URBAN CROSSROADS

41 Corporate Park, Suite 300
Irvine, CA 92606

Prepared by:

Haseeb Qureshi, MES
Aric Evatt

Prepared for:

Mr. Ross Geller
APPLIED PLANNING, INC.
5817 Pine Avenue, Suite A
Chino Hills, CA 91709

TUSCANA VILLAGE SPECIFIC PLAN
GREENHOUSE GAS ANALYSIS
CITY OF ONTARIO, CALIFORNIA

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TABLE OF CONTENTS

Section Page

LIST OF APPENDICES

LIST OF EXHIBITS

Exhibit Page

LIST OF TABLES

Table Page

1.0 EXECUTIVE SUMMARY

1.1 Introduction

The purpose of this air quality impact analysis is to evaluate the development of the Tuscana Village Specific Plan (project) from a greenhouse gas standpoint.

1.2 Project Description

The project will provide for the development on the 44-acre site located in the City of Ontario in San Bernardino County, California. Specifically, the project will be bounded by State Route 60 (SR-60) on the north, Milliken (also known as Hamner) Avenue on the east and Riverside Drive to the south. The location of the Project is provided on Exhibit 1-A.

The project area is comprised of properties which are currently owned by three different entities:

- Katelaris – approximately 20 acres in the northwest quadrant of the intersection of Milliken (Hamner) Avenue – Riverside Drive, of which 8 acres are proposed to be sold to Pelican Homes for residential development;
- Galleano – approximately 16 acres south of SR-60; and
- Riboli – approximately 12 acres west of Milliken (Hamner) Avenue, south of Hartford Street.

The site plans for the parcels to be developed by Pelican Homes and Phase I (interim land uses) of the Katelaris property are shown on Exhibit 1-B. It is assumed that the Pelican Homes and initial Katelaris development will be completed in 2012. A concept plan for the redevelopment of the interim uses on the Katelaris property for buildout analysis is provided in Appendix X, though there is no specific date for this further development. No detailed site plans are provided for the Galleano and Riboli parcels.

The project proposes the construction of a pedestrian-oriented urban village mixed-use development which would provide commercial, business park (office) and residential land uses on these four properties. At buildout, the project would allow for development of just less than 948,000 square feet of commercial retail and office land uses and up to 200 residential units (apartments).

The project will take access from Milliken (Hamner) Avenue and Riverside Drive and is proposed to be developed in two phases of development, as follows.

Phase I (Opening Year):

Phase I will include the development of 200 residential units, along with 9,000 square feet of general retail; 2,250 square feet of fast-food restaurants; 11,026 square feet of restauranttype uses (including an event hall and brewery); 2,000 square feet of office; and 110,380 square feet of *interim* uses including a 5,000-square foot nursery sales area as well as a seasonal sales/farmer's market area, a multi-function courtyard, and an educational gardens/ growing/petting zoo area on the Katelaris property, with a completion date in 2012 (Opening Year (2012)).

Project (Specific Plan) Buildout:

Specific Plan buildout, which has an unspecified completion date, is proposed to include:

- The redevelopment of the Katelaris property's interim land uses to allow for the following *additional* land uses: 18,000 square feet of retail; 67,000 square feet of office; and 3,500 square feet of fast food restaurant uses;
- Up to a combination of 90,101 square feet of general retail and 450,506 square feet of office land uses on the Galleano property; and
- Up to a combination of 48,127 square feet of general retail and 242,821 square feet of office land uses on the Riboli property.

Table 1-1 provides a summary of the land uses assumed for the purposes of this analysis, based on the site plans provided by the Project applicant and the Tuscana Village Specific Plan prepared by Applied Planning, Inc., April 2011.

TABLE 1-1
TUSCANA VILLAGE SPECIFIC PLAN LAND USES [1]

Parcel	Land Use	Size	Units
PHASE I			
Pelican Homes Parcel	Apartments	200	dus [2]
Katelaris Parcel (Interim Plan)	Office	2,000	s.f. [3]
	Retail	9,000	s.f.
	Fast-Food with Drive-Thru	2,250	s.f.
	Restaurant (Including Event and Brewery)	11,026	s.f.
	Nursery	5,000	s.f.
	Growing Area/Seasonal Sales/Multi-Function Courtyard/Petting Zoo (4)	8,901	s.f.
	Car Wash (gas w/convenience store and car wash)	12	fueling positions [5]
BUILDOUT (Total)			
Pelican Homes Parcel	Apartments	200	dus [2]
Katelaris Parcel (Interim Plan)	Office	69,000	s.f. [3]
	Retail	27,000	s.f.
	Fast-Food with Drive-Thru	5,750	s.f.
	Restaurant (Including Event and Brewery)	11,026	s.f.
	Car Wash (gas w/convenience store and car wash)	12	fueling positions [5]
Galleano Parcel	Business Park (Office)	45,506	s.f.
	Retail	90,101	s.f.
Riboli Parcel	Business Park (Office)	242,821	s.f.
	Retail	48,127	s.f.

(1)Source: *Tuscana Village Specific Plan Project,* April 2011, Applied Planning, Inc.
(2) dus – dwelling units
(3) s.f. – square feet
(4) Interim land use – to be redeveloped after Opening Year
(5) Fueling positions assumed for trip generation; up to 3,500 square feet for convenience store building area

1.3 Existing Regulations and Standard Conditions

- Global Warming Solutions Act of 2006 (AB32)
- Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies (SB 375)
- Pavely Fuel Efficiency Standards (AB1493). Establishes fuel efficiency ratings for new vehicles.
- Title 24 California Code of Regulations (California Building Code). Establishes energy efficiency requirements for new construction.
- Title 20 California Code of Regulations (Appliance Energy Efficiency Standards). Establishes energy efficiency requirements for appliances.
- Title 17 California Code of Regulations (Low Carbon Fuel Standard). Requires carbon content of fuel sold in California to be 10% less by 2020.
- California Water Conservation in Landscaping Act of 2006 (AB1881). Requires local agencies to adopt the Department of Water Resources updated Water Efficient Landscape Ordinance or equivalent by January 1, 2010 to ensure efficient landscapes in new development and reduced water waste in existing landscapes.
- Statewide Retail Provider Emissions Performance Standards (SB 1368). Requires energy generators to achieve performance standards for GHG emissions.
- Renewable Portfolio Standards (SB 1078). Requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20 percent by 2010 and 33 percent by 2020.

EXHIBIT 1-1

PROJECT LOCATION

EXHIBIT 1-2

SITE PLAN

1.4 Applicable Mitigation Measures

Mitigation Measure GG-1: *The following measures shall be incorporated as conditions of Project approval, and shall be incorporated in all Project plans, specifications and contract documents:*

- *To reduce solid waste generation associated with Project construction activities, a plan to reduce waste by recycling and/or salvaging nonhazardous construction and demolition debris shall be submitted and approved by the City of Ontario prior to the issuance of construction permits*

- *The Project shall connect with and utilize reclaimed (recycled) water, provided it is available from the IEUA's reclaimed water system, for the irrigation of Project landscaping;*

- *All new landscaping irrigation systems installed by the Project shall be automated, high efficiency systems to reduce water use, including bubbler irrigation, low-angle and/or low-flow spray heads, moisture sensors, or the equivalent;*

- *The Project shall provide safe and convenient access for pedestrians and bicyclists to, across, and along the Project site's circulation system;*

- *The Project shall provide vehicle access to properly wired outdoor receptacles to accommodate zero emission vehicles (ZEV) and/or plug-in electric hybrids (PHEV) or the equivalent;*

- *The Project's commercial/retail components shall provide priority parking for electric vehicles and vehicles using alternative fuels;*

- *The Project shall provide vehicle access to properly wired outdoor receptacles to accommodate zero emission vehicles (ZEV) and/or plug-in electric hybrids (PHEV) or the equivalent;*

- *The Project shall provide 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.*

- *The Project shall, where feasible, incorporate passive solar design features, such as daylighting, and passive solar heating.*

Mitigation Measure GG-2: *Buildings shall surpass incumbent California Title 24 Energy Efficiency performance standards by a minimum of 20 percent for water heating and space heating and cooling. Verification of increased energy efficiencies shall be documented in Title 24 Compliance Reports provided by the Applicant, and reviewed and approved by the City prior to the issuance of the first building permit. Any combination of the following design features may be used to fulfill this mitigation measure provided that the total increase in efficiency meets or exceeds 20 percent:*

- *Site buildings to take advantage of shade, prevailing winds, landscaping, and sun screening, to reduce energy required for cooling;*

- *Increase in insulation such that heat transfer and thermal bridging is minimized;*

- *Limit air leakage through the structure or within the heating and cooling distribution system to minimize energy consumption;*

- *Incorporate dual-paned or other energy efficient windows;*

- *Incorporate energy efficient space heating and cooling equipment;*

- *Interior and exterior energy efficient lighting which exceeds the California Title 24 Energy Efficiency performance standards shall be installed, as deemed acceptable by the City of Ontario;*

- *Automatic devices to turn off lights when they are not needed shall be implemented in all non-residential development;*

- *To the extent that they are compatible with landscaping guidelines established by the Tuscana Village Specific Plan and the City of Ontario, shade producing trees, particularly those that shade buildings and paved surfaces such as streets and parking lots and buildings shall be planted at the Project site;*

- *Paint and surface color palette for the Project shall emphasize light and off-white colors which will reflect heat away from the buildings;*

- *Cool roofs and pavement shall be utilized, where appropriate, in all of the Project's nonresidential development;*

- *All buildings shall be designed to accommodate renewable energy sources, such as photovoltaic solar electricity systems, appropriate to their architectural design.*

Mitigation Measure GG-3: *In addition to the preceding requirements of Mitigation Measures GG-1 and GG-2, the following measures shall be incorporated as conditions of approval for the Project's Phase II, Office Park development, and shall be incorporated in all Project plans, specifications and contract documents:*

- *The Project shall provide on-site, secure and weatherproof bicycle storage/parking consistent with City of Ontario requirements;*

- *The Project shall provide safe and convenient pedestrian and bicycle connections to surrounding areas, consistent with provisions of the Ontario Development Code. Location and configurations of proposed pedestrian and bicycle connections are subject to review and approval by the City. Prior to Final Site Plan approval, pedestrian and bicycle connections shall be indicated on the Project Site Plan; and*

- *The Project shall provide preferential parking for carpools and vanpool. Locations and configurations of proposed preferential parking for carpools and vanpools are subject to review and approval by the City. Prior to Final Site Plan approval, preferential parking for carpools and vanpools shall be delineated on the Project Site Plan.*

1.5 Summary of Findings

Results of the analysis indicate that the proposed project will not interfere with the state's goals of reducing greenhouse gas emissions to 1990 levels by the year 2020 as stated in AB 32 and an 80-percent reduction in greenhouse gas emissions below 1990 levels by 2050 as stated in Executive Order S-3-05. Project sustainable design features significantly reduce GHG

emissions and are consistent with mitigation strategies developed by groups and public agencies, such as CAT, CAPCOA and the California Attorney General. Therefore a less than significant impact is expected with respect to global climate change.

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2.0 GLOBAL CLIMATE CHANGE ANALYSIS

2.1 Introduction to Global Climate Change

Global Climate Change (GCC) is simply defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. GCC is currently one of the most controversial issues in the United States, and much debate exists within the scientific community whether or not global climate change is occurring naturally or as a result of human activity. Some data suggests that global climate change has occurred in the past over the course of thousands or millions of years. These climate changes occurred naturally without human influence, as in the case of an ice age. However, many scientists believe that the climate shift presently taking place is occurring at a quicker rate and magnitude. Scientific evidence suggests that GCC is the result of increased concentrations of greenhouse gases in the earth's atmosphere, including carbon dioxide, methane, nitrous oxide, and fluorinated gases. Many scientists believe that this increased rate of climate change is the result of greenhouse gases resulting from human activity and industrialization over the past 200 years.

An individual project cannot generate enough greenhouse gas emissions to effect a discernible change in global climate. However, the proposed project may participate in this potential impact by its incremental contribution combined with the cumulative increase of all other sources of greenhouse gases, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, this section will evaluate the potential for the proposed project to have a significant effect upon California's environment as a result of its potential contribution to the greenhouse effect.

2.2 Greenhouse Gas Emissions Inventories

Global

Worldwide anthropogenic (man-made) GHG emissions are tracked for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Man-made GHG emissions for Annex I nations are available through 2007. Man-made GHG emissions for Non-Annex I nations are available through 2005. The sum of these emissions totaled approximately

42,133 MMTCO2e.[1] It should be noted that global emissions inventory data are not all from the same year and may vary depending on the source of the emissions inventory data.[2] Emissions from the top five countries and the European Union accounted for approximately 55 percent of the total global GHG emissions, according to the most recently available data (see Table 2-1, Top GHG Producer Countries and the European Union). The GHG emissions in more recent years may differ from the inventories presented in Table 2-1; however, the data is representative of currently available inventory data.

