercial harborcraft, cleaner ocean-going marine vessels, cleaner off-road equipment, and cleaner aircraft engines.

The 2012 AQMP proposes the following mobile source implementation measures:

- On-road mobile sources:
  - Accelerated penetration of partial zero-emission and zero-emission vehicles and light-heavy and medium-heavy duty vehicles through funding assistance for purchasing the vehicles

- Accelerated retirement of older light-, medium-, and heavy-duty vehicles through funding incentives

- Further emission reductions from heavy-duty vehicles serving near-dock railyards through a proposed control measure that requires any cargo container moved between the Ports of Los Angeles and Long Beach to the nearby railyards be moved using zero-emission technologies

- Off-road mobile sources:
  - Extension of the Surplus Off-Road Opt-In for NOx (SOON) provision for construction/industrial equipment, which provides funding to repower or replace older Tier 0 and Tier 1 equipment

  - Further emission reductions from freight and passenger locomotives calls for an accelerated use of Tier 4 locomotives in the Basin

  - Further emission reductions from ocean-going marine vessels while at berth

  - Emission reductions from ocean-going marine vessels

The 2012 AQMP also relies upon the Southern California Association of Governments' regional transportation strategy, which is contained in the adopted 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the 2011 Federal Transportation Improvement Program that contain the following sections:

1. Linking regional transportation planning to air quality planning: making sure that the regional transportation plan supports the goals and objectives of the AQMP/SIP.

2. Regional transportation strategy and transportation control measures: the RTP/SCS contains improvements to the regional multimodal transportation system including the following: active transportation (non-motorized transportation - biking and walking); transportation demand management; transportation system management; transit; passenger and high-speed rail; goods movement; aviation and airport ground access; highways; arterials; and operations and maintenance.

3. Reasonably available control measure analysis.

SCAQMD Rules

The AQMP for the Basin establishes a program of rules and regulations administered by SCAQMD to obtain attainment of the state and federal standards. The rules and regulations that apply to this project include, but are not limited to, the rules listed in the Standard Conditions section of this report (Section 1.5).

The SCAQMD has two roles under CEQA:

- Lead Agency: responsible for preparing environmental analyses for its own projects (adoption of rules, regulations, or plans) or permit projects filed with the SCAQMD where the SCAQMD has primary approval authority over the project.
- Commenting Agency: the SCAQMD reviews and comments on air quality analyses prepared by other public agencies (such as the proposed project).

The SCAQMD also provides guidance and thresholds for CEQA air quality and greenhouse gas analyses. The result of this guidance as well as State regulations to control air pollution is an overall improvement in the Basin, as shown previously in this report.

City of Ontario

In 2010, the City of Ontario adopted The Ontario Plan that sets forth the vision, governance, policy plan, priorities, implementation, and tacking that will direct the orderly and sustained future development of the city. The policy plan contains an Environmental Resources Element of which Air Quality is a component. The Air Quality Goal and supporting policies are shown below in Table IV.C-1.

Table IV.C-1: City of Ontario TOP Air Quality Resources Element

Air Quality Resource	Description
Goal: ER4	Improved indoor and outdoor air quality and reduced locally generated pollutant emissions
Policy ER4-1	*Land Use.* We reduce GHG and other local pollutant emissions through compact, mixed use, and transit-oriented development and development that improves the regional jobs-housing balance.
ER4-2	*Sensitive Land Uses.* We prohibit the future siting of sensitive land uses, within the distances defined by the California Air Resources Board for specific source categories, without sufficient mitigation
ER4-3	*Greenhouse Gases (GHG) Emissions Reductions.* We will reduce GHG emissions in accordance with regional, state, and federal regulations.
ER4-4	*Indoor Air Quality.* We will comply with State Green Building Codes relative to indoor air quality
ER4-5	*Transportation.* We promote mass transit and non-motorized mobility options (e.g. walking, biking) to reduce air pollutant emissions.
ER4-6	*Particulate Matter*. We support efforts to reduce particulate matter to meet State and Federal Clean Air Standards.
ER4-7	*Other Agency Collaboration.* We collaborate with other agencies within the South Coast Air Basin to improve regional air quality at the emission source.
ER4-8	*Tree Planting.* We protect healthy trees within the City and plant new trees to increase carbon sequestration and help the regional/local air quality.
Source: The Ontario Plan (City of Ontario 2010).	

2) Greenhouse Gas Emissions

Similar to the air quality regulations discussed above, the development of the Grand Park Specific Plan has the potential to release greenhouse gasses into the ambient air and therefore comes under standards promulgated at the international, national, local, state, and federal levels.

Following are summaries of the international, national, state, local, and City regulations. Full descriptions are contained in the Air Quality and Greenhouse Gas Assessment Report included as Appendix C of this EIR.

International

Intergovernmental Panel on Climate Change. In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change to assess the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nations Framework Convention on Climate Change. On March 21, 1994, the United States joined a number of countries around the world in signing the United Nations Framework Convention on Climate Change (Convention). Under the Convention, governments gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

Kyoto Protocol. The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing greenhouse gas emissions at an average of five per cent against 1990 levels over the five-year period 2008-2012. The Convention (discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

The United States has not entered into force of the Kyoto Protocol. However, other countries have entered, such as Australia, Canada, China, the European Union (Belgium, Denmark, Germany, the Hellenic Republic, Spain, France, Ireland, Italy, Luxembourg, Netherlands, Austria, Portugal, Finland, Sweden, Great Britain, and Northern Ireland), Japan, Mexico, and New Zealand.

National

Prior to the last decade, there have been no concrete federal regulations of greenhouse gases or major planning for climate change adaptation. The following are actions regarding the federal government, greenhouse gases, and fuel efficiency.

Greenhouse Gas Endangerment. *Massachusetts v. EPA* (Supreme Court Case 05-1120) was argued before the United States Supreme Court on November 29, 2006, in which it was petitioned that the EPA regulate four greenhouse gases, including carbon dioxide, under Section 202(a)(1) of the Clean Air Act. A decision was made on April 2, 2007, in which the Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act. The Court held that the Administrator must determine whether emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations.

- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to greenhouse gas pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing greenhouse gas emissions standards for vehicles, as discussed in the section "Clean Vehicles" below.

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's National Highway Safety Administration announced a joint final rule establishing a national program that would reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States.

Mandatory Reporting of Greenhouse Gases. The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory greenhouse gas reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule. The rule requires reporting of greenhouse gas

emissions from large sources and suppliers in the United States, and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of greenhouse gas emissions are required to submit annual reports to the EPA.

New Source Review. The EPA issued a final rule on May 13, 2010 that establishes thresholds for greenhouse gases that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of these Clean Air Act permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits.

Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units. As required by a settlement agreement, the EPA proposed new performance standards for emissions of carbon dioxide for new affected fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatt would be required to meet an output based standard of 1,000 pounds of carbon dioxide per megawatt-hour, based on the performance of widely used natural gas combined cycle technology.

Cap and Trade. Cap and trade refers to a policy tool where emissions are limited to a certain amount and can be traded, or provides flexibility on how the emitter can comply. Successful examples in the United States include the Acid Rain Program and the NOx Budget Trading Program in the northeast. There is no federal cap and trade program currently; and no pending legislation exists to establish a cap and trade program, other than the AB 32 cap and trade program that applies to select sources such as large industrial facilities and not the project.

The Western Climate Initiative partner jurisdictions have developed a comprehensive initiative to reduce regional greenhouse gas emissions to 15 percent below 2005 levels by 2020. The partners are California, British Columbia, Manitoba, Ontario, and Quebec. Its cap and trade program is estimated to be fully implemented in 2015.

State of California

Title 24 and California Green Building Standards. Although these regulations are not specifically enacted to reduce greenhouse gases, they increase energy efficiency for new buildings, thus indirectly reducing greenhouse gas emissions. For a description, please refer to Section 1.7, Standard Conditions, in this report.

Pavley Regulations and Fuel Efficiency Standards. California AB 1493, enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. The regulation was stalled by automaker lawsuits and by the EPA's denial of an implementation waiver. On January 21, 2009, the

ARB requested that the EPA reconsider its previous waiver denial. On January 26, 2009, President Obama directed that the EPA assess whether the denial of the waiver was appropriate. On June 30, 2009, the EPA granted the waiver request. On September 8, 2009, the U.S. Chamber of Commerce and the National Automobile Dealers Association sued the EPA to challenge its granting of the waiver to California for its standards. California assisted the EPA in defending the waiver decision. The U.S. District Court for the District of Columbia denied the Chamber's petition on April 29, 2011.

Executive Order S-3-05. Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for greenhouse gas emissions:

- By 2010, reduce greenhouse gas emissions to 2000 levels.
- By 2020, reduce greenhouse gas emissions to 1990 levels.
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be an aggressive, but achievable, mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Low Carbon Fuel Standard - Executive Order S-01-07. The Governor signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the executive order established a Low Carbon Fuel Standard and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, the ARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by California Energy Commission on December 24, 2007) and was submitted to ARB for consideration as an "early action" item under AB 32. The ARB adopted the Low Carbon Fuel Standard on April 23, 2009.

SB 1368. In 2006, the State Legislature adopted Senate Bill (SB) 1368, which was subsequently signed into law by the Governor. SB 1368 directs the California Public Utilities Commission to adopt a performance standard for greenhouse gas emissions for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the new law will

effectively prevent California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State.

SB 97 and the CEQA Guidelines Update. Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a)." Section 21097 was also added to the Public Resources Code. It provided CEQA protection until January 1, 2010 for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006, in stating that the failure to analyze adequately the effects of greenhouse gases would not violate CEQA.

On April 13, 2009, the Office of Planning and Research submitted to the Secretary for Natural Resources its recommended amendments to the CEQA Guidelines for addressing greenhouse gas emissions. On July 3, 2009, the Natural Resources Agency commenced the Administrative Procedure Act rulemaking process for certifying and adopting these amendments pursuant to Public Resources Code section 21083.05. Following a 55-day public comment period and two public hearings, the Natural Resources Agency proposed revisions to the text of the proposed Guidelines amendments. The Natural Resources Agency transmitted the adopted amendments and the entire rulemaking file to the Office of Administrative Law on December 31, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010.

The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of greenhouse gas emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

A new section, CEQA Guidelines Section 15064.4, was added to assist agencies in determining the significance of greenhouse gas emissions. The new section allows agencies the discretion to determine whether a quantitative or qualitative analysis is best for a particular project. However, little guidance is offered on the crucial next step in this assessment process—how to determine whether the project's estimated greenhouse gas emissions are significant or cumulatively considerable.

Also amended were CEQA Guidelines Sections 15126.4 and 15130, which address mitigation measures and cumulative impacts respectively. Greenhouse gas mitigation

measures are referenced in general terms, but no specific measures are championed. The revision to the cumulative impact discussion requirement (Section 15130) simply directs agencies to analyze greenhouse gas emissions in an EIR when a project's incremental contribution of emissions may be cumulatively considerable, however it does not answer the question of when emissions are cumulatively considerable.

Section 15183.5 permits programmatic greenhouse gas analysis and later project-specific tiering, as well as the preparation of Greenhouse Gas Reduction Plans. Compliance with such plans can support a determination that a project's cumulative effect is not cumulatively considerable, according to proposed Section 15183.5(b).

In addition, the amendments revised Appendix F of the CEQA Guidelines, which focuses on Energy Conservation. The sample environmental checklist in Appendix G was amended to include greenhouse gas questions.

AB 32. The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that greenhouse gases emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. ARB is the state agency charged with monitoring and regulating sources of greenhouse gases. AB 32 states the following:

> Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

The ARB Board approved the 1990 greenhouse gas emissions level of 427 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) on December 6, 2007 (CARB 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 $MMTCO_2e$. Emissions in 2020 in a "business as usual" scenario are estimated to be 596 $MMTCO_2e$.

Under AB 32, the ARB published its Final Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California. Discrete early action measures are currently underway or are enforceable by January 1, 2010. The ARB has 44 early action measures that apply to the transportation, commercial, forestry, agriculture, cement, oil and gas, fire suppression, fuels, education, energy efficiency, electricity, and waste sectors. Of these early action measures, nine are considered discrete early action measures, as they are regulatory and enforceable by January 1, 2010. The ARB estimates that the 44 recommendations are expected to result in reductions of at least 42 $MMTCO_2e$ by 2020, representing approximately 25 percent of the 2020 target.

The ARB's Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State's emissions to 1990 levels by the year 2020 (California Air Resources Board 2008). The Scoping Plan identifies recommended measures for multiple greenhouse gas emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 greenhouse gas target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies.

"Capped" strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the cap-and trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32.

"Uncapped" strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional greenhouse gas emission reductions.[1]

[1] On March 17, 2011, the San Francisco Superior Court issued a final decision in *Association of Irritated Residents v. California Air Resources Board* (Case No. CPF-09-509562). While the Court upheld the validity of the ARB Scoping Plan for the implementation of AB 32, the Court enjoined ARB from further rulemaking under AB 32 until ARB amends its CEQA environmental review of the Scoping Plan to address the flaws identified by the Court. On May 23, 2011, ARB filed an appeal. On June 24, 2011, the Court of Appeal granted ARB's petition staying the trail court's order pending consideration of the appeal. In the interest of informed decision-making, on June 13, 2011, ARB released the expanded alternatives analysis in a draft Supplement to the AB 32 Scoping Plan Functional Equivalent Document. The ARB Board approved the Scoping Plan and the CEQA document on August 24, 2011.

SB 375. Passing the Senate on August 30, 2008, SB 375 was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of greenhouse gas emissions, which emits over 40 percent of the total greenhouse gas emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing greenhouse gas emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies. The Southern California Association of Governments has adopted emissions reductions for per capita light duty vehicles from 2005 levels of 7 percent by 2020 and 13 percent by 2035.

Concerning CEQA, SB 375, section 21159.28 states that CEQA findings determine whether certain projects are not required to reference, describe, or discuss (1) growth inducing impacts or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that the ARB accepts as achieving the greenhouse gas emission reduction targets.

2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).

3. Incorporates the mitigation measures required by an applicable prior environmental document.

Executive Order S-13-08. Executive Order S-13-08 indicates that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the order, the 2009 California Climate Adaptation Strategy (California Natural Resources Agency 2009) was adopted, which is the " . . . first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Renewable Electricity Standards. On September 12, 2002, Governor Gray Davis signed SB 1078 requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of

electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger also directed the ARB (Executive Order S-21-09) to adopt a regulation by July 31, 2010, requiring the state's load serving entities to meet a 33 percent renewable energy target by 2020. The ARB Board approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23.

Smartway Partners. Smartway effectively refers to aerodynamic and rolling resistance requirements geared toward reducing fuel consumption. Most large trucking fleets driving newer vehicles are compliant with Smartway design requirements. Moreover, over time, all heavy-duty trucks will have to comply with the ARB Greenhouse Gas Regulation that is designed with the Smartway Program in mind to reduce greenhouse gas emissions by making them more fuel-efficient. For instance, all 2010 and older model year tractors that pull 53-foot or longer box type trailers must use Smartway verified low rolling resistance tires beginning January 1, 2013.

South Coast Air Quality Management District

The project is within the South Coast Air Basin, which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). SCAQMD Regulation XXVII currently includes three rules:

- The purpose of Rule 2700 is to define terms and post global warming potentials.

- The purpose of Rule 2701, SoCal Climate Solutions Exchange, is to establish a voluntary program to encourage, quantify, and certify voluntary, high quality certified greenhouse gas emission reductions in the SCAQMD.

- Rule 2702, Greenhouse Gas Reduction Program, was adopted on February 6, 2009. The purpose of this rule is to create a Greenhouse Gas Reduction Program for greenhouse gas emission reductions in the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

City of Ontario

The Ontario Plan (TOP) was adopted in 2010 (City of Ontario 2010) to provide community direction in integrating and planning for the City's orderly and sustained development 20 years or more into the future. The TOP's Policy Plan contains a specific goal and supporting policies regarding air quality resources and greenhouse gases.

The City is currently preparing a Draft Climate Action Plan that is anticipated to be completed within the next year.

b) Existing Conditions

1) Air Quality

Local Climate

The project is located in the City of Ontario, California in San Bernardino County and is within the South Coast Air Basin (basin). To the west of the basin is the Pacific Ocean. To the north and east of the basin are the San Gabriel, San Bernardino, and San Jacinto mountains, while the southern limit of the basin is the San Diego County line. The basin consists of Orange County, all of Los Angeles County except for the Antelope Valley, the non-desert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County (source: CARB 2009a). The air quality in the basin is impacted by dominant airflows, topography, atmospheric inversions, location, season, and time of day.

Dominant airflows provide the driving mechanism for transport and dispersion of air pollution. The mountains surrounding the region form natural horizontal barriers to the dispersion of air contaminants. Air pollution created in the coastal areas and around the Los Angeles area is transported inland until it reaches the mountains where the combination of mountains and inversion layers generally prevent further dispersion. This poor ventilation results in a gradual degradation of air quality from the coastal areas to inland areas. Air stagnation may occur during the early evening and early morning periods of transition between day and nighttime flows. The region also experiences periods of hot, dry winds from the desert, known as Santa Ana winds. If the Santa Ana winds are strong, they can surpass the sea breeze, which blows from the ocean to the land, and carry the suspended dust and pollutants out to the ocean. If the winds are weak, they are opposed by the sea breeze and cause stagnation, resulting in high pollution events. The primary wind directions near the project site are from the west and west-northwest.

Temperature inversions limit the vertical depth through which pollution can be mixed. Among the most common temperature inversions in the basin are radiation inversions, which form on clear winter nights when cold air off mountains sink to the valley floor while the air aloft over the valley remains warm. These inversions, in conjunction with calm winds, trap pollutants near the source. Other types of temperature inversions that affect the basin include marine, subsidence, and high-pressure inversions. Summers often have periods of hazy visibility and occasionally unhealthful air, while air quality impacts in the winter tend to be localized. Higher temperatures and sunshine can contribute to air pollutant formation, particularly ozone. Impacts of ozone are discussed in the impact sections of this analysis.

The annual average temperature varies little throughout much of the basin (°F). The average daily minimum average temperatures in the area range from around 40’s (in degrees Fahrenheit) in the winter to the high 50’s in the summer while the daily average maximum temperatures range from the mid-60’s in winter to the low 90’s in summer. The majority of the annual rainfall in the area occurs between December and March. The average annual precipitation in the area is approximately 17 inches.

Local Air Quality

Air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. These pollutants are known as criteria air pollutants and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources such as carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_X), sulfur oxides (SO_x), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb). VOC and NO_X are also criteria pollutant precursors and combine to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are the principal secondary pollutants. Both coarse and fine inhalable particulate matter can also be formed in the atmosphere due to chemical reactions involving NO_x, VOC, and SO_x.