United States

As noted in Table 2-1, the United States was the number two producer of GHG emissions. The primary greenhouse gas emitted by human activities in the United States was CO2, representing approximately 84 percent of total greenhouse gas emissions.38 Carbon dioxide from fossil fuel combustion, the largest source of US greenhouse gas emissions, accounted for approximately 80 percent of the GHG emissions.[3]

TABLE 2-1

TOP GHG PRODUCER COUNTRIES AND THE EUROPEAN UNION

Emitting Countries	GHG Emissions ($MMTCO_2e$)
China	7,250
United States	7,217
European Union	5,402
Russian Federation	2,202
India	1,863
Japan	1,412
Total	**25,346**

Source: World Resources Institute, "Climate Analysis Indicators Tool (CAIT)," http://cait.wri.org/. 2010. Excludes emissions and removals from land use, land-use change and forestry (LULUCF).
Note: Emissions for Annex I nations are based on 2007 data. Emissions for Non-Annex I nations (e.g., China, India) are based on 2005 data).

[1] The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2005 data, the UNFCCC data for the most recent year were used. United Nations Framework Convention on Climate Change, "Annex I Parties – GHG total without LULUCF," http://unfccc.int/ghg_emissions_data/ghg_data_from_unfccc/time_series_annex_i/items/3841.php and "Flexible GHG Data Queries" with selections for total GHG emissions excluding LULUCF/LUCF, all years, and non-Annex I countries, http://unfccc.int/di/FlexibleQueries/Event.do?event= showProjection. n.d.
[2] US Environmental Protection Agency, "Inventory of US Greenhouse Gas Emissions and Sinks 1990–2006," http://www.epa.gov/climatechange/emissions/usinventoryreport.html. 2008.
[3] US Environmental Protection Agency, "Inventory of US Greenhouse Gas Emissions and Sinks 1990–2006," http://www.epa.gov/climatechange/emissions/usinventoryreport.html. 2008.

State of California

CARB compiles GHG inventories for the State of California. Based upon the 2008 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2008 greenhouse gas emissions inventory, California emitted 474 MMTCO2e ***including*** emissions resulting from imported electrical power in 2008.[4] Based on the CARB inventory data and GHG inventories compiled by the World Resources Institute, California's total statewide GHG emissions rank second in the United States (Texas is number one) with emissions of 417 MMTCO2e ***excluding*** emissions related to imported power.

2.3 Global Climate Change

Global Climate Change (GCC) refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO_2 (Carbon Dioxide), N_2O (Nitrous Oxide), CH_4 (Methane), hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the Earth's atmosphere, but prevent radioactive heat from escaping, thus warming the Earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages. According to the California Air Resources Board (CARB), the climate change that is currently in effect differs from previous climate changes in both rate and magnitude (CARB, 2004, Technical Support document for Staff Proposal Regarding Reduction of Greenhouse Gas Emissions from Motor Vehicles).

Gases that trap heat in the atmosphere are often referred to as greenhouse gases. Greenhouse gases are released into the atmosphere by both natural and anthropogenic (human) activity. Without the natural greenhouse gas effect, the Earth's average temperature would be approximately 61° Fahrenheit (F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

[4] California Air Resources Board, "California Greenhouse Gas 2000-2008 Inventory by Scoping Plan Category - Summary," http://www.arb.ca.gov/cc/inventory/data/data.htm. 2010.

Although California's rate of growth of greenhouse gas emissions is slowing, the state is still a substantial contributor. In 2004, the state is estimated to have produced 492 million gross metric tons of carbon dioxide equivalent greenhouse gas emissions. Despite a population increase of 16 percent between 1990 and 2004, California has significantly slowed the rate of growth of greenhouse gas emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls.

2.4 Global Climate Change Gases

For the purposes of this analysis, emissions of carbon dioxide, methane, and nitrous oxide were evaluated. Although other substances such as fluorinated gases also contribute to global climate change, sources of fluorinated gases are not well defined and no accepted emissions factors or methodology exist to accurately calculate these gases. The potential for fluorinated gases to result from operation of the proposed project is primarily a concern for HCFC emissions associated with project air conditioning leakage.

Greenhouse gases have varying global warming potential (GWP) values; GWP values represent the potential of a gas to trap heat in the atmosphere. Carbon dioxide is utilized as the reference gas for GWP, and thus has a GWP of 1.

The atmospheric lifetime and GWP of selected greenhouse gases are summarized in the following Table. As shown in the table below, GWP range from 1 for carbon dioxide to 23,900 for sulfur hexafluoride.

TABLE 2-2
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIME OF SELECT GHGS

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100 year time horizon)
Carbon Dioxide	50-200	1
Methane	12 ± 3	21
Nitrous Oxide	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140

PFC: Tetrafluoromethane (CH4)	50,000	6,500
PFC: Hexafluoroethane (C2F6)	10,000	9,200
Sulfur Hexafluoride (SF6)	3,200	23,900
Source: EPA 2006 (URL: http://www.epa.gov/nonco2/econ-inv/table.html)		

Water Vapor: Water vapor (H_20) is the most abundant, important, and variable greenhouse gas in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. A climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change.

As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to 'hold' more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop." The extent to which this positive feedback loop will continue is unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth's surface and heat it up).

There are no health effects from water vapor itself; however, when some pollutants come in contact with water vapor, they can dissolve and the water vapor can then act as a pollutant-carrying agent. The main source of water vapor is evaporation from the oceans (approximately 85 percent). Other sources include: evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.

Carbon Dioxide: Carbon dioxide (CO_2) is an odorless and colorless GHG. Outdoor levels of carbon dioxide are not high enough to result in negative health effects. Carbon dioxide is

emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. Carbon dioxide is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks.

Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO_2 concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30 percent. Left unchecked, the concentration of carbon dioxide in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources.

Methane: Methane (CH_4) is an extremely effective absorber of radiation, though its atmospheric concentration is less than carbon dioxide and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs. No health effects are known to occur from exposure to methane.

Methane has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropocentric sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide: Nitrous oxide (N_2O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage).

Concentrations of nitrous oxide also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb). Nitrous oxide is produced by microbial processes in soil and water, including those reactions which occur in fertilizer

containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, i.e., in whipped cream bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. Nitrous oxide can be transported into the stratosphere, be deposited on the Earth's surface, and be converted to other compounds by chemical reaction

Chlorofluorocarbons: Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs are no longer being used; therefore, it is not likely that health effects would be experienced. Nonetheless, in confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.

CFCs have no natural source, but were first synthesized in 1928. They were used for refrigerants, aerosol propellants and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons: Hydrofluorocarbons (HFCs) are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the greenhouse gases, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF_3), HFC-134a (CF_3CH_2F), and HFC-152a (CH_3CHF_2). Prior to 1990, the only significant emissions were of HFC-23. HFC-134a emissions are increasing due to its use as a refrigerant. The U.S. EPA estimates that concentrations of HFC-23 and HFC-134a are now about 10 parts per trillion (ppt) each; and that concentrations of HFC-152a are about 1 ppt. No health effects are known to result from exposure to HFCs, which are manmade for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons: Perfluorocarbons (PFCs) have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above Earth's surface, are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). The U.S. EPA estimates that concentrations of CF_4 in the atmosphere are over 70 ppt.

No health effects are known to result from exposure to PFCs. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur Hexafluoride: Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (23,900). The U.S. EPA indicates that concentrations in the 1990s were about 4 ppt. In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.

Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

2.5 Effects of Climate Change on the Project

The California Environmental Protection Agency (CalEPA) published a report titled "Scenarios of Climate Change in California: An Overview" (Climate Scenarios report) in February 2006 (California Climate Change Center 2006), that while not adequate for a CEQA project-specific or cumulative analysis, is generally instructive about the statewide impacts of global warming.

The Climate Scenarios report uses a range of emissions scenarios developed by the Intergovernmental Panel on Climate Change (IPCC) to project a series of potential warming ranges (i.e., temperature increases) that may occur in California during the 21st century: lower warming range (3.0-5.5^{o}F); medium warming range (5.5-8.0^{o}F); and higher warming range (8.0-10.5^{o}F). The Climate Scenarios report then presents an analysis of future climate in California under each warming range, that while uncertain, present a picture of the impacts of global climate change trends in California.

In addition, most recently on August 5, 2009, the State's Natural Resources Agency released a public review draft of its "California Climate Adaptation Strategy" report that details many vulnerabilities arising from climate change with respect to matters such as temperature extremes, sea level rise, wildfires, floods and droughts and precipitation changes. This report responds to the Governor's Executive Order S-13-2008 that called on state agencies to develop California's strategy to identify and prepare for expected climate impacts. The report was released to the public in draft form for comment and has not yet been finalized.

According to the reports, substantial temperature increases arising from increased GHG emissions potentially could result in a variety of impacts to the people, economy, and environment of California associated with a projected increase in extreme conditions, with the severity of the impacts depending upon actual future emissions of GHGs and associated warming. Under the emissions scenarios of the Climate Scenarios report, the impacts of global warming in California have the potential to include, but are not limited to, the following areas:

Public Health

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35 percent under the lower warming range to 75 to 85 percent under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55 percent more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming range scenario, there could be up to 100 more days per year with temperatures above 90^{o}F in Los Angeles and 95^{o}F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could

increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If GHG emissions continue unabated, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

Agriculture

Increased GHG emissions could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25 percent of the water supply they need. Although higher CO_2 levels can stimulate plant production and increase plant water-use efficiency, California's farmers

could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate O_3 pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts.

In addition, continued global climate change could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued global climate change could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

Global climate change has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. In contrast, wildfires in northern California could increase by up to 90 percent due to decreased precipitation.

Moreover, continued global climate change has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80 percent by the end of the century as a result of increasing

temperatures. The productivity of the state's forests has the potential to decrease as a result of global climate change.

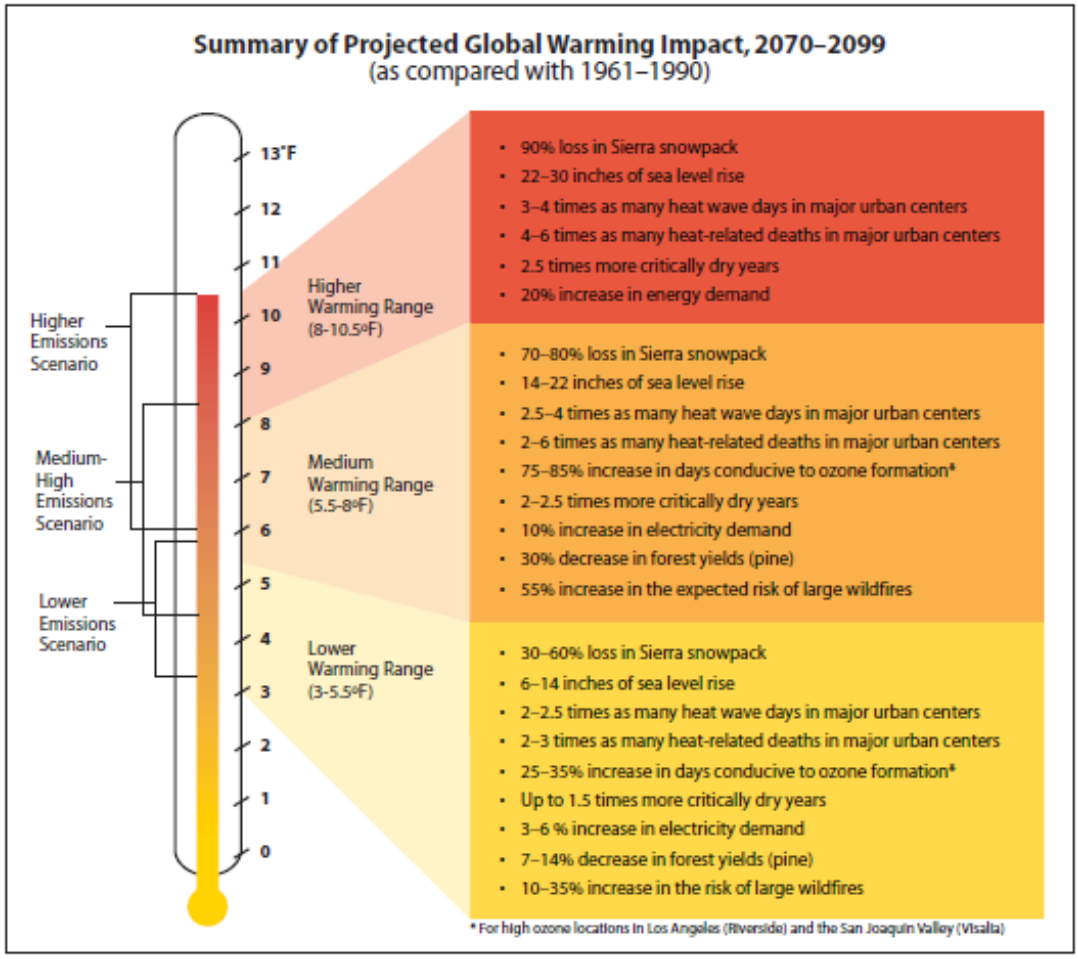
Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12-14 inches.