The local air quality can be evaluated by reviewing relevant air pollution concentrations near the project area. For evaluation purposes, the SCAQMD has divided the basin into 36 Source Receptor Areas within the Basin operating monitoring stations in most of the areas. These Source Receptor Areas are designated to provide a general representation of the local meteorological, terrain, and air quality conditions within the particular geographical area. The project is located in Source Receptor Area 33, Southwest San Bernardino Valley. SCAQMD currently operates an air monitoring station in Source Receptor Area 33 in Ontario. However, only particulate matter (PM_{10} and $PM_{2.5}$) are monitored at this location. These monitoring data were supplemented by air monitoring data (ozone, nitrogen dioxide, and carbon dioxide) from the SCAQMD air monitoring station in Pomona, 10 miles northwest from the project and sulfur dioxide from the Fontana-Arrow monitoring station, 9 miles north from the project. Table IV.C-2 provides the air quality monitoring summary.

Table IV.C-2: Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Item	2009	2010	2011
Ozone	1 Hour	Max 1 Hour (ppm)	0.138	0.115	0.119
		Days > State Standard (0.09 ppm)	25	9	15
	8 Hour	Max 8 Hour (ppm)	0.099	0.082	0.096
		Days > State Standard (0.07 ppm)	37	12	24
		Days > National Standard (0.075 ppm)	21	4	16
Carbon monoxide	1 Hour*	Max 1 Hour (ppm)	2.61	2.57	2.46
		Days > State Standard (20 ppm)	0	0	0
		Days > National Standard (35 ppm)	0	0	0

Table IV.C-2 (cont.): Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Item	2009	2010	2011
	8 Hour	Max 8 Hour (ppm)	1.83	1.80	1.72
		Days > State Standard (9.0 ppm)	0	0	0
		Days > National Standard (9 ppm)	0	0	0
Nitrogen dioxide	Annual*	Annual Average (ppm)	0.027	0.026	0.025
	1 Hour*	98th percentile (ppm)	0.080	0.073	0.067
	1 Hour	Max 1 Hour (ppm)	0.102	0.097	0.087
		Days > State Standard (0.18 ppm)	0	0	0
Sulfur dioxide	Annual	Annual Average (ppm)	0.000	ID	0000
	24 Hour	Max 24 Hour (ppm)	0.002	0.002	0.002
		Days > State Standard (0.04 ppm)	0	0	0
Inhalable coarse particles (PM_{10})	Annual	Annual Average (µg/m3)	35.0	32.0	30.8
	24 hour	24 Hour (µg/m3)	70.0	87.0	70.0
		Est. Days > State Standard (50 µg/m3)	9	4	3
		Days > National Standard (150 µg/m3)	0	0	0
Fine particulate matter ($PM_{2.5}$)	Annual	Annual Average (µg/m3)	14.6	12.9	13.2
	24-hour	Days > National Standard (35 µg/m3)	3	1	2

Abbreviations:
> = exceed ppm = parts per million µg/m3 = micrograms per cubic meter
ID = insufficient data ND = no data max = maximum
Est. = estimated State Standard = California Ambient Air Quality Standard
National Standard = National Ambient Air Quality Standard
Sources: California Air Resources Board 2013, from stations in Ontario, Fontana, and Pomona

Air Quality Improvement in the South Coast Air Basin

The 2012 Air Quality Management Plan states, "The remarkable historical improvement in air quality since the 1970's is the direct result of Southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs" (SCAQMD 2012a). Ozone, NOx, VOC, and CO have been decreasing in the Basin since 1975 and are projected to continue to decrease through 2020 (CARB 2009a). These decreases result primarily from motor vehicle controls and reductions in evaporative emissions. Although vehicle miles traveled in the Basin continue to increase, NOx and VOC levels are decreasing because of the mandated controls on motor vehicles and the

replacement of older polluting vehicles with lower-emitting vehicles. NOx emissions from electric utilities have also decreased due to use of cleaner fuels and renewable energy.

The number of days exceeding the national 8-hour standard has decreased between 1997 and 2007. In the 2007 period, there was an overall decrease in exceedance days compared with the 1997 period.

Direct emissions of PM_{10} have been increasing in the Basin and direct emissions of $PM_{2.5}$ have decreased slightly since 1975. Area wide sources (fugitive dust from roads, dust from construction and demolition, and other sources) contribute the greatest amount of direct particulate matter emissions. The overall trends of particulate matter concentrations in the air (not emissions) show an overall improvement since 1975.

Attainment Status

The EPA and the ARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring value exceeds the threshold per year. In contrast, the Federal annual $PM_{2.5}$ standard is met if the three-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard.

The Basin is designated as nonattainment for the state and federal ozone, PM_{10}, and $PM_{2.5}$, standards. The Basin is also in nonattainment for the state nitrogen dioxide annual standard, based on the 2006 - 2008 data. The Los Angeles County portion of the Basin is in nonattainment for lead; however, the project area is in attainment for lead. Table IV.C-3 provides the air quality monitoring summary.

Table IV.C-3: South Coast Air Basin Attainment Status

Pollutant	State Status	National Status
Ozone	Nonattainment	Nonattainment
Carbon monoxide	Attainment	Maintenance - Serious
Nitrogen dioxide (annual)	Nonattainment	Attainment
Nitrogen dioxide (1-hour)	Attainment	Maintenance
Sulfur dioxide	Attainment	Attainment
PM_{10}	Nonattainment	Nonattainment - Serious

Table IV.C-3 (cont.): South Coast Air Basin Attainment Status

Pollutant	State Status	National Status
$PM_{2.5}$	Nonattainment	Nonattainment
Lead (Los Angeles County)	Nonattainment	Nonattainment
Lead (other parts of Basin, including the project area)	Attainment	Attainment
Source of State status: California Air Resources Board 2011a. Source of National status: U.S. Environmental Protection Agency 2012.		

Toxic Air Contaminants

A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. The public's exposure to toxic air contaminants (TACs) is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health."

During the last decade, the SCAQMD carried out a number of extensive studies aimed at quantifying the distribution of TACs and their health risk impacts throughout the basin. These studies, referred to as the Multiple Air Toxics Exposure Study (MATES) (SCAQMD 2008a), consisted of several elements including air monitoring, emission inventory, and air dispersion modeling activities to estimate cancer risks from exposure to air toxics. The MATESIII study estimated that the overall cancer risk to the population of the basin averaged about 1,200 additional cancer risks in a population of one million individuals that are exposed over a 70-year lifetime. The highest cancer risks were found in the port areas of Los Angeles and Long Beach where the estimated risks exceeded 3,000 in a million. About 94 percent of the risk is attributed to mobile sources such as motor vehicles and about 6 percent to stationary sources such as industrial sources, gas stations, dry cleaners, and chrome plating operations. Further, diesel exhaust is a major contributor to air toxic risk, accounting for about 84 percent of the total estimated cancer risk. The average cancer risk in the project area is about 1,097 in a million, slightly lower than the basin-wide average.

Several studies indicate that diesel PM poses the greatest health risk among the TACs listed above. A 10-year research program (CARB 1998) demonstrated that diesel PM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to diesel PM poses a chronic health risk. In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes,

nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. Within the South Coast Air Basin, in addition to diesel PM, there are emissions of benzene, formaldehyde, acetaldehyde, naphthalene, ethylbenzene, acrolein, toluene, hexane, propylene, and xylene from a variety of sources located within the Basin that contribute to health risks.

2) Greenhouse Gasses

Gases that trap heat in the atmosphere are referred to as greenhouse gases. The effect is analogous to the way a greenhouse retains heat. Common greenhouse gases include water vapor, carbon dioxide, methane, nitrous oxides, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Natural processes and human activities emit greenhouse gases. The presence of greenhouse gases in the atmosphere affects the earth's temperature. It is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Climate change is driven by forcings and feedbacks. Radiative forcing is the difference between the incoming energy and outgoing energy in the climate system. Positive forcing tends to warm the surface while negative forcing tends to cool it. Radiative forcing values are typically expressed in watts per square meter. A feedback is a climate process that can strengthen or weaken a forcing. For example, when ice or snow melts, it reveals darker land underneath which absorbs more radiation and causes more warming. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere. The global warming potential of a gas is essentially a measurement of the radiative forcing of a greenhouse gas compared with the reference gas, carbon dioxide.

Individual greenhouse gas compounds have varying global warming potential and atmospheric lifetimes. Carbon dioxide, the reference gas for global warming potential, has a global warming potential of one. The global warming potential of a greenhouse gas is a measure of how much a given mass of a greenhouse gas is estimated to contribute to global warming. To describe how much global warming a given type and amount of greenhouse gas may cause, the carbon dioxide equivalent is used. The calculation of the carbon dioxide equivalent is a consistent methodology for comparing greenhouse gas emissions since it normalizes various greenhouse gas emissions to a consistent reference gas, carbon dioxide. For example, methane's warming potential of 21 indicates that methane has 21 times greater warming affect than carbon dioxide on a molecule per molecule basis. A carbon dioxide equivalent is the mass emissions of an individual greenhouse gas multiplied by its global warming potential. Greenhouse gases defined by Assembly Bill (AB) 32 (see the Climate Change Regulatory Environment section for a description) include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Other greenhouse gases include water vapor, ozone, and aerosols. Water vapor is an important

component of our climate system and is not regulated. Ozone and aerosols are short-lived greenhouse gases; global warming potentials for short-lived greenhouse gases are not defined by the IPCC. Aerosols can remain suspended in the atmosphere for about a week and can warm the atmosphere by absorbing heat and cool the atmosphere by reflecting light. Black carbon is a type of aerosol that can also cause warming from deposition on snow. Table IV.C-4 provides the air quality monitoring summary.