2.6 Health Effects

The potential health effects related directly to the emissions of carbon dioxide, methane, and nitrous oxide as they relate to development projects such as the proposed project are still being debated. Their cumulative effects to global climate change have the potential to cause great harm to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also fear that higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change will likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas (American Lung Association, 2004). Figure 1 presents the potential impacts of global warming.

Figure 1



Source: California Energy Commission, 2006. Our Changing Climate, Assessing the Risks to California, 2006 Biennial Report.

Specific health effects associated with directly emitted GHG emissions are as follows:

Water Vapor: There are no known direct health effects related to water vapor at this time. It should be noted however that when some pollutants react with water vapor, the reaction forms a transport mechanism for some of these pollutants to enter the human body through water vapor.

Carbon Dioxide: According to the National Institute for Occupational Safety and Health (NIOSH) high concentrations of carbon dioxide can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of carbon dioxide are estimated to be approximately 370 parts per million (ppm), the actual reference exposure level (level at which adverse health effects typically occur) is at exposure levels of 5,000 ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of 30,000 ppm averaged over a 15 minute period (NIOSH 2005).

Methane: Methane is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Methane is also an asphyxiant and may displace oxygen in an enclosed space (OSHA 2003).

Nitrous Oxide: Nitrous Oxide is often referred to as laughing gas; it is a colorless greenhouse gas. The health effects associated with exposure to elevated concentrations of nitrous oxide include dizziness, euphoria, slight hallucinations, and in extreme cases of elevated concentrations nitrous oxide can also cause brain damage (OSHA 1999).

Fluorinated Gases: High concentrations of fluorinated gases can also result in adverse health effects such as asphyxiation, dizziness, headache, cardiovascular disease, cardiac disorders, and in extreme cases, increased mortality (NIOSH 1989, 1997).

Aerosols: The health effects of aerosols are similar to that of other fine particulate matter. Thus aerosols can cause elevated respiratory and cardiovascular diseases as well as increased mortality (NASA 2002).

2.7 GCC Regulatory Setting

International Regulation and the Kyoto Protocol:

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries around the

world in signing the United Nations' Framework Convention on Climate Change (UNFCCC) agreement with the goal of controlling greenhouse gas emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The Plan currently consists of more than 50 voluntary programs.

The Kyoto protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. Some have estimated that if the commitments outlined in the Kyoto protocol are met, global GHG emissions could be reduced an estimated five percent from 1990 levels during the first commitment period of 2008-2012. Notably, while the United States is a signatory to the Kyoto protocol, Congress has not ratified the Protocol and the United States is not bound by the Protocol's commitments. In December 2009, international leaders from 192 nations met in Copenhagen to address the future of international climate change commitments post-Kyoto.

Federal Regulation and the Clean Air Act:

Coinciding with the opening of Copenhagen, on December 7, 2009, the U.S. Environmental Protection Agency (EPA) issued an Endangerment Finding under Section 202(a) of the Clean Air Act, opening the door to federal regulation of GHGs. The Endangerment Finding notes that GHGs threaten public health and welfare and are subject to regulation under the Clean Air Act. To date, the EPA has not promulgated regulations on GHG emissions, but it has already begun to develop them.

Previously the EPA had not regulated GHGs under the Clean Air Act because it asserted that the Act did not authorize it to issue mandatory regulations to address global climate change and that such regulation would be unwise without an unequivocally established causal link between GHGs and the increase in global surface air temperatures. In *Massachusetts v. Environmental Protection Agency et al.* (127 S. Ct. 1438 (2007), however, the U.S. Supreme Court held that GHGs are pollutants under the Clean Air Act and directed the EPA to decide whether the gases endangered public health or welfare. The EPA had also not moved aggressively to regulate GHGs because it expected Congress to make progress on GHG legislation, primarily from the standpoint of a cap-and-trade system. However, proposals circulated in both the House of Representative and Senate have been controversial and it may be some time before Congress adopts major climate change legislation. The EPA's Endangerment Finding paves the way for federal regulation of GHGs with or without Congress.

Although global climate change did not become an international concern until the 1980s, efforts to reduce energy consumption began in California in response to the oil crisis in the 1970s, resulting in the unintended reduction of greenhouse gas emissions. In order to manage the state's energy needs and promote energy efficiency, AB 1575 created the California Energy Commission (CEC) in 1975.

Title 24 Energy Standards:

The California Energy Commission (CEC) first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods. The latest revisions were adopted in 2008 and became effective on January 1, 2010.

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality."[5] The CALGreen Code is not intended to substitute or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC). The CBSC has released a *2010 Draft California Green Building Standards Code* on its Web site.[6] It is anticipated the this update to Part 11 of the Title 24 Building Standards Code will be effective on January 1, 2011. Unless otherwise noted in the regulation, all newly constructed buildings in California are subject of the requirements of the CALGreen Code.

California Assembly Bill No. 1493 (AB 1493):

[5] California Building Standards Commission, 2008 California Green Building Standards Code, (2009) 3.
[6] "CALGreen," http://www.bsc.ca.gov/CALGreen/default.htm. 2010

AB 1493 requires CARB to develop and adopt the nation's first greenhouse gas emission standards for automobiles. The Legislature declared in AB 1493 that global warming was a matter of increasing concern for public health and environment in the state. It citied several risks that California faces from climate change, including reduction in the state's water supply, increased air pollution creation by higher temperatures, harm to agriculture, an increase in wildfires, damage to the coastline, and economic losses caused by higher food, water energy, and insurance prices. Further, the legislature stated that technological solutions to reduce greenhouse gas emissions would stimulate the California economy and provide jobs.

To meet the requirements of AB 1493, ARB approved amendments to the California Code of Regulations (CCR) adding GHG emission standards to California's existing motor vehicle emission standards in 2004. Amendments to CCR Title 13 Sections 1900 (CCR 13 1900) and 1961 (CCR 13 1961) and adoption of Section 1961.1 (CCR 13 1961.1) require automobile manufacturers to meet fleet average GHG emission limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes beginning with the 2009 model year. Emission limits are further reduced each model year through 2016.

In December 2004 a group of car dealerships, automobile manufacturers, and trade groups representing automobile manufacturers filed suit against ARB to prevent enforcement of CCR 13 1900 and CCR 13 1961 as amended by AB 1493 and CCR 13 1961.1 (*Central Valley Chrysler-Jeep et al. v. Catherine E. Witherspoon*, in her official capacity as Executive Director of the California Air Resources Board, et al.). The suit, heard in the U.S. District Court for the Eastern District of California, contended that California's implementation of regulations that in effect regulate vehicle fuel economy violates various federal laws, regulations, and policies. In January 2007, the judge hearing the case accepted a request from the State Attorney General's office that the trial be postponed until a decision is reached by the U.S. Supreme Court on a separate case addressing GHGs. In the Supreme Court Case, *Massachusetts vs. EPA*, the primary issue in question is whether the federal CAA provides authority for USEPA to regulate CO2 emissions. In April 2007, the U.S. Supreme Court ruled in Massachusetts' favor, holding that GHGs are air pollutants under the CAA. On December 11, 2007, the judge in the *Central Valley Chrysler-Jeep* case rejected each plaintiff's arguments and ruled in California's favor. On December 19, 2007, the USEPA denied California's waiver request. California filed a petition with the Ninth Circuit Court of Appeals challenging USEPA's denial on January 2, 2008.

The Obama administration subsequently directed the USEPA to re-examine their decision. On May 19, 2009, challenging parties, automakers, the State of California, and the federal government reached an agreement on a series of actions that would resolve these current and potential future disputes over the standards through model year 2016. In summary, the USEPA and the U.S. Department of Transportation agreed to adopt a federal program to reduce GHGs and improve fuel economy, respectively, from passenger vehicles in order to achieve equivalent or greater greenhouse gas benefits as the AB 1493 regulations for the 2012–2016 model years. Manufacturers agreed to ultimately drop current and forego similar future legal challenges, including challenging a waiver grant, which occurred on June 30, 2009. The State of California committed to (1) revise its standards to allow manufacturers to demonstrate compliance with the fleet-average GHG emission standard by "pooling" California and specified State vehicle sales; (2) revise its standards for 2012–2016 model year vehicles so that compliance with USEPA-adopted GHG standards would also comply with California's standards; and (3) revise its standards, as necessary, to allow manufacturers to use emissions data from the federal CAFE program to demonstrate compliance with the AB 1493 regulations (CARB 2009, http://www.arb.ca.gov/regact/2009/ghgpv09/ghgpvisor.pdf).

Executive Order S-3-05:

Executive Order S-3-05, which was signed by Governor Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total greenhouse gas emission targets. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80% below the 1990 level by 2050. The Executive Order directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce greenhouse gas emissions to the target levels. The Secretary will also submit biannual reports to the Governor and state Legislature describing: (1) progress made toward reaching the emission targets; (2) impacts of global warming on California's resources; and (3) mitigation and adaptation plans to combat these impacts. To comply with the Executive Order, the Secretary of the CalEPA created a Climate Action Team (CAT) made up of members from various state agencies and commission. CAT released its first report in March 2006. The report proposed to achieve the targets by

building on voluntary actions of California businesses, local government and community actions, as well as through state incentive and regulatory programs.

California Assembly Bill 32 (AB 32):

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Climate Solutions Act of 2006. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by the year 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires that CARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state achieves reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

In November 2007, CARB completed its estimates of 1990 GHG levels. Net emission 1990 levels were estimated at 427 MMTs (emission sources by sector were: transportation – 35 percent; electricity generation – 26 percent; industrial – 24 percent; residential – 7 percent; agriculture – 5 percent; and commercial – 3 percent)[7]. Accordingly, 427 MMTs of CO2 equivalent was established as the emissions limit for 2020. For comparison, CARB's estimate for baseline GHG emissions was 473 MMT for 2000 and 532 MMT for 2010. "Business as usual" conditions (without the 30 percent reduction to be implemented by CARB regulations) for 2020 were projected to be 596 MMTs.

[7] On a national level, the EPA's Endangerment Finding stated that electricity generation is the largest emitting sector (34%), followed by transportation (28%), and industry (19%).

In December 2007, CARB approved a regulation for mandatory reporting and verification of GHG emissions for major sources. This regulation covered major stationary sources such as cement plans, oil refineries, electric generating facilities/providers, and co-generation facilities, which comprise 94 percent of the point source CO2 emissions in the State.

On December 11, 2008, CARB adopted a scoping plan to reduce GHG emissions to 1990 levels. The Scoping Plan's recommendations for reducing GHG emissions to 1990 levels by 2020 include emission reduction measures, including a cap-and-trade program linked to Western Climate Initiative partner jurisdictions, green building strategies, recycling and waste-related measures, as well as Voluntary Early Actions and Reductions. CARB has until January 1, 2011, to adopt the necessary regulations to implement that plan. Implementation of individual measures must begin no later than January 1, 2012, so that the emissions reduction target can be fully achieved by 2020. CARB is currently drafting regulations to implement the plan.

Table 2-3 shows the proposed reductions from regulations and programs outlined in the Scoping Plan. While local government operations were not accounted for in achieving the 2020 emissions reduction, local land use changes are estimated to result in a reduction of 5 MMTons of CO2e, which is approximately 3 percent of the 2020 GHG emissions reduction goal. In recognition of the critical role local governments will play in successful implementation of AB 32, CARB is recommending GHG reduction goals of 15 percent of today's levels by 2020 to ensure that municipal and community-wide emissions match the state's reduction target. Measures that local governments take to support shifts in land use patterns are anticipated to emphasize compact, low-impact growth over development in greenfields, resulting in fewer vehicle miles traveled. According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 MMTons tons of CO2e (or approximately 1.2 percent of the GHG reduction target).

California Senate Bill No. 1368 (SB 1368):

In 2006, the State Legislature adopted Senate Bill 1368 ("SB 1368"), which was subsequently signed into law by the Governor. SB 1368 directs the California Public Utilities Commission ("CPUC") to adopt a greenhouse gas emission performance standard ("EPS") 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 five years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Due to 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

TABLE 2-3

SCOPING PLAN GHG REDUCTION MEASURES TOWARD 2020 TARGET

Recommended Reduction Measures	***Reductions Counted toward 2020 Target of 169 MMT CO2e***	***Percentage of Statewide 2020 Target***
Cap and Trade Program and Associated Measures		
California Light-Duty Vehicle GHG Standards	31.7	19%
Energy Efficiency	26.3	16%
Renewable Portfolio Standard (33 percent by 2020)	21.3	13%
Low Carbon Fuel Standard	15	9%
Regional Transportation-Related GHG Targets1	5	3%
Vehicle Efficiency Measures	4.5	3%
Goods Movement	3.7	2%
Million Solar Roofs	2.1	1%
Medium/Heavy Duty Vehicles	1.4	1%
High Speed Rail	1.0	1%
Industrial Measures	0.3	0%
Additional Reduction Necessary to Achieve Cap	34.4	20%
Total Cap and Trade Program Reductions	**146.7**	**87%**
Uncapped Sources/Sectors Measures		
High Global Warming Potential Gas Measures	20.2	12%
Sustainable Forests	5	3%
Industrial Measures (for sources not covered under cap and trade program)	1.1	1%
Recycling and Waste (landfill methane capture)	1	1%
Total Uncapped Sources/Sectors Reductions	**27.3**	**16%**
Total Reductions Counted toward 2020 Target	**174**	**100%**
Other Recommended Measures – Not Counted toward 2020 Target		
State Government Operations	1.0 to 2.0	1%
Local Government Operations	To Be Determined2	NA
Green Buildings	26	15%
Recycling and Waste	9	5%
Water Sector Measures	4.8	3%
Methane Capture at Large Dairies	1	1%
Total Other Recommended Measures – Not Counted toward 2020 Target	**42.8**	**NA**

Source: CARB. 2008, MMTons CO2e: million metric tons of CO2e 1 Reductions represent an estimate of what may be achieved from local land use changes. It is not the SB 375 regional target. 2 According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 million metric tons of CO2e (or approximately 1.2 percent of the GHG reduction target). However, these reductions were not included in the Scoping Plan reductions to achieve the 2020 Target

located in or out of the State. Thus, SB 1368 will lead to dramatically lower greenhouse gas emissions associated with California energy demand, as SB 1368 will effectively prohibit California utilities from purchasing power from out of state producers that cannot satisfy the EPS standard required by SB 1368.