Table IV.C-4: City of Ontario Greenhouse Gas Inventory

Source Category	Ontario Greenhouse Gas Emissions ($MTCO_2e$ per year)	
	2008	**2035**
Transportation	3,603,215	10,605,230
Electricity	905,615	2,346,343
Area	207,533	473,356
Recycling and Waste	56,298	147,926
Agricultural	356,306	0
Total	**5,128,968**	**13,572,356**
Notes: $MTCO_2e$ = metric tons of carbon dioxide equivalents Source: City of Ontario, 2009.		

c) New Model Colony Conditions

The project site is located in the NMC, which is generally south of Riverside Drive. This area comprises the NMC area and is characterized by a mixture of residential neighborhoods focused around village centers of employment, retail, service, entertainment, cultural, and residential uses connected by a network of greenways and trails, open spaces, amenities, infrastructure, and the Grand Park, a linear open space amenity containing active and passive recreational features, gardens, water features, and cultural facilities.

d) Project Site Conditions

The site currently is characterized by agricultural land with residential homes, two dairy barns, garage, shed, swimming pool, and several agriculture-related structures. Specifically, one parcel on the west end of the project site (APN 0218-241-06), bordered by Edison Avenue to the north, Archibald Avenue to the west, Eucalyptus Avenue to the south, and other operating dairy farms to the east, is currently an active dairy farm with a large stock of cattle grazing pastures, feed lots, agricultural areas, manure spreading basins, and many smaller auxiliary features. A small farmhouse and several associated farm buildings are also present on portions of the project site. The parcels (APN 0218-241-19, 0218-241-20) on the east side of the site, bordered by Edison Avenue to the north, Eucalyptus Avenue and another

dairy farm to the south, Haven Avenue to the east, and other operating farms to the west include agricultural ranching and dairy farms. Surrounding land uses include agricultural and/or livestock ranching in all directions.

3. Analysis of Project Impacts

a) Methodology

The following air quality and greenhouse gas analysis was prepared to evaluate whether the estimated criteria air pollutant and greenhouse gas emissions generated from the Grand Park Specific Plan ("project") would cause significant impacts to air resources in the project area. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The methodology follows South Coast Air Quality Management District (SCAQMD) recommendations for quantification of emissions and evaluation of potential impacts to air resources.

The analysis of potential air quality impacts considers consistency of the project with adopted plans and policies that regulate air quality on the project site, as well as the compatibility of proposed uses with surrounding land uses. The determination of consistency with applicable air quality policies and rules and regulation is based upon a review of the previously identified planning documents that regulate land use or guide land use decisions pertaining to the project site. CEQA Guidelines §15125(d) requires that an EIR discuss inconsistencies with applicable plans that the decision-makers should address. Evaluations are made as to whether a project is inconsistent with such plans. Projects are considered consistent with General Plan provisions and general SCAG policies if they are compatible with the general intent of the plans and would not preclude the attainment of their primary goals.

The primary analysis tool used to estimate air emissions from the project was the SCAQMD California Emissions Estimator Model (CalEEMod) which was developed by the SCAQMD to assist in estimating air emissions from a variety of land uses. The CalEEMod model estimates emissions for construction and operational activities.

b) Significance Thresholds

1) Air Quality Thresholds

According to the CEQA Guidelines' Appendix G Environmental Checklist, to determine whether impacts to air quality are significant environmental effects, the following questions are analyzed and evaluated.

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:

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?

e) Create objectionable odors affecting a substantial number of people?

The Initial Study concluded that impacts related to creating objectionable odors were less than significant. Refer to Appendix A-2 for a discussion related to these thresholds.

CEQA allows for the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. The SCAQMD has established thresholds of significance for air quality for construction activities and project operation within both a regional and local context as discussed below.

Regional Significance Thresholds

The regional thresholds apply to all aspects of the project including construction and operation and are used to apply significance to a project's regional impacts. The mass emission-based regional thresholds were established because a project's emissions could potentially contribute the basin's regional emission burden and affect air quality many miles away from a project location. The SCAQMD's regional significance thresholds are shown below in Table IV.C-5.

Table IV.C-5: SCAQMD Regional Significance Thresholds

Mass Daily Thresholds[a]		
Pollutant	**Construction[b]**	**Operation[c]**
NOX	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
SOX	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Source SCAQMD 1993		

Localized Significance Thresholds

The SCAQMD developed localized significance thresholds (LSTs) for emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at a project site. LSTs represent the maximum emissions at a project site that are not expected to cause or contribute to an exceedance of the most stringent federal or state AAQS. LSTs are based on the ambient concentrations of that pollutant within the project SRA and at the distance to the nearest sensitive receptor. LST analysis for construction is applicable for all projects of five acres and less. Projects larger than five acres can determine the localized significance for construction and operations by performing dispersion modeling. To provide for a worst case screening assessment of the project's localized construction impacts, the project's construction emissions were compared for a daily construction area of 5 acres and a distance to the nearest sensitive receptor of 25 meters even though the project construction area is larger than 5 acres. In accordance with the SCAQMD's LST methodology, only onsite construction emissions are estimated (off-site mobile-source emissions are not included the LST analysis). The relevant construction localized significance thresholds are shown in Table IV.C-6.

Table IV.C-6: SCAQMD Localized Significance Thresholds

Pollutant	Mass Daily Emission Rate (pounds/day)[1]
NO_X	270
PM_{10}	16
$PM_{2.5}$	9
CO	2,193

Notes:
1 Mass emission rate localized significance threshold for Source Receptor Area 33, 5 acre daily construction area, and a distance to nearest sensitive receptor of 25 meters.
Source: SCAQMD 2008

CO Hot Spot Thresholds

Vehicular trips associated with the development of the proposed project could contribute to localized congestion at intersections and along roadway segments in the project vicinity resulting in potential local CO "hot spot" impacts. The primary mobile source pollutant of local concern is CO, which is a direct function of vehicle travel speeds and idling time and, thus, traffic flow conditions. CO transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions such as during periods of little air movement, CO concentrations proximate to a congested roadway or intersection may reach unhealthful levels affecting local sensitive receptors (residents, schoolchildren, etc). High CO concentrations are typically associated with roadways or intersections operating at unacceptable levels of service or with very high traffic volumes. In areas with high ambient

background CO concentrations or congested traffic, modeling is recommended to determine a project's effect on local CO levels.

Carbon monoxide (CO) "hot spot" thresholds ensure that emissions of CO associated with traffic impacts from a project in combination with CO emissions from existing and forecasted regional traffic do not exceed state or federal standards for CO at any traffic intersection impacted by the project. Project concentrations may be considered significant if a CO hot spot intersection analysis determines that project generated CO concentrations cause a localized violation of the following standards

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

SCAQMD Risk Significance Thresholds

The SCAQMD has also defined health risk significance threshold designed to be protective of exposures to toxic air contaminants. These thresholds are defined below.

- Maximum Incremental Cancer Risk: 10 in 1 million at the nearest sensitive receptor or offsite worker;
- Hazard Index (project increment) 1.0 or greater.

Cancer risk represents the probability (in terms of risk per million individuals) that an individual would contract cancer resulting from exposure to TACs continuously over a period of 70 years for sensitive receptors such as residences, schools, and hospitals. Thus, an individual located in an area with a cancer risk of one would experience a one chance in one million of contracting cancer over a 70-year period assuming that individual lives in that area continuously for the entire 70-year time period for a sensitive receptor. The thresholds apply to either the placement of a new sensitive receptor near an existing source of toxic air contaminant emissions or conversely, the siting of a new source of toxic air emissions near the locations of existing sensitive receptors.

2) Greenhouse Gas Thresholds

According to the CEQA Guidelines' Appendix G Environmental Checklist, to determine whether greenhouse emissions impacts are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

c) Analysis of Project Impacts - Air Quality

1) Consistency with Air Quality Management Plan

According to the 1993 SCAQMD Handbook, there are two key indicators of consistency with the air quality management plan (AQMP):

> Indicator 1: Whether the project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
>
> Indicator 2: A project would conflict with the AQMP if it would exceed the assumptions in the AQMP in 2010 or increments based on the year of project build-out and phase. The Handbook indicates that key assumptions to use in this analysis are population number and location and a regional housing needs assessment. The parcel-based land use and growth assumptions and inputs used in the Regional Transportation Model run by the Southern California Association of Governments that generated the mobile inventory used by the SCAQMD for AQMP are not available.

Considering the recommended criteria in the SCAQMD's 1993 Handbook, this analysis utilizes the following criteria to address this potential impact:

- Project's contribution to air quality violations (SCAQMD's first indicator)
- Assumptions in AQMP (SCAQMD's second indicator)

According to the SCAQMD, the project is consistent with the AQMP if the project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP (South Coast Air Quality Management District 1993, page 12-3).

As shown in Impact AIR-2, the project could exceed the SCAQMD's localized significance thresholds during construction and, therefore, contribute substantially to an existing or projected air quality violation.

If a project's emissions exceed the SCAQMD regional thresholds for NO_x, VOC, PM_{10}, or $PM_{2.5}$, it follows that the emissions could cumulatively contribute to an exceedance of a pollutant for which the basin is in nonattainment (ozone, nitrogen dioxide, PM_{10}, $PM_{2.5}$) at a monitoring station in the basin. The thresholds are criteria for determining environmental significance and are discussed in the SCAQMD's 1993 Handbook for Air Quality Analysis.[2] An exceedance of a nonattainment pollutant at a monitoring station would not be consistent with the goals of the AQMP - to achieve attainment of pollutants.