Senate Bill 97 (SB 97):

Pursuant to the direction of SB 97, OPR released preliminary draft CEQA Guideline amendments for greenhouse gas emissions on January 8, 2009, and submitted its final proposed guidelines to the Secretary for Natural Resources on April 13, 2009. The Natural Resources Agency adopted the Guideline amendments and they became effective on March 18, 2010.

Of note, the new guidelines state that a lead agency shall have discretion to determine whether to use a quantitative model or methodology, or in the alternative, rely on a qualitative analysis or performance based standards. New CEQA Guideline § 15064.4(a)"A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use . . .; or (2) Rely on a qualitative analysis or performance based standards."

The new subdivision CEQA emphasizes that the effects of greenhouse gas emissions are cumulative, and should be analyzed in the context of CEQA's requirements for cumulative impacts analysis. (See section 15130(f)).

Section 15064.4(b) of the guidelines provides direction for lead agencies for assessing the significance of impacts of greenhouse gas emissions:

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

2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; or

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.

Executive Order S-01-07:

On January 18, 2007 California Governor Arnold Schwarzenegger, through Executive Order S-01-07, mandated a statewide goal to reduce the carbon intensity of California's transportation fuel by at least ten percent by 2020. The order also requires that a California specific Low Carbon Fuel Standard be established for transportation fuels.

Senate Bills 1078 and 107 and Executive Order S-14-08:

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20% of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008 Governor Schwarzenegger signed Executive Order S-14-08, which expands the state's Renewable Energy Standard to 33% renewable power by 2020. Governor Schwarzenegger plans to propose legislative language that will codify the new higher standard (Office of the Governor 2008).

Senate Bill 375:

SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires metropolitan planning organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that will prescribe land use allocation in that MPOs regional transportation plan. ARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every 8 years but can be updated every 4 years if advancements in emissions technologies affect the reduction strategies to achieve the targets. ARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG

reduction targets, transportation projects will not be eligible for funding programmed after January 1, 2012.

This law also extends the minimum time period for the regional housing needs allocation cycle from 5 years to 8 years for local governments located within an MPO that meets certain requirements. City or county land use policies (including general plans) are not required to be consistent with the regional transportation plan (and associated SCS or APS). However, new provisions of CEQA would incentivize (through streamlining and other provisions) qualified projects that are consistent with an approved SCS or APS, categorized as "transit priority projects."

CARB's Preliminary Draft Staff Proposal for Interim Significance Thresholds:

Although OPR was tasked with updating the CEQA guidelines for GHGs, OPR asked CARB in its Technical Advisory to recommend GHG-related significance thresholds to assist lead agencies in their significance determination. CARB Staff released a draft proposal on October 24th, 2008 with interim guidance on significance thresholds. In its proposal, Staff noted that non-zero thresholds can be supported by substantial evidence, but thresholds should nonetheless be sufficiently stringent to meet the State's interim (2020) and long-term (2050) emissions reduction targets. The proposal takes different approaches for different sectors – (1) industrial projects and (2) residential and commercial projects. Although CARB Staff proposed a numerical threshold for the GHG emissions of industrial projects, none were proposed for commercial (and residential) projects.

For residential and commercial projects, CARB Staff recommends that if a project complies with a previously approved plan that addresses GHG emissions, would not have a cumulatively considerable incremental contribution to impacts identified in the previously approved plan, and has a number of specific attributes related to meeting and monitoring GHG targets, then it will not be considered to have significant GHG emissions. Alternatively, if those standards cannot be met, Staff recommends a threshold based on implementation of performance standards, or equivalent mitigation measures, addressing energy use, transportation, water use, waste and construction. Specific performance standards are not presented for water, waste, construction, or transportation; however, CARB Staff recommends the California Energy Commission's Tier II Energy Efficiency standards (specified as 35% above Title 24 requirements) for the energy performance standard, and references existing GHG-reducing programs, such as LEED,

GreenPoint Rated and the California Green Building Code, as possible reference sources for the other performance standards.

The draft proposal has been very controversial and Staff may consider bringing a revised draft to the Board in the future, however no plans are confirmed at this time. A key preliminary conclusion from the draft thresholds, however, is that CARB Staff, in setting a numerical threshold for industrial projects and suggesting performance standards, does not believe a "zero threshold" is mandated by CEQA. Similarly, South Coast Air Quality Management District Staff, in proposing interim industrial thresholds, explicitly stated in a December 5, 2008 report that a zero threshold would not be feasible to implement.

South Coast Air Quality Management District Recommendations for Significance Thresholds:

In April 2008, the South Coast Air Quality Management District (SCAQMD), in order to provide guidance to local lead agencies on determining the significance of GHG emissions identified in CEQA documents, convened a "GHG CEQA Significance Threshold Working Group."[8] The goal of the working group is to develop and reach consensus on an acceptable CEQA significance threshold for GHG emissions that would be utilized on an interim basis until CARB (or some other state agency) develops statewide guidance on assessing the significance of GHG emissions under CEQA.

Initially, SCAQMD staff presented the working group with a significance threshold that could be applied to various types of projects—residential; non-residential; industrial; etc. However, the threshold is still under development. In December 2008, staff presented the SCAQMD Governing Board with a significance threshold for stationary source projects where it is the lead agency. This threshold uses a tiered approach to determine a project's significance, with 10,000 metric tons of carbon dioxide equivalent (MTCO2e) as a screening numerical threshold.

At present time, the SCAQMD has not adopted thresholds for projects such as the one analyzed in this technical report. The SCAQMD is considering a tiered approach to determine the significance of residential and commercial projects. The draft approach that was published in October 2008 is as follows:[9]

[8] For more information visit: http://www.aqmd.gov/ceqa/handbook/GHG/GHG.html.
[9] South Coast Air Quality Management District, "Greenhouse Gases (GHG) Significance Thresholds Working Group Meeting #6,

- Tier 1: Is the project exempt from further analysis under existing statutory or categorical exemptions? If yes, there is a presumption of less than significant impacts with respect to climate change.

- Tier 2: Is the project's GHG emissions within the GHG budgets in an approved regional plan? (The plan must be consistent with *State CEQA Guidelines* Sections 15064(h)(3), 15125(d), or 15152(s).) If yes, there is a presumption of less than significant impacts with respect to climate change.

- Tier 3: Is the project's incremental increase in GHG emissions below or mitigated to less than the significance screening level (10,000 MTCO2e per year for industrial projects and 3,000 MTCO2e for commercial/residential projects) and is the project X percent beyond the Title 24 standard and achieve Y percent reduction in water use (the X and Y values were not determined at the time the draft approach was published)? If yes, there is a presumption of less than significant impacts with respect to climate change.

- Tier 4: Does the project meet one of the following performance standards (the performance standards were not well-defined at the time the draft approach was published)? If yes, there is a presumption of less than significant impacts with respect to climate change.

  Option 1: Uniform Percent Emission Reduction Target Objective (e.g., 30 percent) from BAU by incorporating project design features and/or implementing emission reduction measures.

  Option 2: Early Implementation of Applicable AB 32 Scoping Plan Measures.

  Option 3: Achieve sector-based standard (e.g., pounds per person, pounds per square foot, etc.).

- Tier 5: Does the project obtain offsets alone or in combination with the above to achieve the target significance screening level (offsets provided for 30-year project life, unless project life limited by permit, lease, or other legally binding conditions)? If yes, there is a presumption of less than significant impacts with respect to climate change. Otherwise, the project is significant.

"http://www.aqmd.gov/CEQA/handbook/GHG/2008/oct22mtg/oct22.html. 2008.

In November 2009, the following revisions were proposed for Tiers 3 and 4:[10]

- Tier 3: Is the project's incremental increase in GHG emissions below or mitigated to less than the significance screening level (10,000 MTCO2e per year for industrial projects; 3,500 MTCO2e for residential projects; 1,400 MTCO2e for commercial projects; 3,000 MTCO2e for mixed-use or all land use projects)? If yes, there is a presumption of less than significant impacts with respect to climate change.

- Tier 4: Does the project meet one of the following performance standards? If yes, there is a presumption of less than significant impacts with respect to climate change.

  Option #1: Achieve a 28 percent reduction from a base case scenario, including land use sector reductions from AB 32 (total emissions not to exceed 25,000 MTCO2e).

  Option #2: Achieve a project-level efficiency target of 4.6 MTCO2e per service population (total emissions not to exceed 25,000 MTCO2e) or plan-level efficiency target of 6.6 MTCO2e.

In September 2010, the Working Group released additional revisions which recommended a threshold of 3,500MTCO2e for residential projects, 1,400 MTCO2e for commercial projects, and 3,000 MTCO2e for mixed use projects, additionally the working group identified project-level efficiency target of 4.8 MTCO2e per service population as a 2020 target and 3.0 MTCO2e per service population as a 2035 target. The recommended plan-level target for 2020 was 6.6 MTCO2e and the plan level target for 2035 was 4.1 MTCO2e. The SCAQMD has not announced when staff is expecting to present a finalized version of these thresholds to the Governing Board. The SCAQMD has also adopted Rules 2700, 2701, and 2702 that address GHG reductions; however, these rules are currently applicable to boilers and process heaters, forestry, and manure management projects.

CEQA Evaluation of Global Climate Change:

Pursuant to the direction of SB 97, OPR released preliminary draft CEQA Guideline amendments for greenhouse gas emissions on January 8, 2009, and submitted its final

[10]South Coast Air Quality Management District, "Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting #14," http://www.aqmd.gov/ceqa/handbook/GHG/2009/nov19mtg/nov19.html. 2009.

proposed guidelines to the Secretary for Natural Resources on April 13, 2009. The Natural Resources Agency adopted the Guideline amendments and they became effective on March 18, 2010. Of note, the new guidelines state that a lead agency shall have discretion to determine whether to use a quantitative model or methodology, or in the alternative, rely on a qualitative analysis or performance based standards. New CEQA Guideline § 15064.4(a)"A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use . . .; or (2) Rely on a qualitative analysis or performance based standards."

The CEQA Guideline amendments, do not identify a threshold of significance for greenhouse gas emissions, nor do they prescribe assessment methodologies or specific mitigation measures. Instead, they call for a "good-faith effort, based on available information, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." The amendments encourage lead agencies to consider many factors in performing a CEQA analysis and preserve lead agencies' discretion to make their own determinations based upon substantial evidence. The amendments also encourage public agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses. Specific GHG language incorporated in the Guidelines' suggested Environmental Checklist (Guidelines Appendix G) is as follows:

VII. GREENHOUSE GAS EMISSIONS

Would the project:

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

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

2.8 Discussion on Establishment of Significance Thresholds

Generally, the evaluation of an impact under CEQA requires measuring data from a project against a "threshold of significance" (see CEQA Guidelines § 15064.7). The amendments to the CEQA Guidelines state that "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence." (see CEQA Guidelines Amendment § 15064.7(c)). For global warming, there is not, at this time, an established "threshold of significance" by which to measure an impact.

CEQA also requires projects to be evaluated for consistency with "applicable general plans and regional plans" (see CEQA Guidelines § 15125(e)). Such plans would include, for example, the applicable air quality attainment or maintenance plan, regional blueprint plans, sustainable community strategies, and climate action plans. These plans involve legislative or regulatory programs applicable to all projects within the region and establish standards that are independent of the impact analysis described in the CEQA Guidelines (see provisions beginning with Section 15126). The program for GHG emission reductions and maintenance, which ultimately is intended to result from AB 32, may constitute such a regional plan when adopted. However, that program does not yet exist. Similarly, the South Coast Air Quality Management District, City of Glendora and the County of Los Angeles have yet to adopt any plans.

Therefore, there is no local, regional or statewide plan regulating global warming by which the proposed project can be measured. As stated above, OPR asked CARB to recommend a method for setting thresholds of significance. CARB is in the process of establishing GHG thresholds of significance, but they have not yet been adopted at this time.

Notwithstanding these analytical challenges, CEQA Guidelines § 15002(a)(1) states that one of the basic purposes of CEQA is to "[i]nform governmental decision makers and the public about the potential, significant environmental effects of proposed activities." Therefore, this evaluation of the proposed project's potential for contribution to global climate change will analyze that potential in a manner and to an extent reasonably consistent with the policy underpinnings of CEQA.

This analysis is the result of the City's thorough investigation of the proposed project's impact on global climate change, including a review of Executive Order S-3-05, AB 32 and the legislative intent behind AB 32, as well as extensive review of scientific literature regarding global climate change. Every effort will be made to maximize the disclosure of information to the public, fairly present the project's potential for significant adverse effects on global climate change, and identify techniques to minimize any such effects.

It must be noted that there is no consensus within the scientific community on any given approach. As the California Air Pollution Control Officer's Association (CAPCOA) observes, "[m]any legal and policy questions remain unsettled, including the requirements of CEQA in the context of greenhouse gas emissions." Many organizations, both public, private and civic, have released advisories or guidelines with recommendations to assist decision makers on how to best evaluate GHG emissions given this uncertainty. The City cannot, and need not, under CEQA, review every report from an expert or agency, as new reports are released on an almost daily basis.

The City has, however, reviewed multiple key advisories, comment letters, and white papers from experts, agencies, and groups such as the Climate Action Team, the California Attorney General, CAPCOA, CARB, the Center for Biological Diversity, the League of California Cities, the Sierra Club, the California State Association of Counties, the Association of Environmental Professionals, and the California Chapter of the American Planning Association. Some of these reports urge "zero emission" thresholds, while others advocate against them. Others evaluate multiple thresholds, such as CAPCOA's January, 2008 white paper, which analyzes: (1) CEQA with no GHG thresholds; (2) CEQA with a GHG threshold of zero; and (3) CEQA with non-zero thresholds. In short, there is no consensus on how to analyze climate change in CEQA documents, and no specific methodology that is universally accepted.

As stated above, the proposed project does not have the potential to significantly impact climate change at the project-specific level. However, the proposed project may have a potentially significant ***cumulative*** impact. Therefore, an extensive analysis of climate change impacts is provided below.

After reviewing much of the relevant literature, the City has determined that OPR, as the agency charged with drafting CEQA guidelines, provides the best available direction. OPR's 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 permits the lead agency to discuss the extent to which the project may increase or reduce greenhouse gas emissions. This discussion could involve a quantification of GHG emissions to the extent feasible. Consideration 2 permits the lead agency to adopt a threshold of significance that it determines applies to the project. Consideration 3 applies only when an agency has adopted regulations addressing GHG emissions through a public review process. (CEQA Guidelines § 15064.4(b)(1)-(3)) The City will discuss each of these considerations, which are more particularly set forth below.

- 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.

The CEQA Guidelines amendments also state that a lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions associated with a project, including emissions associated with energy consumption and vehicular traffic. Because the methodologies for performing this assessment are anticipated to evolve over time, a lead agency shall have discretion to determine, in the context of a particular project, whether to use a model or methodology to quantify greenhouse gas emissions or to rely on qualitative or other performance based standards for estimating the significance of greenhouse gas emissions. (See CEQA Guidelines § 15064.4(b)).

CEQA defines a "significant effect on the environment" as a substantial, or potentially substantial, adverse change in the environment (Public Resources Code § 21068). With respect to global climate change, no one project can individually create a direct impact on what is a global problem (i.e., no project will, by itself, raise the temperature of the planet).

However, a project may be "cumulatively considerable," meaning "that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of current projects, and the effects of probable future projects." (CEQA Guidelines §15065(a)(3)). The CEQA Guidelines amendments add that a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program, such as a climate action plan, sustainable community strategy, or statewide plan of mitigation for greenhouse gas emissions. (See CEQA Guidelines § 15064(h)(2)).

2.9 Project-Related GHG Emissions

CEQA Guidelines 15064.4 (b) (1) states that a lead agency may use a model or methodology to quantify greenhouse gas emissions associated with a project.

On February 3, 2011, the SCAQMD released the California Emissions Estimator Model (CALEEMOD) Emissions Inventory Model™. The purpose of this new model is to more accurately calculate air quality and greenhouse gas (GHG) emissions from direct and indirect sources and quantify applicable air quality and GHG reductions achieved from mitigation measures. As such, the latest version of CALEEMOD™ was used for this project. The CalEEMod™ model includes GHG emissions from the following source categories: construction, area, energy, mobile, waste, water.

A summary of the project's GHG emissions are presented on Table 2-4 (Phase I) and Table 2-5 (Project Buildout) as follows.

TABLE 2-4

PHASE I GREENHOUSE GAS EMISSIONS (ANNUAL) (METRIC TONS PER YEAR)

	Emissions (metric tons per year)			
Emission Source	**CO_2**	**CH_4 (CO_2E)**	**N_2O(CO_2E)**	**Total CO_2E**
Annual construction-related emissions amortized over 30 years	53.22	0.098	--	53.32
Area Source Emissions	148.69	1.47	--	151.08
Energy	1,144.69	0.63	6.20	1.150.17
Mobile Sources	5,897.61	7.14	--	5,904.77
Waste	53.94	66.99	--	120.89
Water Usage	150.81	11.97	6.20	167.71
Total CO_2E (All Sources)			**7,547.94**	

Source: CalEEMod™ model output, See Appendix "A" for detailed model outputs.
Note: Totals obtained from CalEEMod™ and may not total 100% due to rounding.

TABLE 2-5

PROJECT BUILDOUT GREENHOUSE GAS EMISSIONS (ANNUAL) (METRIC TONS PER YEAR)

	Emissions (metric tons per year)			
Emission Source	**CO_2**	**CH_4 (CO_2E)**	**N_2O(CO_2E)**	**Total CO_2E**
Annual construction-related emissions amortized over 30 years[a]	106.44	0.196	--	106.64
Area Source Emissions	148.69	1.47	--	151.08
Energy	6,006.44	3.78	21.7	6,032.72
Mobile Sources	21,697.68	11.34	--	21,709.05
Waste	237.90	295.26	--	533.14
Water Usage	1,420.46	107.31	43.40	1,571.75
Total CO_2E (All Sources)			**30,104.36**	

Source: CalEEMod™ model output, See Appendix "A" for detailed model outputs.
Note: Totals obtained from CalEEMod™ and may not total 100% due to rounding.
[a]For Project Buildout conditions, construction emissions from Phase I were doubled as a conservative measure, to account for potential future construction activities associated with buildout of the project.

2.10 Analysis of Greenhouse Gas Impact

Set forth below is the City's qualitative, performance-based analysis for each of the three factors delineated in the CEQA Guidelines amendments. In addition, the City is establishing its own threshold of significance in connection with Factor No. 2.

FACTOR NO. 1: The extent to which the project may generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance.

The City determines compliance with this measure based on the extent to which a project may result in increased energy efficiency. Future development projects are expected to result in increased GHG emissions if they substantially increase electricity and natural gas consumption, vehicle miles traveled (VMT), and solid waste generation and subsequent disposal into landfills.

In the case of the Project, its mixed-use nature will assist in reducing regional vehicle miles travelled (VMT) by placing new residential uses near supporting commercial and employment-generating office uses. Additionally, by incorporating the following design features, which are supported by Mitigation Measures GG-1 through GG-3 (presented subsequently), the proposed Project will not significantly increase the consumption of energy resources that contribute to greenhouse gas emissions and create any significant cumulative impacts to global climate change.

- The proposed Project will be designed to be energy efficient by siting buildings to take advantage of shade, prevailing winds, landscaping, and sun screening to reduce energy required for cooling.

- The proposed Project will install efficient lighting and lighting control systems and will utilize daylight as an integral part of lighting systems in buildings.

- The proposed Project will install energy efficient heating and cooling systems, appliances and equipment, and control systems.

- The proposed Project will be designed to be water-efficient and will install water-efficient fixtures and appliances.

- The proposed Project will use recycled water, as available, for landscape irrigation purposes.

- The proposed Project will reduce waste by recycling and/or salvaging nonhazardous construction and demolition debris.

Based on the preceding discussion, the Project is considered to be compliant with Factor No. 1.

FACTOR NO. 2: The extent to which the project may conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

Given that neither the Governor's Office of Planning and Research (OPR), nor CARB, nor the SCAQMD has established a numerical threshold, the City will also not adopt a numerical threshold. Instead, the City has determined to apply the following threshold to the Project:

> The extent to which the project could help or hinder attainment of the state's goals of reducing greenhouse gas emissions to 1990 levels by the year 2020 as stated in AB 32 and an 80-percent reduction in GHG emissions below 1990 levels by 2050 as stated in Executive Order S-3-05.

The proposed Project would not hinder attainment of the state's goals of reducing GHG emissions to 1990 levels by 2020 and an 80-percent reduction below 1990 levels by 2050. The Project would constitute development within an established community that would be updating the region's building stock through its adoption of several GHG emissions reduction measures as set forth above in connection with Factor No. 1.

From a qualitative standpoint, the proposed Project is providing infill development on a currently underutilized site in a manner that is consistent with the City's adopted land use plan. As presented within the traffic study prepared for the Project, the total number of vehicle trips to be generated by the Project is substantially less than the number of trips projected under the

maximum development scenario envisioned by the City's General Plan. Further, the Project will provide an opportunity for area residents to shop and work closer to home. As such, the Project is considered consistent with Factor No. 2.

FACTOR NO. 2: 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.

No air district or other regulatory agency in California, including the SCAQMD, has formally adopted a significance threshold for GHG emissions generated by a Project (for which SCAQMD is not the lead agency), or a uniform methodology for analyzing impacts related to GHG emissions or global climate change. SCAQMD has adopted Significance Screening Levels for industrial projects (10,000 metric tons per year of carbon dioxide equivalent) for which it is the lead agency, but is still in the process of identifying screening significance thresholds for commercial and residential projects. (SCAQMD Working Group Meeting #14, November 19, 2009).

Therefore, there are no applicable regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions in which to compare the Project. Until such time as the City of Ontario adopts a Climate Action Plan (or similar plan designed to reduce the GHG emissions), the General Plan EIR adopted specific mitigation measures intended, in the interim, to minimize GHG emissions to the extent feasible. In order to ensure compliance with the General Plan, the relevant portions of these measures have been carried forward as Mitigation Measures GG-1 and GG-2, presented below.

Mitigation Measure GG-1: *The following measures shall be incorporated as conditions of Project approval, and shall be incorporated in all Project plans, specifications and contract documents:*

- *To reduce solid waste generation associated with Project construction activities, a plan to reduce waste by recycling and/or salvaging nonhazardous construction and demolition debris shall be submitted and approved by the City of Ontario prior to the issuance of construction permits*

- *The Project shall connect with and utilize reclaimed (recycled) water, provided it is available from the IEUA's reclaimed water system, for the irrigation of Project landscaping;*

- *All new landscaping irrigation systems installed by the Project shall be automated, high efficiency systems to reduce water use, including bubbler irrigation, low-angle and/or low-flow spray heads, moisture sensors, or the equivalent;*

- *The Project shall provide safe and convenient access for pedestrians and bicyclists to, across, and along the Project site's circulation system;*

- *The Project shall provide vehicle access to properly wired outdoor receptacles to accommodate zero emission vehicles (ZEV) and/or plug-in electric hybrids (PHEV) or the equivalent;*

- *The Project's commercial/retail components shall provide priority parking for electric vehicles and vehicles using alternative fuels;*

- *The Project shall provide vehicle access to properly wired outdoor receptacles to accommodate zero emission vehicles (ZEV) and/or plug-in electric hybrids (PHEV) or the equivalent;*

- *The Project shall provide 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.*

- *The Project shall, where feasible, incorporate passive solar design features, such as daylighting, and passive solar heating.*

Mitigation Measure GG-2: *Buildings shall surpass incumbent California Title 24 Energy Efficiency performance standards by a minimum of 20 percent for water heating and space heating and cooling. Verification of increased energy efficiencies shall be documented in Title*

24 Compliance Reports provided by the Applicant, and reviewed and approved by the City prior to the issuance of the first building permit. Any combination of the following design features may be used to fulfill this mitigation measure provided that the total increase in efficiency meets or exceeds 20 percent:

- *Site buildings to take advantage of shade, prevailing winds, landscaping, and sun screening, to reduce energy required for cooling;*

- *Increase in insulation such that heat transfer and thermal bridging is minimized;*

- *Limit air leakage through the structure or within the heating and cooling distribution system to minimize energy consumption;*

- *Incorporate dual-paned or other energy efficient windows;*

- *Incorporate energy efficient space heating and cooling equipment;*

- *Interior and exterior energy efficient lighting which exceeds the California Title 24 Energy Efficiency performance standards shall be installed, as deemed acceptable by the City of Ontario;*

- *Automatic devices to turn off lights when they are not needed shall be implemented in all non-residential development;*

- *To the extent that they are compatible with landscaping guidelines established by the Tuscana Village Specific Plan and the City of Ontario, shade producing trees, particularly those that shade buildings and paved surfaces such as streets and parking lots and buildings shall be planted at the Project site;*

- *Paint and surface color palette for the Project shall emphasize light and off-white colors which will reflect heat away from the buildings;*

- *Cool roofs and pavement shall be utilized, where appropriate, in all of the Project's nonresidential development;*

- *All buildings shall be designed to accommodate renewable energy sources, such as photovoltaic solar electricity systems, appropriate to their architectural design.*

Mitigation Measure GG-3: *In addition to the preceding requirements of Mitigation Measures GG-1 and GG-2, the following measures shall be incorporated as conditions of approval for the Project's Phase II, Office Park development, and shall be incorporated in all Project plans, specifications and contract documents:*

- *The Project shall provide on-site, secure and weatherproof bicycle storage/parking consistent with City of Ontario requirements;*

- *The Project shall provide safe and convenient pedestrian and bicycle connections to surrounding areas, consistent with provisions of the Ontario Development Code. Location and configurations of proposed pedestrian and bicycle connections are subject to review and approval by the City. Prior to Final Site Plan approval, pedestrian and bicycle connections shall be indicated on the Project Site Plan; and*
- *The Project shall provide preferential parking for carpools and vanpool. Locations and configurations of proposed preferential parking for carpools and vanpools are subject to review and approval by the City. Prior to Final Site Plan approval, preferential parking for carpools and vanpools shall be delineated on the Project Site Plan.*

Compliance with these Mitigation Measures would ensure that Project-related emissions would not exceed those anticipated as part of the development of the City's Proposed Land Use Plan.