[2] The SCAQMD significance thresholds are at the following website: www.aqmd.gov/ceqa/handbook/signthres.pdf.

As discussed in Impact AIR-3, the project would exceed the regional emission significance thresholds during construction and operation. This means that project emissions could combine with emissions from other sources in the basin and could result in an ozone, nitrogen dioxide, PM_{10}, or $PM_{2.5}$ exceedance at a nearby monitoring station. The basin is in nonattainment for these pollutants; therefore, the project would not be consistent with the AQMP. The project does not meet this indicator.

Assumptions in AQMP

The preparation of an AQMP is based, in part, on the growth and population projections contained in the general plans prepared by the various cities within SCAG. The latest AQMP was adopted by the SCAQMD in 2012. Because The Ontario Plan was adopted by the City in 2010, The Ontario Plan and its growth and population projections are presumed to be incorporated into the 2012 AQMP. The project is one of several specific plans contained within The Ontario Plan for future development. The project site is currently designated in The Ontario Plan as Residential-Low Density, Residential-Medium Density, Public School, and Open Space-Parkland, which is consistent with the development of the proposed in the project. Therefore, the project is consistent with the future uses projected in The Ontario Plan. Since the project is consistent with the land use designations contained in the Ontario Plan, and The Ontario Plan has been accounted for in the development of the AQMD, the project meets this second indicator.

The project could impede attainment because its emissions exceed the SCAQMD localized and regional significance thresholds, resulting in potentially significant impacts. With the implementation of recommended Mitigation Measures AQ-1 through AQ-3 the project would not exceed SCAQMD's localized significance thresholds but would continue to exceed SCAQMD's regional thresholds. However, the project would be consistent with the policies, rules, and regulations in the AQMP.

2) Air Quality Standards Violation Potential

Two indicators are used to assess the significance of this impact:

- Indicator 1: the localized significance threshold assessment of the project's construction. and

- Indicator 2: the CO hot spot analysis to assess localized air quality impacts during operations.

The construction emissions from the project would exceed the SCAQMD's localized significance thresholds for $PM_{2.5}$ during 2018 due mainly to time periods when the construction activities of more than one development phase overlap (Phase 2 and Phase 3). Therefore, this would result in a significant local impact.

A carbon monoxide (CO) hot spot is a localized concentration of CO that is above the state or federal 1-hour or 8-hour CO ambient air standards. Localized high levels of CO are

associated with traffic congestion and idling or slow-moving vehicles. To provide a worst-case scenario, CO concentrations are estimated at project-impacted intersections, where the concentrations would be the greatest.

For this project analysis, it was not feasible nor necessary to conduct CO hotspot analyses on all the intersections at LOS E or worse assessed in the project traffic study. All affected intersections demonstrating a LOS of E or F prior to any traffic mitigation were first identified. Then, these intersections with the highest traffic volumes The top five intersections with the largest peak hour traffic volumes and a LOS E or F before traffic mitigation were identified for two scenarios based on traffic information presented in the project traffic impact study (Iteris 2012).

- Scenario 1: Existing year (2012) plus project; and
- Scenario 2: Horizon year (2030) plus project

Scenario 1 represents a worst-case situation wherein it is assumed that the entire project is build and operating in 2012 notwithstanding that the project consists of a multi-phase, multi-year development. Scenario 2 represents the project operation consistent with the 2030 future planning year contained in The Ontario Plan.

The traffic information contained in the traffic impact study indicates that under the existing plus project condition, all intersections would operate at acceptable levels of service during peak hours of traffic, that is, no intersection operates at a LOS of E or F. Therefore, no hot spot analysis was prepared for Scenario 1. For Scenario 2, only 2 intersections were found to have a LOS of E or F during peak hours. Therefore, these two intersections were analyzed for a CO hot spot.

For the CO hot spot analysis, the CO concentrations were estimated using the CALINE4 model using 2030 emission factors for Scenario 2. The estimated 1-hour and 8-hour average CO concentrations from project generated and cumulative traffic plus the background concentrations are below the state and federal standards. No CO hot spots are anticipated because of traffic-generated emissions by the project in combination with other anticipated development in the area. Therefore, the mobile emissions of CO from the project are not anticipated to contribute substantially to an existing or projected air quality violation of CO. Consequently, according to this criterion, air pollutant emissions during operation would result in a less than significant impact.

With the implementation of recommended Mitigation Measures AQ-1 through AQ-3 the project would not result in significant impacts to violating air quality standards.

3) Result in Cumulatively Considerable Net Increase in Criteria Pollutants

To result in a less than significant impact, the following criteria must be true:

1. Regional analysis: emissions of nonattainment pollutants must be below the regional significance thresholds

2. Summary of projections: the project must be consistent with current air quality attainment plans including control measures and regulations. This is an approach consistent with Section 15130(b) of the CEQA guidelines.

3. Cumulative health impacts: the project must result in less than significant cumulative health effects from the nonattainment pollutants.

Criterion 1: Regional Analysis

If an area is in nonattainment for a criteria pollutant, then the background concentration of that pollutant has historically exceeded the ambient air quality standard. It follows that if a project exceeds the regional threshold for that nonattainment pollutant, then it would result in a cumulatively considerable net increase of that pollutant and result in a significant cumulative impact.

The South Coast Air Basin is in nonattainment for PM_{10}, $PM_{2.5}$, nitrogen dioxide, and ozone. Therefore, if the project exceeds the regional thresholds for PM_{10}, or $PM_{2.5}$, then it contributes to a cumulatively considerable impact for those pollutants. If the project exceeds the regional threshold for NO_x or VOC, then it follows that the project would contribute to a cumulatively considerable impact for ozone. If the project exceeds the NOx threshold, it could contribute cumulatively to nitrogen dioxide concentrations. The project's regional emissions during both construction and operations are discussed below.

Regional Construction Emissions

The air quality study determined that SCAQMD regional emission thresholds would be exceeded for VOC and NOx in certain years when the construction of several construction phases would overlap. Therefore, without mitigation, the short-term construction emissions are considered to have a significant regional impact. The relevant construction regional air pollutant emissions are shown in Table IV.C-7.

Table IV.C-7: Construction Regional Air Pollutant Emissions

Year	Maximum Daily Emissions (pounds per day)				
	VOC	NO_X	CO	PM_{10}	$PM_{2.5}$
2014	7.9	50.4	57.8	10.9	7.0
2015	6.4	31.0	53.2	8.4	2.3
2016	**131.6**	30.2	51.2	8.4	2.3

Table IV.C 7 (cont.): Construction Regional Air Pollutant Emissions

Year	Maximum Daily Emissions (pounds per day)				
	VOC	NO_X	CO	PM_{10}	$PM_{2.5}$
2017	7.9	50.4	57.6	10.9	7.0
2018	22.3	**153.0**	124.5	18.1	10.6
2019	11.6	70.2	131.0	8.5	4.3
2020	**92.7**	71.9	137.6	12.8	5.8
2021	8.8	46.1	90.1	8.7	2.0
2022	15.4	85.9	112.6	14.1	4.1
2023	**105.2**	56.7	97.7	7.9	3.3
2024	2.1	12.1	22.0	0.5	0.5
2025	2.0	11.0	22.0	0.4	0.4
2026	2.5	15.6	21.9	1.2	1.0
2027	0.2	1.1	1.8	0.1	0.1
Significance Threshold	75	100	550	150	55
Significant Impact?	Yes	Yes	No	No	No

Notes:
- Exceedances of the threshold are shown in **bold** and shaded font.
- The emissions account for the overlapping of construction phases in particular years
- Emissions assume compliance with SCAQMD Rule 403.

VOC = volatile organic compounds NO_X = nitrogen oxides
CO = carbon monoxide
PM_{10} and $PM_{2.5}$ = particulate matter
Source of emissions: Appendix A: CalEEMod Output and spreadsheet summaries prepared by Michael Brandman Associates.
Source of significance thresholds: South Coast Air Quality Management District 2011a.

Operational Regional Emissions: Horizon Year - 2030

The air quality study calculated operational emissions from emission sources generated both onsite and offsite as derived from CalEEMod for the summer season. The vehicle emissions represent emissions from travel to and from the project within the South Coast Air Basin. The project's emissions of VOC, NOx, and PM_{10} exceed the SCAQMD's regional thresholds and are considered significant. Emissions during the winter are also significant. Emissions of SOx are less than significant in both the summer and winter seasons.

The operational regional air pollutant emissions are shown in Table IV.C-8.

Table IV.C-8: Operational Regional Air Pollutant Emissions (Horizon Year 2030)

Year	Maximum Daily Emissions (pounds per day)				
	VOC	NO_x	CO	PM_{10}	$PM_{2.5}$
2030	**98.5**	**129.6**	482.5	**182.5**	12.8
Significance Threshold	55	55	550	150	55
Significant Impact?	Yes	Yes	No	Yes	No

Notes:
- Exceedances of the threshold are shown in **bold** shaded font.
VOC = volatile organic compounds NO_x = nitrogen oxides CO = carbon monoxide
PM_{10} and $PM_{2.5}$ = particulate matter
Source of emissions: Appendix A: CalEEMod Output and spreadsheet summaries prepared by Michael Brandman Associates.
Source of significance thresholds: South Coast Air Quality Management District 2011a.

Criterion 3: Plan Approach

Section 15130(b) of the CEQA Guidelines states the following:

> The following elements are necessary to an adequate discussion of significant cumulative impacts: 1) Either: (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.