Summary

This evaluation acknowledges that the Project would generate GHG emissions; however, the mitigation measures identified in this discussion would reduce these emissions to the extent feasible. GHG emissions associated with buildout of the City's General Plan were identified as a significant and unavoidable impact of the General Plan. In adopting the General Plan and associated EIR, the City was required to prepare a statement of facts and findings to identify the specific legal, social, technological, or other benefits of the General Plan update that would outweigh this unavoidable adverse impact and render it "acceptable." Because the Project's land use intensity and trip generation are both consistent with and reflected in the adopted Ontario General Plan, no additional impact beyond that identified in the Ontario General Plan

EIR would occur based on Project development. Further, as demonstrated within this discussion, the Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The Project will not interfere with the state's goals of reducing greenhouse gas emissions to 1990 levels by the year 2020 as stated in AB 32 and an 80-percent reduction in GHG emissions below 1990 levels by 2050 as stated in Executive Order S-3-05. Project sustainable design features significantly reduce potential Project-related GHG emissions and are consistent with mitigation strategies. As presented above, the Project's potential impact change and global warming is considered less-than-significant.

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APPENDIX A

GHG Emissions Calculations

APPENDIX A

GHG Emissions Calculations

Tuscana Specific Plan Phase I

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
General Office Building	2	1000sqft
Parking Lot	800	Space
Fast Food Restaurant with Drive Thru	2.25	1000sqft
High Turnover (Sit Down Restaurant)	11.03	1000sqft
Apartments Mid Rise	200	Dwelling Unit
Convenience Market With Gas Pumps	12	Pump
Regional Shopping Center	9	1000sqft
Strip Mall	5	1000sqft

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Statewide Average
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use -

Demolition -

Vehicle Trips - Wkday Trip Rates from Project Traffic Study

Woodstoves - No Wood Stoves, only Gas Fireplaces

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	1.30	8.73	7.24	0.01	0.69	0.49	1.19	0.13	0.49	0.62	0.00	1,128.10	1,128.10	0.10	0.00	1,130.28
2012	5.36	3.08	2.94	0.01	0.24	0.19	0.44	0.01	0.19	0.20	0.00	468.38	468.38	0.04	0.00	469.23
Total	**6.66**	**11.81**	**10.18**	**0.02**	**0.93**	**0.68**	**1.63**	**0.14**	**0.68**	**0.82**	**0.00**	**1,596.48**	**1,596.48**	**0.14**	**0.00**	**1,599.51**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	1.30	8.73	7.24	0.01	0.56	0.49	1.05	0.06	0.49	0.55	0.00	1,128.10	1,128.10	0.10	0.00	1,130.28
2012	5.36	3.08	2.94	0.01	0.24	0.19	0.44	0.01	0.19	0.20	0.00	468.38	468.38	0.04	0.00	469.23
Total	**6.66**	**11.81**	**10.18**	**0.02**	**0.80**	**0.68**	**1.49**	**0.07**	**0.68**	**0.75**	**0.00**	**1,596.48**	**1,596.48**	**0.14**	**0.00**	**1,599.51**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.25	0.05	4.42	0.00		0.00	0.21		0.00	0.21	21.24	127.44	148.69	0.07	0.00	151.08
Energy	0.04	0.32	0.21	0.00		0.00	0.03		0.00	0.03	0.00	1,144.69	1,144.69	0.03	0.02	1,150.17
Mobile	5.35	14.35	51.05	0.06	6.53	0.50	7.03	0.25	0.50	0.75	0.00	5,897.61	5,897.61	0.34	0.00	5,904.77
Waste						0.00	0.00		0.00	0.00	53.94	0.00	53.94	3.19	0.00	120.89
Water						0.00	0.00		0.00	0.00	0.00	150.81	150.81	0.57	0.02	167.71
Total	**8.64**	**14.72**	**55.68**	**0.06**	**6.53**	**0.50**	**7.27**	**0.25**	**0.50**	**0.99**	**75.18**	**7,320.55**	**7,395.74**	**4.20**	**0.04**	**7,494.62**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.60	0.04	3.17	0.00		0.00	0.03		0.00	0.03	0.00	134.65	134.65	0.01	0.00	135.56
Energy	0.03	0.29	0.19	0.00		0.00	0.02		0.00	0.02	0.00	1,061.35	1,061.35	0.03	0.01	1,066.41
Mobile	5.35	14.35	51.05	0.06	6.53	0.50	7.03	0.25	0.50	0.75	0.00	5,897.61	5,897.61	0.34	0.00	5,904.77
Waste						0.00	0.00		0.00	0.00	53.94	0.00	53.94	3.19	0.00	120.89
Water						0.00	0.00		0.00	0.00	0.00	142.73	142.73	0.57	0.02	159.59
Total	**7.98**	**14.68**	**54.41**	**0.06**	**6.53**	**0.50**	**7.08**	**0.25**	**0.50**	**0.80**	**53.94**	**7,236.34**	**7,290.28**	**4.14**	**0.03**	**7,387.22**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.10	0.80	0.46	0.00		0.04	0.04		0.04	0.04	0.00	68.12	68.12	0.01	0.00	68.29
Total	**0.10**	**0.80**	**0.46**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**68.12**	**68.12**	**0.01**	**0.00**	**68.29**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.59	1.59	0.00	0.00	1.60
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.59**	**1.59**	**0.00**	**0.00**	**1.60**

3.2 Demolition - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.10	0.80	0.46	0.00		0.04	0.04		0.04	0.04	0.00	68.12	68.12	0.01	0.00	68.29
Total	**0.10**	**0.80**	**0.46**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**68.12**	**68.12**	**0.01**	**0.00**	**68.29**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.59	1.59	0.00	0.00	1.60
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.59**	**1.59**	**0.00**	**0.00**	**1.60**

3.3 Site Preparation - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.09	0.00	0.09	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.05	0.45	0.25	0.00		0.02	0.02		0.02	0.02	0.00	36.27	36.27	0.00	0.00	36.36
Total	**0.05**	**0.45**	**0.25**	**0.00**	**0.09**	**0.02**	**0.11**	**0.05**	**0.02**	**0.07**	**0.00**	**36.27**	**36.27**	**0.00**	**0.00**	**36.36**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96	0.96	0.00	0.00	0.96
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.96**	**0.96**	**0.00**	**0.00**	**0.96**

3.3 Site Preparation - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.03	0.00	0.03	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.05	0.45	0.25	0.00		0.02	0.02		0.02	0.02	0.00	36.27	36.27	0.00	0.00	36.36
Total	**0.05**	**0.45**	**0.25**	**0.00**	**0.03**	**0.02**	**0.05**	**0.02**	**0.02**	**0.04**	**0.00**	**36.27**	**36.27**	**0.00**	**0.00**	**36.36**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96	0.96	0.00	0.00	0.96
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.96**	**0.96**	**0.00**	**0.00**	**0.96**

3.4 Grading - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.13	0.00	0.13	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.20	1.66	0.87	0.00		0.08	0.08		0.08	0.08	0.00	147.69	147.69	0.02	0.00	148.03
Total	**0.20**	**1.66**	**0.87**	**0.00**	**0.13**	**0.08**	**0.21**	**0.05**	**0.08**	**0.13**	**0.00**	**147.69**	**147.69**	**0.02**	**0.00**	**148.03**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.19	3.19	0.00	0.00	3.19
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.19**	**3.19**	**0.00**	**0.00**	**3.19**

3.4 Grading - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.05	0.00	0.05	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.20	1.66	0.87	0.00		0.08	0.08		0.08	0.08	0.00	147.69	147.69	0.02	0.00	148.03
Total	**0.20**	**1.66**	**0.87**	**0.00**	**0.05**	**0.08**	**0.13**	**0.02**	**0.08**	**0.10**	**0.00**	**147.69**	**147.69**	**0.02**	**0.00**	**148.03**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.19	3.19	0.00	0.00	3.19
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.19**	**3.19**	**0.00**	**0.00**	**3.19**

3.5 Building Construction - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.61	4.02	2.40	0.00		0.28	0.28		0.28	0.28	0.00	366.46	366.46	0.05	0.00	367.50
Total	**0.61**	**4.02**	**2.40**	**0.00**		**0.28**	**0.28**		**0.28**	**0.28**	**0.00**	**366.46**	**366.46**	**0.05**	**0.00**	**367.50**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.13	1.56	0.84	0.00	0.07	0.05	0.12	0.01	0.05	0.06	0.00	195.62	195.62	0.01	0.00	195.74
Worker	0.21	0.24	2.38	0.00	0.40	0.01	0.41	0.02	0.01	0.03	0.00	308.20	308.20	0.02	0.00	308.62
Total	**0.34**	**1.80**	**3.22**	**0.00**	**0.47**	**0.06**	**0.53**	**0.03**	**0.06**	**0.09**	**0.00**	**503.82**	**503.82**	**0.03**	**0.00**	**504.36**

3.5 Building Construction - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.61	4.02	2.40	0.00		0.28	0.28		0.28	0.28	0.00	366.46	366.46	0.05	0.00	367.50
Total	**0.61**	**4.02**	**2.40**	**0.00**		**0.28**	**0.28**		**0.28**	**0.28**	**0.00**	**366.46**	**366.46**	**0.05**	**0.00**	**367.50**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.13	1.56	0.84	0.00	0.07	0.05	0.12	0.01	0.05	0.06	0.00	195.62	195.62	0.01	0.00	195.74
Worker	0.21	0.24	2.38	0.00	0.40	0.01	0.41	0.02	0.01	0.03	0.00	308.20	308.20	0.02	0.00	308.62
Total	**0.34**	**1.80**	**3.22**	**0.00**	**0.47**	**0.06**	**0.53**	**0.03**	**0.06**	**0.09**	**0.00**	**503.82**	**503.82**	**0.03**	**0.00**	**504.36**

3.5 Building Construction - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.28	1.87	1.19	0.00		0.13	0.13		0.13	0.13	0.00	183.23	183.23	0.02	0.00	183.71
Total	**0.28**	**1.87**	**1.19**	**0.00**		**0.13**	**0.13**		**0.13**	**0.13**	**0.00**	**183.23**	**183.23**	**0.02**	**0.00**	**183.71**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.06	0.71	0.39	0.00	0.03	0.02	0.06	0.00	0.02	0.03	0.00	97.89	97.89	0.00	0.00	97.94
Worker	0.09	0.11	1.08	0.00	0.20	0.01	0.21	0.01	0.01	0.01	0.00	150.67	150.67	0.01	0.00	150.86
Total	**0.15**	**0.82**	**1.47**	**0.00**	**0.23**	**0.03**	**0.27**	**0.01**	**0.03**	**0.04**	**0.00**	**248.56**	**248.56**	**0.01**	**0.00**	**248.80**

3.5 Building Construction - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.28	1.87	1.19	0.00		0.13	0.13		0.13	0.13	0.00	183.23	183.23	0.02	0.00	183.71
Total	**0.28**	**1.87**	**1.19**	**0.00**		**0.13**	**0.13**		**0.13**	**0.13**	**0.00**	**183.23**	**183.23**	**0.02**	**0.00**	**183.71**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.06	0.71	0.39	0.00	0.03	0.02	0.06	0.00	0.02	0.03	0.00	97.89	97.89	0.00	0.00	97.94
Worker	0.09	0.11	1.08	0.00	0.20	0.01	0.21	0.01	0.01	0.01	0.00	150.67	150.67	0.01	0.00	150.86
Total	**0.15**	**0.82**	**1.47**	**0.00**	**0.23**	**0.03**	**0.27**	**0.01**	**0.03**	**0.04**	**0.00**	**248.56**	**248.56**	**0.01**	**0.00**	**248.80**

3.6 Paving - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.06	0.36	0.21	0.00		0.03	0.03		0.03	0.03	0.00	26.46	26.46	0.00	0.00	26.56
Paving	0.01					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.07**	**0.36**	**0.21**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**26.46**	**26.46**	**0.00**	**0.00**	**26.56**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.56	1.56	0.00	0.00	1.56
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.56**	**1.56**	**0.00**	**0.00**	**1.56**

3.6 Paving - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.06	0.36	0.21	0.00		0.03	0.03		0.03	0.03	0.00	26.46	26.46	0.00	0.00	26.56
Paving	0.01					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.07**	**0.36**	**0.21**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**26.46**	**26.46**	**0.00**	**0.00**	**26.56**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.56	1.56	0.00	0.00	1.56
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.56**	**1.56**	**0.00**	**0.00**	**1.56**

3.7 Architectural Coating - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.84					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.55	2.55	0.00	0.00	2.56
Total	**4.85**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.55**	**2.55**	**0.00**	**0.00**	**2.56**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	6.03	6.03	0.00	0.00	6.03
Total	**0.00**	**0.00**	**0.04**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**6.03**	**6.03**	**0.00**	**0.00**	**6.03**

3.7 Architectural Coating - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.84					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.55	2.55	0.00	0.00	2.56
Total	**4.85**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.55**	**2.55**	**0.00**	**0.00**	**2.56**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	6.03	6.03	0.00	0.00	6.03
Total	**0.00**	**0.00**	**0.04**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**6.03**	**6.03**	**0.00**	**0.00**	**6.03**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.35	14.35	51.05	0.06	6.53	0.50	7.03	0.25	0.50	0.75	0.00	5,897.61	5,897.61	0.34	0.00	5,904.77
Unmitigated	5.35	14.35	51.05	0.06	6.53	0.50	7.03	0.25	0.50	0.75	0.00	5,897.61	5,897.61	0.34	0.00	5,904.77
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,330.00	1,432.00	1214.00	4,423,003	4,423,003
Convenience Market With Gas Pumps	1,834.08	2,453.64	2002.56	1,702,500	1,702,500
Fast Food Restaurant with Drive Thru	1,116.27	1,624.57	1221.12	1,835,274	1,835,274
General Office Building	22.02	4.74	1.96	53,286	53,286
High Turnover (Sit Down Restaurant)	1,402.46	1,746.82	1454.20	2,656,052	2,656,052
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	386.46	449.73	227.16	977,326	977,326
Strip Mall	180.40	180.40	180.40	414,464	414,464
Total	6,271.69	7,891.90	6,301.40	12,061,904	12,061,904

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Apartments Mid Rise	12.70	7.00	9.50	40.20	19.20	40.60
Convenience Market With Gas Pumps	8.90	13.30	7.40	0.80	80.20	19.00
Fast Food Restaurant with Drive Thru	8.90	13.30	7.40	2.20	78.80	19.00
General Office Building	8.90	13.30	7.40	33.00	48.00	19.00
High Turnover (Sit Down Restaurant)	8.90	13.30	7.40	8.50	72.50	19.00
Parking Lot	8.90	13.30	7.40	0.00	0.00	0.00
Regional Shopping Center	8.90	13.30	7.40	16.30	64.70	19.00
Strip Mall	8.90	13.30	7.40	16.60	64.40	19.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	739.93	739.93	0.02	0.01	743.03
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	782.94	782.94	0.02	0.01	786.22
NaturalGas Mitigated	0.03	0.29	0.19	0.00		0.00	0.02		0.00	0.02	0.00	321.42	321.42	0.01	0.01	323.37
NaturalGas Unmitigated	0.04	0.32	0.21	0.00		0.00	0.03		0.00	0.03	0.00	361.75	361.75	0.01	0.01	363.96
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Apartments Mid Rise	3.04998e+006	0.02	0.14	0.06	0.00		0.00	0.01		0.00	0.01	0.00	162.76	162.76	0.00	0.00	163.75
Convenience Market With Gas Pumps	3930.31	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.21	0.21	0.00	0.00	0.21
Fast Food Restaurant with Drive Thru	624398	0.00	0.03	0.03	0.00		0.00	0.00		0.00	0.00	0.00	33.32	33.32	0.00	0.00	33.52
General Office Building	7300	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.39	0.39	0.00	0.00	0.39
High Turnover (Sit Down Restaurant)	3.06094e+006	0.02	0.15	0.13	0.00		0.00	0.01		0.00	0.01	0.00	163.34	163.34	0.00	0.00	164.34
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regional Shopping Center	20880	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	1.11	1.11	0.00	0.00	1.12
Strip Mall	11600	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.62	0.62	0.00	0.00	0.62
Total		**0.04**	**0.32**	**0.22**	**0.00**		**0.00**	**0.02**		**0.00**	**0.02**	**0.00**	**361.75**	**361.75**	**0.00**	**0.00**	**363.95**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Apartments Mid Rise	2.51901e+006	0.01	0.12	0.05	0.00		0.00	0.01		0.00	0.01	0.00	134.42	134.42	0.00	0.00	135.24
Convenience Market With Gas Pumps	3245.9	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.17	0.17	0.00	0.00	0.17
Fast Food Restaurant with Drive Thru	587615	0.00	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	31.36	31.36	0.00	0.00	31.55
General Office Building	5840	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.31	0.31	0.00	0.00	0.31
High Turnover (Sit Down Restaurant)	2.88062e+006	0.02	0.14	0.12	0.00		0.00	0.01		0.00	0.01	0.00	153.72	153.72	0.00	0.00	154.66
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regional Shopping Center	17244	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.92	0.92	0.00	0.00	0.93
Strip Mall	9580	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.51	0.51	0.00	0.00	0.51
Total		**0.03**	**0.29**	**0.19**	**0.00**		**0.00**	**0.02**		**0.00**	**0.02**	**0.00**	**321.41**	**321.41**	**0.00**	**0.00**	**323.37**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Mid Rise	837808					364.25	0.01	0.00	365.78
Convenience Market With Gas Pumps	26529.6					11.53	0.00	0.00	11.58
Fast Food Restaurant with Drive Thru	117900					51.26	0.00	0.00	51.47
General Office Building	21380					9.30	0.00	0.00	9.33
High Turnover (Sit Down Restaurant)	577972					251.28	0.01	0.00	252.33
Parking Lot	0					0.00	0.00	0.00	0.00
Regional Shopping Center	140940					61.28	0.00	0.00	61.53
Strip Mall	78300					34.04	0.00	0.00	34.18
Total						**782.94**	**0.02**	**0.00**	**786.20**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Mid Rise	798159					347.01	0.01	0.00	348.47
Convenience Market With Gas Pumps	24632.2					10.71	0.00	0.00	10.75
Fast Food Restaurant with Drive Thru	111092					48.30	0.00	0.00	48.50
General Office Building	19880					8.64	0.00	0.00	8.68
High Turnover (Sit Down Restaurant)	544595					236.77	0.01	0.00	237.76
Parking Lot	0					0.00	0.00	0.00	0.00
Regional Shopping Center	130860					56.89	0.00	0.00	57.13
Strip Mall	72700					31.61	0.00	0.00	31.74
Total						**739.93**	**0.02**	**0.00**	**743.03**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.60	0.04	3.17	0.00		0.00	0.03		0.00	0.03	0.00	134.65	134.65	0.01	0.00	135.56
Unmitigated	3.25	0.05	4.42	0.00		0.00	0.21		0.00	0.21	21.24	127.44	148.69	0.07	0.00	151.08
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.48					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	1.99					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.66	0.02	1.26	0.00		0.00	0.20		0.00	0.20	21.24	122.47	143.71	0.06	0.00	145.99
Landscaping	0.11	0.04	3.17	0.00		0.00	0.02		0.00	0.02	0.00	4.97	4.97	0.01	0.00	5.09
Total	**3.24**	**0.06**	**4.43**	**0.00**		**0.00**	**0.22**		**0.00**	**0.22**	**21.24**	**127.44**	**148.68**	**0.07**	**0.00**	**151.08**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.48					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	1.99					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.01	0.00	0.00	0.00		0.00	0.01		0.00	0.01	0.00	129.67	129.67	0.00	0.00	130.46
Landscaping	0.11	0.04	3.17	0.00		0.00	0.02		0.00	0.02	0.00	4.97	4.97	0.01	0.00	5.09
Total	**2.59**	**0.04**	**3.17**	**0.00**		**0.00**	**0.03**		**0.00**	**0.03**	**0.00**	**134.64**	**134.64**	**0.01**	**0.00**	**135.55**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Use Water Efficient Irrigation System

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					142.73	0.57	0.02	159.59
Unmitigated					150.81	0.57	0.02	167.71
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Mid Rise	13.0308 / 8.21507					113.59	0.40	0.01	125.48
Convenience Market With Gas Pumps	0.125486 / 0.0769109					1.08	0.00	0.00	1.20
Fast Food Restaurant with Drive Thru	0.682951 / 0.0435926					4.08	0.02	0.00	4.70
General Office Building	0.355467 / 0.217867					3.07	0.01	0.00	3.39
High Turnover (Sit Down Restaurant)	3.34798 / 0.213701					20.02	0.10	0.00	23.04
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Regional Shopping Center	0.666653 / 0.408594					5.76	0.02	0.00	6.36
Strip Mall	0.370363 / 0.226996					3.20	0.01	0.00	3.53
Total						**150.80**	**0.56**	**0.01**	**167.70**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Mid Rise	13.0308 / 6.7537					106.54	0.40	0.01	118.39
Convenience Market With Gas Pumps	0.125486 / 0.0632293					1.02	0.00	0.00	1.13
Fast Food Restaurant with Drive Thru	0.682951 / 0.035838					4.05	0.02	0.00	4.66
General Office Building	0.355467 / 0.179111					2.88	0.01	0.00	3.20
High Turnover (Sit Down Restaurant)	3.34798 / 0.175686					19.84	0.10	0.00	22.85
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Regional Shopping Center	0.666653 / 0.335909					5.40	0.02	0.00	6.01
Strip Mall	0.370363 / 0.186616					3.00	0.01	0.00	3.34
Total						**142.73**	**0.56**	**0.01**	**159.58**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					53.94	3.19	0.00	120.89
Unmitigated					53.94	3.19	0.00	120.89
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Mid Rise	92					18.68	1.10	0.00	41.85
Fast Food Restaurant with Drive Thru	25.92					5.26	0.31	0.00	11.79
General Office Building	1.86					0.38	0.02	0.00	0.85
High Turnover (Sit Down Restaurant)	131.26					26.64	1.57	0.00	59.71
Parking Lot	0					0.00	0.00	0.00	0.00
Regional Shopping Center	9.45					1.92	0.11	0.00	4.30
Strip Mall	5.25					1.07	0.06	0.00	2.39
Total						**53.95**	**3.17**	**0.00**	**120.89**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Mid Rise	92					18.68	1.10	0.00	41.85
Fast Food Restaurant with Drive Thru	25.92					5.26	0.31	0.00	11.79
General Office Building	1.86					0.38	0.02	0.00	0.85
High Turnover (Sit Down Restaurant)	131.26					26.64	1.57	0.00	59.71
Parking Lot	0					0.00	0.00	0.00	0.00
Regional Shopping Center	9.45					1.92	0.11	0.00	4.30
Strip Mall	5.25					1.07	0.06	0.00	2.39
Total						**53.95**	**3.17**	**0.00**	**120.89**

9.0 Vegetation

Tuscana Specific Plan Phase I & II

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
General Office Building	69	1000sqft
General Office Building	450.51	1000sqft
General Office Building	242.82	1000sqft
Parking Lot	800	Space
Fast Food Restaurant with Drive Thru	5.75	1000sqft
High Turnover (Sit Down Restaurant)	11.03	1000sqft
Apartments Mid Rise	200	Dwelling Unit
Convenience Market With Gas Pumps	12	Pump
Regional Shopping Center	27	1000sqft
Regional Shopping Center	90.1	1000sqft
Regional Shopping Center	48.13	1000sqft

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Utility Company** Statewide Average

Climate Zone	10	**Precipitation Freq (Days)**	32

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - Operations for Project Buildout Only