In accordance with CEQA Guidelines 15130(b), this analysis of cumulative impacts is based on a summary of projections. This analysis is based on the 2003 and 2007 AQMPs. The South Coast Air Basin is in nonattainment for ozone, particulate matter (PM_{10} and $PM_{2.5}$), and nitrogen dioxide, which means that concentrations of those pollutants currently exceed the ambient air quality standards for those pollutants. When concentrations of ozone, PM_{10}, $PM_{2.5}$, and nitrogen dioxide exceed the ambient air quality standard, then those sensitive to air pollution (i.e., children, elderly, sick) could experience health effects such as decrease of pulmonary function and localized lung edema in humans and animals, increased mortality risk, and risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans.

Under the CEQA Guidelines identified above, cumulative impacts may be analyzed using other plans that evaluate relevant cumulative effects. The AQMPs describe and evaluate the future projected emissions sources in the South Coast Air Basin and sets forth a strategy to

meet both state and federal Clean Air Act planning requirements and federal ambient air quality standards. Therefore, the AQMPs are relevant plans for a CEQA cumulative impacts analysis. The 2003 AQMP updates the attainment demonstration for the federal standards for ozone and PM_{10}; replaces the 1997 attainment demonstration for the federal CO standard and provides a basis for a maintenance plan for CO for the future; and updates the maintenance plan for the federal nitrogen dioxide standard that the South Coast Air Basin has met since 1992. The 2007 AQMP focuses on ozone and $PM_{2.5}$. The AQMP also incorporates significant new scientific data, emission inventories, ambient measurements, control strategies, and air quality modeling.

The geographic scope for cumulative criteria pollution from air quality impacts is the South Coast Air Basin, because that is the area in which the air pollutants generated by the sources within the basin circulate and disperse. The SCAQMD is required to prepare and maintain an AQMP and a State Implementation Plan to document the strategies and measures to be undertaken to reach attainment of ambient air quality standards. While the SCAQMD does not have direct authority over land use decisions, it is recognized that changes in land use and circulation planning are necessary to maintain clean air. The SCAQMD evaluated the entire Basin when it developed the AQMP.

In accordance with CEQA Guidelines section 15064, subdivision (h)(3), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously approved plan or mitigation program. As identified in Impact AIR-1, the project complies with the control measures in the AQMP and all of the SCAQMD's applicable rules and regulations. Because the project exceeds the SCAQMD's CEQA significance threshold prior to mitigation, the analysis contained in Impact AIR-1 demonstrates that the project is not consistent with the most recent AQMP and State Implementation Plan without mitigation. Therefore, the project presents a significant impact according to this criterion.

Criterion 4: Cumulative Health Impacts

The Basin is in nonattainment for ozone, nitrogen dioxide, PM_{10}, and $PM_{2.5}$, which means that the background levels of those pollutants are at times higher than the ambient air quality standards. The air quality standards were set to protect public health, including the health of sensitive individuals (such as the elderly, children, and the sick). Therefore, when the concentration of those pollutants exceeds the standard, it is likely that some sensitive individuals in the population would experience health effects. However, the health effects are a factor of the dose-response curve. Concentration of the pollutant in the air (dose), the length of time exposed, and the response of the individual are factors involved in the severity and nature of health impacts. If a significant health impact results from project emissions, it does not mean that 100 percent of the population would experience health effects.

The regional analysis indicates that without mitigation, the project would exceed the SCAQMD regional significance thresholds for VOC and NO_x (ozone precursors). Because ozone is a secondary pollutant (it is not emitted directly but formed by chemical reactions in

the air), it can be formed miles downwind of the project site. Project emissions of VOC and NO_x may contribute to the background concentration of ozone and cumulatively cause health effects. Impacts may include the following: irrigation to respiratory system; reduce lung function; breathing pattern changes; reduction of breathing capacity; inflame and damage cells that line the lungs; make lungs more susceptible to infection; aggravate asthma; aggravate other chronic lung diseases; cause permanent lung damage; some immunological changes; increased mortality risk; vegetation and property damage. Children who live in high ozone communities and who participate in multiple sports have been observed to have a higher asthma risk. This is a significant cumulative health impact associated with ground-level ozone concentrations.

Additionally, the project could result in a significance cumulative contribution to PM_{10}. Sensitive individuals may experience health impacts when concentrations of those pollutants exceed the ambient air quality standards. Health impacts from particulate matter may include the following:

- Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravate existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias.

- Long-term exposure: reduced lung function; chronic bronchitis; death.

The project could result in a significant impact to nitrogen dioxide. The potential effects from nitrogen dioxide may include the following:

- Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups;
- Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and/or
- Contribution to atmospheric discoloration.

With the implementation of recommended mitigation measures AQ-1 through AQ-3, impacts would remain significant and unavoidable.

4) Expose Sensitive Receptors to Substantial Pollutant Concentrations

As identified under the air quality violation potential analysis above, the localized impact analysis demonstrated that the project would exceed the localized thresholds for $PM_{2.5}$ during the construction year 2018. Therefore, the project would expose sensitive receptors to substantial pollutant concentrations of $PM_{2.5}$.

Health effects from particulate matter can include the following: (a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in

pulmonary function growth in children; and/or (c) Increased risk of premature death from heart or lung diseases in the elderly. Daily fluctuations in $PM_{2.5}$ levels have been related to hospital admissions for acute respiratory conditions, school absences, and increased medication use in children and adults with asthma.

A CO hot spot analysis is the appropriate tool to determine if project emissions of CO during operation would exceed ambient air quality standards. The main source of air pollutant emissions during operation are from offsite motor vehicles traveling on the roads surrounding the project. The CO hot spot analysis demonstrated that emissions of CO during operation would not result in an exceedance of the most stringent ambient air quality standards for CO. The standards are set to protect the health of sensitive individuals. If the standards are not exceeded, then the sensitive individuals would not be significantly impacted. As shown under the air quality violation potential analysis above, impacts are less than significant. Therefore, according to this criterion, air pollutant emissions during operation would result in a less than significant impact.

The project would exceed the SCAQMD's localized construction significance threshold for $PM_{2.5}$ during construction but with the recommended mitigation measures would result in less than significant impacts. The project would not cause a localized CO hot spot during operations nor expose residents or students to toxic air contaminants and impacts would be less than significant.

With the implementation of recommended mitigation measures AQ-1 through AQ-3, impacts would be reduced below the level of significance.

d) Analysis of Project Impacts - Greenhouse Gas Emissions

1) Greenhouse Gas Emissions

A variety of agencies have developed greenhouse gas emission thresholds and/or have made recommendations for how to identify a threshold. However, the thresholds for projects in the jurisdiction of the SCAQMD remain in flux. The California Air Pollution Control Officers Association explored a variety of threshold approaches, but did not recommend one approach (2008). The ARB recommended approaches for setting interim significance thresholds (California Air Resources Board 2008b), in which a draft industrial project threshold suggests that non-transportation related emissions under 7,000 $MTCO_2e$ per year would be less than significant; however, the ARB has not approved those thresholds and has not published anything since then. The Bay Area Air Quality Management District and the San Joaquin Valley Air Pollution Control District have both developed greenhouse gas thresholds. However, those thresholds are not applicable to the project since the project is under the jurisdiction of the SCAQMD.

The SCAQMD is in the process of preparing recommended significance thresholds for greenhouse gases for local lead agency consideration ("SCAQMD draft local agency threshold"); however, the SCAQMD Board has not approved the thresholds as of the date of

the NOP (SCAQMD 2010). The current draft thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.

- Tier 2 consists of determining whether the project is consistent with a greenhouse gas reduction plan. If a project is consistent with a qualifying local greenhouse gas reduction plan, it does not have significant greenhouse gas emissions.

- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to a project's operational emissions. If a project's emissions are under one of the following screening thresholds, then the project is less than significant:

  - All land use types: 3,000 $MTCO_2e$ per year

  - Based on land use type: residential: 3,500 $MTCO_2e$ per year; commercial: 1,400 $MTCO_2e$ per year; or mixed use: 3,000 $MTCO_2e$ per year

- Tier 4 has the following options:

  - Option 1: Reduce emissions from business as usual by a certain percentage; this percentage is currently undefined

  - Option 2: Early implementation of applicable AB 32 Scoping Plan measures

  - Option 3, 2020 target for service populations (SP), which includes residents and employees: 4.8 $MTCO_2e$/SP/year for projects and 6.6 $MTCO_2e$/SP/year for plans;

  - Option 3, 2035 target: 3.0 $MTCO_2e$/SP/year for projects and 4.1 $MTCO_2e$/SP/year for plans

- Tier 5 involves mitigation offsets to achieve target significance threshold.

To determine whether the project is significant, this project utilizes the SCAQMD draft local agency tiered threshold. The threshold is as follows:

- Tier 1: The project is not exempt under CEQA; go to Tier 2.
- Tier 2: There is no greenhouse gas reduction plan applicable to the project; go to Tier 3.
- Tier 3: project greenhouse gas emissions compared with the threshold: 3,000 $MTCO_2e$ per year (see analysis below).

- Tier 4, Option 1: Reduce greenhouse gas emissions from business as usual[3] by 28.4 percent. The California 2020 emissions target is 427 $MMTCO_2e$ and the 2020 baseline (without any AB 32 related regulations) is 596 $MMTCO_2e$ (CARB 2008c). Therefore, a 28.4 percent reduction is required to reduce emissions to the target. Note that the most recent forecast of 2020 emissions is 506.8 $MMTCO_2e$, which includes reductions from regulations such as Pavley I and the Renewable Portfolio Standard (CARB 2010a).
- Tier 4, Option 3, 2035 Target: 4.8 $MTCO_2e$/SP/year (see analysis below).

Section 15064.4(b) of the CEQA Guideline amendments for greenhouse gas emissions state that a lead agency may take into account the following three considerations in assessing the significance of impacts from greenhouse gas emissions.

Consideration #1: The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.

Consideration #2: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

Consideration #3: The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

This analysis is restricted to greenhouse gases identified by AB 32, which include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The project would generate a variety of greenhouse gases during construction and operation, including several defined by AB 32 such as carbon dioxide, methane, and nitrous oxide.

The project may also emit greenhouse gases that are not defined by AB 32. For example, the project may generate aerosols. Aerosols are short-lived particles, as they remain in the atmosphere for about one week. Black carbon is a component of aerosol, which is emitted from diesel fueled construction equipment and diesel vehicles that would access the project site. As discussed in Section 3.2 of this report, studies have indicated that black carbon has a high global warming potential; however, the Intergovernmental Panel on Climate Change states that it has a low level of scientific certainty (Intergovernmental Panel on Climate Change 2007a).

[3] Business as usual for purposes of the greenhouse gas significance threshold is defined as pre-AB 32.

Water vapor could be emitted from evaporated water used for landscaping, but this is not a significant impact because water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks rather than emissions from project-related activities. The project would emit nitrogen oxides and volatile organic compounds, which are ozone precursors. Ozone is a greenhouse gas; however, unlike the other greenhouse gases, ozone in the troposphere is relatively short-lived and can be reduced in the troposphere on a daily basis. Stratospheric ozone can be reduced through reactions with other pollutants.

Certain greenhouse gases defined by AB 32 would not be emitted by the project. Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications, none of which would be used by the project. Therefore, it is not anticipated that the project would emit perfluorocarbons or sulfur hexafluoride.

An upstream emission source (also known as life cycle emissions) refers to emissions that were generated during the manufacture of products to be used for construction of the project. Upstream emission sources for the project include but are not limited to emissions from the manufacture of cement, emissions from the manufacture of steel, and/or emissions from the transportation of building materials to the seller. The upstream emissions were not estimated because they are not within the control of the project and to do so would be speculative at this time. Additionally, the California Air Pollution Control Officers Association White Paper on CEQA and Climate Change supports this conclusion by stating, "The full life-cycle of GHG [greenhouse gas] emissions from construction activities is not accounted for . . . and the information needed to characterize [life-cycle emissions] would be speculative at the CEQA analysis level" (California Air Pollution Control Officers Association 2008). Additionally, the Office of Planning and Research removed mention of life cycle costs from Appendix F of the CEQA Guidelines in 2009 (OPR 2009). Therefore, pursuant to CEQA Guidelines Sections 15144 and 15145, upstream /life cycle emissions are speculative and no further discussion is necessary.

Construction Emissions

The project would emit greenhouse gases from upstream emission sources and direct sources (combustion of fuels from worker vehicles and construction equipment). For assumptions used in estimating these emissions, please refer to Section 4.2 of this report. Greenhouse gas emissions from project construction equipment and worker vehicles in each phase and year are shown in Table IV.C-9.

Table IV.C-9: Construction Greenhouse Gas Emissions

Year	Emissions ($MTCO_2e$)					
	Phase 1	**Phase 2**	**Phase 3**	**Phase 4**	**Phase 5**	**Total**
2014	1,173					1,173
2015	1,169					1,169
2016	343					343
2017	154	937				1,091
2018		746	1,961			2,707
2019		744	1,281			2,025
2020		299	1,284	1,060		2,643
2021			1,277	960		2,237
2022			1,198	951	917	3,066
2023			131	361	476	968
2024					480	480
2025					478	478
2026					344	344
2027					2	2
Total	**2,839**	**2,726**	**7,132**	**3,332**	**2,697**	**18,726**
Averaged over 30 years						**624.2**

Notes:
$MTCO_2e$ = metric tons of carbon dioxide equivalents.
Source of year by year emissions: CalEEMod unmitigated output and summary prepared by Michael Brandman Associates (Appendix A)

The project may also generate construction waste, which in turn, could emit greenhouse gases. These emissions are not estimated because it is unknown how much construction waste the project would generate. The California Green Building Standards require that the project divert at least 50 percent of construction waste.

Operational Emissions

Operational or long-term emissions occur over the life of the project. The operational emissions for the project at an assumed operational horizon year of 2030 are shown in Table IV.C-10. For the assumptions and descriptions of the emission sources, please refer to Section 4.3. As shown in the table, the emissions are over the SCAQMD's Tier 3 significance threshold of 3,000 $MTCO_2e$ per year for a mixed land use development.

Table IV.C-10: Project Operational Greenhouse Gases at Horizon Year 2030 - Source

Source	Unmitigated Emissions ($MTCO_2e$/year)
Area	1,002
Energy	5,729
Mobile	18,374
Waste	802
Water	1,260
Construction (30-year annual average)	624
Total	**27,779**
Significance Threshold	**3,000**
Significant Impact?	**Yes**

Notes:
$MTCO_2e$ = metric tons of carbon dioxide equivalents.
Source of construction emissions: Table IV.C-9, averaged over 30 years.
Source of operational emissions: CalEEMod project operational output (Refer Section 4.3 for assumptions)

Because the Tier 3 threshold is exceeded, further analysis is performed using the Tier 4 2035 Target of 6.6 $MTCO_2e$/SP/year for a general/specific plan. Service population is taken to be the sum of residents (from CalEEMod land use default values) and an estimate of the school workers (teachers and staff) in the project area. This analysis uses the 2030 horizon year, providing a more conservative estimate of GHG emissions compared to year 2035, as vehicle emissions are projected to be reduced with newer technologies. These results are presented in Table IV.C-11. As seen in the table, the impacts are less than significant based on this criterion.

Table IV.C-11: Project Operational Greenhouse Gases at Horizon Year 2030 - Land Use

Land Use	Service Population
Elementary School	50
High School	125
Residential - PA 2, 4, 5, and 6	1,831
Residential - PA 1, 3, 7, and 8	3,195
Total SP	**5,201**

Table IV.C 11 (cont.): Project Operational Greenhouse Gases at Horizon Year 2030 - Land Use

Land Use	Service Population
Total Annual Emissions ($MTCO_2e$/year)	**27,779**
Total Annual Emissions per SP ($MTCO_2e$/SP/year)	**5.3**
Significance Plan Threshold ($MTCO_2e$/SP/year)	**6.6**
Significant Impact?	**No**
Notes: $MTCO_2e$ = metric tons of carbon dioxide equivalents. Source of emissions: Table IV.C-10. Source of population: CalEEMod project operational output (Refer Section 4.3 for assumptions)	

2) Conflict with Greenhouse Gas Reduction Plan

This impact assesses whether the project would conflict with a variety of plans, policies, or regulations, as discussed below.

The Ontario Plan

The Ontario Plan was adopted in 2010, and contains policies and goals related to air quality (see Section 3.4, Regulatory Environment). The following consists of an analysis of project consistency with the applicable greenhouse gas policies in The Ontario Plan. A number of mitigation measures have been included in the EIR for TOP, to reduce Citywide GHG emissions. A number of these mitigation measures are City-sponsored policies, which would not be applicable to the proposed future residential development on the site. Future residential developments within the project would comply with the City-sponsored policies, plans, and measures when such policies, plans, and measures are adopted at the time of site development. Consistency of the proposed project with TOP would in turn, mean consistency with these mitigation measures.

ER4-1: *Land Use*. We reduce GHG and other local pollutant emissions through compact, mixed use, and transit-oriented development and development that improves the regional jobs-housing balance.

Project consistency: The project proposes mixed residential, recreational, and educational uses.

Refer to Mitigation Measure AQ-4

ER4-3: *Greenhouse Gases (GHG) Emissions Reductions.* We will reduce GHG emissions in accordance with regional, state, and federal regulations.

Project consistency: The project would comply with regulations related to reducing GHG emissions (see Section 3.4 -Regulatory Environment).

Refer to Mitigation Measure AQ-4

ER4-5: *Transportation.* We promote mass transit and non-motorized mobility options (e.g. walking, biking) to reduce air pollutant emissions.

Project consistency: The project promotes non-motorized mobility options by providing a mixed use development with residential, recreational, and educational land uses.

Refer to Mitigation Measure AQ-5

ER4-8: *Tree Planting.* We protect healthy trees within the City and plant new trees to increase carbon sequestration and help the regional/local air quality.

Project consistency: The project proposes a 130.5 acre park, as well as smaller pocket parks within the residential planning areas.

Refer to Mitigation Measure AQ-6

Southern California Association of Governments, Regional Transportation Plan, Sustainable Communities Strategy 2012- 2035.

The Sustainable Communities Strategy (SCS) within the Regional Transportation Plan demonstrates the region's ability to attain and exceed the greenhouse gas emission reduction targets set by the CARB. The SCS outlines the plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. The regional vision of the SCS maximizes current voluntary local efforts that support the goals of SB 375, as evidenced by several Compass Blueprint Demonstration Projects and various county transportation improvements. The SCS focuses the majority of new housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development. This overall land use development pattern supports and complements the proposed transportation network that emphasizes system preservation, active transportation, and transportation demand management measures.

The RTP/SCS exceeds its greenhouse gas emission-reduction targets set by CARB by achieving a 9 percent reduction by 2020 and 16 percent reduction by 2035 compared to the 2005 level on a per capita basis.