Demolition -

Vehicle Trips - Wkday Trip Rates from Project Traffic Study

Woodstoves - No Wood Stoves, only Gas Fireplaces

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	7.60	0.05	4.29	0.00		0.00	0.21		0.00	0.21	21.24	127.44	148.69	0.07	0.00	151.06
Energy	0.06	0.52	0.38	0.00		0.00	0.04		0.00	0.04	0.00	6,006.44	6,006.44	0.18	0.07	6,032.72
Mobile	8.39	30.15	69.40	0.29	28.05	1.41	29.47	0.46	1.23	1.69	0.00	21,697.68	21,697.68	0.54	0.00	21,709.05
Waste						0.00	0.00		0.00	0.00	237.90	0.00	237.90	14.06	0.00	533.14
Water						0.00	0.00		0.00	0.00	0.00	1,420.46	1,420.46	5.11	0.14	1,571.75
Total	**16.05**	**30.72**	**74.07**	**0.29**	**28.05**	**1.41**	**29.72**	**0.46**	**1.23**	**1.94**	**259.14**	**29,252.02**	**29,511.17**	**19.96**	**0.21**	**29,997.72**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.95	0.03	3.03	0.00		0.00	0.03		0.00	0.03	0.00	134.65	134.65	0.01	0.00	135.54
Energy	0.05	0.46	0.33	0.00		0.00	0.04		0.00	0.04	0.00	5,561.00	5,561.00	0.16	0.07	5,585.27
Mobile	8.39	30.15	69.40	0.29	28.05	1.41	29.47	0.46	1.23	1.69	0.00	21,697.68	21,697.68	0.54	0.00	21,709.05
Waste						0.00	0.00		0.00	0.00	237.90	0.00	237.90	14.06	0.00	533.14
Water						0.00	0.00		0.00	0.00	0.00	1,335.26	1,335.26	5.11	0.14	1,486.19
Total	**15.39**	**30.64**	**72.76**	**0.29**	**28.05**	**1.41**	**29.54**	**0.46**	**1.23**	**1.76**	**237.90**	**28,728.59**	**28,966.49**	**19.88**	**0.21**	**29,449.19**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	8.39	30.15	69.40	0.29	28.05	1.41	29.47	0.46	1.23	1.69	0.00	21,697.68	21,697.68	0.54	0.00	21,709.05
Unmitigated	8.39	30.15	69.40	0.29	28.05	1.41	29.47	0.46	1.23	1.69	0.00	21,697.68	21,697.68	0.54	0.00	21,709.05
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,330.00	1,432.00	1214.00	4,423,003	4,423,003
Convenience Market With Gas Pumps	1,834.08	2,453.64	2002.56	1,702,500	1,702,500
Fast Food Restaurant with Drive Thru	2,852.69	4,151.67	3120.64	4,690,144	4,690,144
General Office Building	759.69	163.53	67.62	1,838,355	1,838,355
General Office Building	4,960.12	1,067.71	441.50	12,002,859	12,002,859
General Office Building	2,673.45	575.48	237.96	6,469,411	6,469,411
High Turnover (Sit Down Restaurant)	1,402.46	1,746.82	1454.20	2,656,052	2,656,052
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	1,159.38	1,349.19	681.48	2,931,977	2,931,977
Regional Shopping Center	3,868.89	4,502.30	2274.12	9,784,116	9,784,116

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Regional Shopping Center	2,066.70	2,405.06	1214.80	5,226,521	5,226,521
Total	22,907.46	19,847.40	12,708.88	51,724,938	51,724,938

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Apartments Mid Rise	12.70	7.00	9.50	40.20	19.20	40.60
Convenience Market With Gas Pumps	8.90	13.30	7.40	0.80	80.20	19.00
Fast Food Restaurant with Drive Thru	8.90	13.30	7.40	2.20	78.80	19.00
General Office Building	8.90	13.30	7.40	33.00	48.00	19.00
General Office Building	8.90	13.30	7.40	33.00	48.00	19.00
General Office Building	8.90	13.30	7.40	33.00	48.00	19.00
High Turnover (Sit Down Restaurant)	8.90	13.30	7.40	8.50	72.50	19.00
Parking Lot	8.90	13.30	7.40	0.00	0.00	0.00
Regional Shopping Center	8.90	13.30	7.40	16.30	64.70	19.00
Regional Shopping Center	8.90	13.30	7.40	16.30	64.70	19.00
Regional Shopping Center	8.90	13.30	7.40	16.30	64.70	19.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	5,056.86	5,056.86	0.15	0.06	5,078.07
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	5,426.03	5,426.03	0.16	0.06	5,448.79
NaturalGas Mitigated	0.05	0.46	0.33	0.00		0.00	0.04		0.00	0.04	0.00	504.14	504.14	0.01	0.01	507.20
NaturalGas Unmitigated	0.06	0.52	0.38	0.00		0.00	0.04		0.00	0.04	0.00	580.40	580.40	0.01	0.01	583.94
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Apartments Mid Rise	3.04998e+006	0.02	0.14	0.06	0.00		0.00	0.01		0.00	0.01	0.00	162.76	162.76	0.00	0.00	163.75
Convenience Market With Gas Pumps	3930.31	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.21	0.21	0.00	0.00	0.21
Fast Food Restaurant with Drive Thru	1.59568e+006	0.01	0.08	0.07	0.00		0.00	0.01		0.00	0.01	0.00	85.15	85.15	0.00	0.00	85.67
General Office Building	1.64436e+006	0.01	0.08	0.07	0.00		0.00	0.01		0.00	0.01	0.00	87.75	87.75	0.00	0.00	88.28
General Office Building	251850	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	13.44	13.44	0.00	0.00	13.52
General Office Building	886293	0.00	0.04	0.04	0.00		0.00	0.00		0.00	0.00	0.00	47.30	47.30	0.00	0.00	47.58
High Turnover (Sit Down Restaurant)	3.06094e+006	0.02	0.15	0.13	0.00		0.00	0.01		0.00	0.01	0.00	163.34	163.34	0.00	0.00	164.34
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regional Shopping Center	111662	0.00	0.01	0.00	0.00		0.00	0.00		0.00	0.00	0.00	5.96	5.96	0.00	0.00	5.99
Regional Shopping Center	209032	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	11.15	11.15	0.00	0.00	11.22
Regional Shopping Center	62640	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	3.34	3.34	0.00	0.00	3.36
Total		**0.06**	**0.52**	**0.39**	**0.00**		**0.00**	**0.04**		**0.00**	**0.04**	**0.00**	**580.40**	**580.40**	**0.00**	**0.00**	**583.92**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Apartments Mid Rise	2.51901e+006	0.01	0.12	0.05	0.00		0.00	0.01		0.00	0.01	0.00	134.42	134.42	0.00	0.00	135.24
Convenience Market With Gas Pumps	3245.9	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.17	0.17	0.00	0.00	0.17
Fast Food Restaurant with Drive Thru	1.50168e+006	0.01	0.07	0.06	0.00		0.00	0.01		0.00	0.01	0.00	80.14	80.14	0.00	0.00	80.62
General Office Building	1.31549e+006	0.01	0.06	0.05	0.00		0.00	0.00		0.00	0.00	0.00	70.20	70.20	0.00	0.00	70.63
General Office Building	201480	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	10.75	10.75	0.00	0.00	10.82
General Office Building	709034	0.00	0.03	0.03	0.00		0.00	0.00		0.00	0.00	0.00	37.84	37.84	0.00	0.00	38.07
High Turnover (Sit Down Restaurant)	2.88062e+006	0.02	0.14	0.12	0.00		0.00	0.01		0.00	0.01	0.00	153.72	153.72	0.00	0.00	154.66
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regional Shopping Center	172632	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	9.21	9.21	0.00	0.00	9.27
Regional Shopping Center	51732	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	2.76	2.76	0.00	0.00	2.78
Regional Shopping Center	92217.1	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	4.92	4.92	0.00	0.00	4.95
Total		**0.05**	**0.44**	**0.33**	**0.00**		**0.00**	**0.03**		**0.00**	**0.03**	**0.00**	**504.13**	**504.13**	**0.00**	**0.00**	**507.21**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Mid Rise	837808					364.25	0.01	0.00	365.78
Convenience Market With Gas Pumps	26529.6					11.53	0.00	0.00	11.58
Fast Food Restaurant with Drive Thru	301300					130.99	0.00	0.00	131.54
General Office Building	2.59575e+006					1,128.54	0.03	0.01	1,133.27
General Office Building	4.81595e+006					2,093.80	0.06	0.02	2,102.58
General Office Building	737610					320.69	0.01	0.00	322.03
High Turnover (Sit Down Restaurant)	577972					251.28	0.01	0.00	252.33
Parking Lot	0					0.00	0.00	0.00	0.00
Regional Shopping Center	1.41097e+006					613.44	0.02	0.01	616.01
Regional Shopping Center	422820					183.83	0.01	0.00	184.60
Regional Shopping Center	753716					327.69	0.01	0.00	329.06
Total						**5,426.04**	**0.16**	**0.04**	**5,448.78**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Mid Rise	798159					347.01	0.01	0.00	348.47
Convenience Market With Gas Pumps	24632.2					10.71	0.00	0.00	10.75
Fast Food Restaurant with Drive Thru	283901					123.43	0.00	0.00	123.95
General Office Building	2.41363e+006					1,049.36	0.03	0.01	1,053.76
General Office Building	4.47807e+006					1,946.90	0.06	0.02	1,955.07
General Office Building	685860					298.19	0.01	0.00	299.44
High Turnover (Sit Down Restaurant)	544595					236.77	0.01	0.00	237.76
Parking Lot	0					0.00	0.00	0.00	0.00
Regional Shopping Center	1.31005e+006					569.56	0.02	0.01	571.95
Regional Shopping Center	392580					170.68	0.01	0.00	171.40
Regional Shopping Center	699810					304.25	0.01	0.00	305.53
Total						**5,056.86**	**0.16**	**0.04**	**5,078.08**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.95	0.03	3.03	0.00		0.00	0.03		0.00	0.03	0.00	134.65	134.65	0.01	0.00	135.54
Unmitigated	7.60	0.05	4.29	0.00		0.00	0.21		0.00	0.21	21.24	127.44	148.69	0.07	0.00	151.06
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.54					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	5.30					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.66	0.02	1.26	0.00		0.00	0.20		0.00	0.20	21.24	122.47	143.71	0.06	0.00	145.99
Landscaping	0.09	0.03	3.03	0.00		0.00	0.02		0.00	0.02	0.00	4.97	4.97	0.00	0.00	5.07
Total	**7.59**	**0.05**	**4.29**	**0.00**		**0.00**	**0.22**		**0.00**	**0.22**	**21.24**	**127.44**	**148.68**	**0.06**	**0.00**	**151.06**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.54					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	5.30					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.01	0.00	0.00	0.00		0.00	0.01		0.00	0.01	0.00	129.67	129.67	0.00	0.00	130.46
Landscaping	0.09	0.03	3.03	0.00		0.00	0.02		0.00	0.02	0.00	4.97	4.97	0.00	0.00	5.07
Total	**6.94**	**0.03**	**3.03**	**0.00**		**0.00**	**0.03**		**0.00**	**0.03**	**0.00**	**134.64**	**134.64**	**0.00**	**0.00**	**135.53**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Use Water Efficient Irrigation System

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					1,335.26	5.11	0.14	1,486.19
Unmitigated					1,420.46	5.11	0.14	1,571.75
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Mid Rise	13.0308 / 8.21507					113.59	0.40	0.01	125.48
Convenience Market With Gas Pumps	0.125486 / 0.0769109					1.08	0.00	0.00	1.20
Fast Food Restaurant with Drive Thru	1.74532 / 0.111403					10.44	0.05	0.00	12.01
General Office Building	135.492 / 83.0433					1,169.66	4.17	0.12	1,293.21
High Turnover (Sit Down Restaurant)	3.34798 / 0.213701					20.02	0.10	0.00	23.04
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Regional Shopping Center	12.239 / 7.50132					105.66	0.38	0.01	116.82
Total						**1,420.45**	**5.10**	**0.14**	**1,571.76**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Mid Rise	13.0308 / 6.7537					106.54	0.40	0.01	118.39
Convenience Market With Gas Pumps	0.125486 / 0.0632293					1.02	0.00	0.00	1.13
Fast Food Restaurant with Drive Thru	1.74532 / 0.0915859					10.34	0.05	0.00	11.91
General Office Building	135.492 / 68.2708					1,098.31	4.17	0.12	1,221.56
High Turnover (Sit Down Restaurant)	3.34798 / 0.175686					19.84	0.10	0.00	22.85
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Regional Shopping Center	12.239 / 6.16692					99.21	0.38	0.01	110.34
Total						**1,335.26**	**5.10**	**0.14**	**1,486.18**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					237.90	14.06	0.00	533.14
Unmitigated					237.90	14.06	0.00	533.14
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Mid Rise	92					18.68	1.10	0.00	41.85
Fast Food Restaurant with Drive Thru	66.23					13.44	0.79	0.00	30.13
General Office Building	708.97					143.91	8.51	0.00	322.52
High Turnover (Sit Down Restaurant)	131.26					26.64	1.57	0.00	59.71
Parking Lot	0					0.00	0.00	0.00	0.00
Regional Shopping Center	173.49					35.22	2.08	0.00	78.92
Total						**237.89**	**14.05**	**0.00**	**533.13**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Mid Rise	92					18.68	1.10	0.00	41.85
Fast Food Restaurant with Drive Thru	66.23					13.44	0.79	0.00	30.13
General Office Building	708.97					143.91	8.51	0.00	322.52
High Turnover (Sit Down Restaurant)	131.26					26.64	1.57	0.00	59.71
Parking Lot	0					0.00	0.00	0.00	0.00
Regional Shopping Center	173.49					35.22	2.08	0.00	78.92
Total						**237.89**	**14.05**	**0.00**	**533.13**

9.0 Vegetation