Strategies in the RTP that include the Local Jurisdiction as a responsible party, that could be applicable to the project, and that pertain to air quality or greenhouse gases are shown in Table IV.C-12. Many of the strategies are similar to the project's existing design features.

Table IV.C-12: Select Regional Transportation Plan Strategies

Strategy	Responsible Party
Encourage the use of range-limited battery electric and other alternative fueled vehicles through policies and programs, such as, but not limited to, neighborhood oriented development, complete streets, and Electric (and other alternative fuel) Vehicle Supply Equipment in public parking lots.	Local Jurisdictions, COGs, SCAG, CTCs
Support projects, programs, and policies that support active and healthy community environments that encourage safe walking, bicycling, and physical activity by children, including, but not limited to development of complete streets, school siting policies, joint use agreements, and bicycle and pedestrian safety education.	Local Jurisdictions, SCAG
Engage in a strategic planning process to determine the critical components and implementation steps for identifying and addressing open space resources, including increasing and preserving park space, specifically in park-poor communities.	Local Jurisdictions, SCAG
Develop first-mile/last-mile strategies on a local level to provide an incentive for making trips by transit, bicycling, walking, or neighborhood electric vehicle or other zero emission vehicle options.	CTCs, Local Jurisdictions
Encourage transit fare discounts and local vendor product and service discounts for residents and employees of transit oriented development / high quality transit areas or for a jurisdiction's local residents in general who have fare media.	Local Jurisdictions
Encourage the implementation of a Complete Streets policy that meets the needs of all users of the streets, roads and highways - including bicyclists, children, persons with disabilities, motorists, neighborhood electric vehicle (NEVs) users, movers of commercial goods, pedestrians, users of public transportation and seniors - for safe and convenient travel in a manner that is suitable to the suburban and urban contexts within the region.	Local Jurisdictions, COGs, SCAG, CTCs
Support work-based programs that encourage emission reduction strategies and incentivize active transportation commuting or ride-share modes.	SCAG, Local Jurisdictions
Develop infrastructure plans and educational programs to promote active transportation options and other alternative fueled vehicles, such as neighborhood electric vehicles, and consider collaboration with local public health departments, walking/biking coalitions, and/or Safe Routes to School initiatives, which may already have components of such educational programs in place.	Local Jurisdictions
Encourage the development of telecommuting programs by employers through review and revision of policies that may discourage alternative work options.	Local Jurisdictions, CTCs

Table IV.C-12 (cont.): Select Regional Transportation Plan Strategies

Strategy	Responsible Party
Emphasize active transportation and alternative fueled vehicle projects as part of complying with the Complete Streets Act (AB 1358).	State, SCAG, Local Jurisdictions
Notes: SCAG = Southern California Association of Governments CTCs = county transportation commissions COGs = subregional councils of governments Source: Southern California Association of Governments 2012.	

The Scoping Plan contains a variety of strategies to reduce the State's emissions. Therefore, the project does not conflict with the Scoping Plan and impacts are less than significant.

4. Cumulative Impacts

Refer to the discussion above related to the cumulatively considerable net increase in criteria pollutants. In addition, refer to the discussion above related to greenhouse gas emissions.

5. Mitigation Measures

In order to ensure that impact levels related to Air Quality remain less than significant during the construction phase, the following mitigation measures are recommended:

AQ-1 During project construction, the following measures shall be implemented to the satisfaction of the City of Ontario.

a) Prior to the year 2017, off-road diesel-powered construction equipment greater than 50 horsepower shall meet or exceed United States Environmental Protection Agency (EPA) Tier 3 off-road emissions standards.

b) In the year 2017 and after, off-road diesel-powered construction equipment greater than 50 horsepower shall implement one of the following: meet EPA Tier 4 emissions standards, meet EPA Tier 4 Interim emissions standards, or meet EPA Tier 3 standards with California Air Resources Board verified Level 3 filters to reduce 85 percent diesel particulate matter. If a good faith effort to rent equipment within 200 miles of the project has been conducted, the results of which are submitted to the City, but has been unsuccessful in obtaining the necessary construction equipment, then Tier 3 equipment can be used.

f) Onsite electrical hook ups to power grid shall be provided for electric construction tools including saws, drills and compressors, where feasible, to reduce the need for diesel powered electric generators.
g) The project shall demonstrate compliance with South Coast Air Quality Management District Rule 403 concerning fugitive dust and provide appropriate documentation to the City of Ontario.

AQ-2 In order to minimize traffic congestion and delays that increase idling and acceleration emissions, prior to issuance of any grading permits the developer shall:

a) Specify to the satisfaction of the City Building Department the location of equipment staging areas, stockpiling/storage areas and construction parking areas; and,
b) Specify to the satisfaction of the City Engineering Department the proposed construction traffic routes utilizing nearest truck routes in conformance with the California Vehicle Code and Ontario Municipal Code.

If required by the City, the developer shall provide a traffic control plan that incorporates the above location and route information, as well as any safe detours around the construction site and any temporary traffic control (e.g. flag person) during construction-related truck hauling activities.

AQ-3 The following measures shall be applied to all projects during construction of the project:

a) Use paints with a volatile organic compound (VOC) content 10 grams per Liter or lower for both interior surfaces.
b) Recycle leftover paint. Take any left over paint to a household hazardous waste center; do not mix leftover water-based and oil-based.
c) Keep lids closed on all paint containers when not in use to prevent VOC emissions and excessive odors.
d) For water-based paints, clean up with water only. Whenever possible, do not rinse the clean up water down the drain or pour it directly into the ground or the storm drain. Set aside the can of clean up water and take it to the hazardous waste center (www.cleanup.org).
e) Use compliant low VOC cleaning solvents to clean paint application equipment.
f) Keep all paint and solvent laden rags in sealed containers to prevent VOC emissions.

AQ-4 During operation, the following land use and building mitigation measures shall be implemented to the satisfaction of the City of Ontario that would assist in reducing both criteria pollutant and greenhouse gas emissions.

a) Require that new development projects prepare a demolition plan to reduce waste by recycling and/or salvaging nonhazardous construction and demolition debris.
b) Require that new developments design buildings to be energy efficient by siting buildings to take advantage of shade, prevailing winds, landscaping, and sun screening to reduce energy required for cooling
c) Mitigate climate change by decreasing heat gain from pavement and other hard surfaces associated with infrastructure.
d) Require the use of Energy Star appliances and fixtures in discretionary new development.
e) Encourage the performance of energy audits for residential and commercial buildings prior to completion of sale, and that audit results and information about opportunities for energy efficiency improvements be presented to the buyer
f) Require the installation of outdoor electrical outlets on buildings to support the use, where practical, of electric lawn and garden equipment, and other tools that would otherwise be run with small gas engines or portable generators.
g) Implement enhanced programs to divert solid waste from landfill operations
h) Create and preserve distinct, identifiable neighborhoods whose characteristics support pedestrian travel, especially within, but not limited to, mixed-use and transit oriented development areas
i) Provide continuous sidewalks with shade trees and landscape strips to separate pedestrians from traffic.

AQ-5 During operation, the following transportation mitigation measures shall be implemented to the satisfaction of the City of Ontario that would assist in reducing both criteria pollutant and greenhouse gas emissions.

a) Provide safe and convenient access for pedestrians and bicyclists to, across, and along major transit priority streets. Encouraging new construction to include vehicle access to properly wired outdoor receptacles to accommodate ZEV and/or plug in electric hybrids (PHEV).
b) Reduce required road width standards wherever feasible to calm traffic and encourage alternative modes of transportation.
c) Add bicycle facilities to city streets and public spaces, where feasible.
d) Ensure new development is designed to make public transit a viable choice for residents

e) Ensure transit stops and bus lanes are safe, convenient, clean, sheltered, well-lit, and efficient.
f) Provide access for pedestrians and bicyclist to public transportation through construction of dedicated paths, where feasible
g) Require all new traffic lights installed be energy efficient traffic signals.

AQ-6 During operation, the following landscape and water conservation mitigation measures shall be implemented to the satisfaction of the City of Ontario that would assist in reducing both criteria pollutant and greenhouse gas emissions.

a) Reduce per capita water consumption consistent with state law by 2020.
b) Promote the use of recycled water, including grey water systems for residential irrigation.
c) Implement building design guidelines and criteria developed by the City to promote water efficient building design, including minimizing the amount of non-roof impervious surfaces around the building(s).
d) Ensure water-efficient infrastructure and technology are used in new construction, including low-flow toilets and shower heads, moisture-sensing irrigation, and other such advances.
e) Require the use of reclaimed water for landscape irrigation in all new development and on public property where such connections are within the service boundaries of the City's reclaimed water system.
f) Require all new landscaping irrigation systems installed within the project to be automated, high-efficient irrigation systems to reduce water use and require use of bubbler irrigation; low-angle, low-flow spray heads; or moisture sensors.
g) Requiring planting drought-tolerant and native species, and covering exposed dirt with moisture-retaining mulch or other materials such as decomposed granite.
h) Promote planting of deciduous or evergreen low-VOC producing shade trees emphasizing native trees and vegetation.

6. Level of Significance After Mitigation

With the implementation of recommended Mitigation Measures AQ-1 through AQ-3, impacts would be less than significant during construction. Impacts related to a cumulatively considerable net increase in criteria pollutants after implementation of Mitigation Measures AQ-4 through AQ-6 would remain significant and unavoidable. Impacts associated with greenhouse gas emissions are less than significant.