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FIRST INLAND LOGISTICS II
GREENHOUSE GAS ANALYSIS
CITY OF MORENO VALLEY, CALIFORNIA

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FIRST INLAND LOGISTICS II
GREENHOUSE GAS ANALYSIS
CITY OF MORENO VALLEY, CALIFORNIA

1.0 INTRODUCTION

This report presents the results of the greenhouse gas analysis (GHGA) conducted by Urban Crossroads, Inc. for the proposed First Inland Logistics Center II development (referred to as "Project"), which is generally located on the northwest corner of Perris Boulevard and Nandina Avenue in the City of Moreno Valley as shown on Exhibit 1-1.

The purpose of this GHGA is to evaluate Project-related construction and operational emissions and determine the level of greenhouse gas (GHG) impacts as a result of constructing and operating the proposed Project.

1.1 BACKGROUND AND PROJECT OVERVIEW

The proposed Project is subject to the Moreno Valley Industrial Area Plan (MVIAP), which designates the property as Industrial. In 2008, the City of Moreno Valley approved Tentative Parcel Map No. 35859 (PA07-0165) and two Building Plot Plans (PA07-1066 and PA07-0167) that covered the southern portion of the Project site and additional land area located to the immediate east. That approved project consisted of a 700,000 square foot warehouse building east of the currently proposed Project site and an 180,000 square foot warehouse building on the southern portion of the currently proposed Project site. Currently, the building to the east is constructed at 691,960 square feet. The building approved for the southern portion of the currently proposed Project site is not constructed and the site contains a truck trailer parking yard, approved by the City of Moreno Valley as an interim use in 2011 (PA11-0011). In September 2012, the City of Moreno Valley approved revised PA11-0011 to extend the interim truck trailer parking yard to the northern portion of the Project site.

This GHGA evaluates a newly-submitted application for development of the 17.3-acre Project site with a "high cube" industrial warehouse building containing 400,130 square feet. It is assumed that the Project will be constructed and at full occupancy by late 2013. The preliminary site plan for the Project is shown on Exhibit 1-2.

1.2 EXISTING LAND USES

The Project site is located in a portion of the City of Moreno Valley that is developing as a center for distribution warehousing and light industrial land uses. Currently, the Project site is

surrounded by a mixture of warehouse buildings, undeveloped lands, and other land uses located on properties designated and zoned for industrial development by the City of Moreno Valley. Properties located north and south of Nandina Avenue and west of Perris Boulevard are developedor approved for development with distribution warehouse buildings. Lands located immediately south of Nandina Avenue across from the proposed Project site, in addition to lands located north of San Michele Road immediately across from the proposed Project site, are designated for industrial development pursuant to the City's General Plan and MVIAP, but are not yet entitled for development with specific projects.

Immediately abutting the proposed Project site on the west is property containing a warehouse building occupied by Harbor Freight Tools with associated parking areas and landscaping that was constructed pursuant to approved Plot Plan PA07-0166, beyond which is a warehouse distribution facility currently occupied by Modular Metal Fabrications, Inc. Lands located north of the site consist of undeveloped land, several existing non-conforming single-family residences, and an automobile junk yard with a large warehouse distribution facility currently occupied by O'Reilly Auto Parts. Land immediately east of the Project site includes undeveloped land and two existing warehouse distribution facilities currently occupied by El Dorado Stone and Walgreens. To the south of the proposed Project site are disturbed lands used for truck trailer parking and one non-conforming single-family residence, south of which is a warehouse distribution facility currently occupied by Harman Distribution Center.

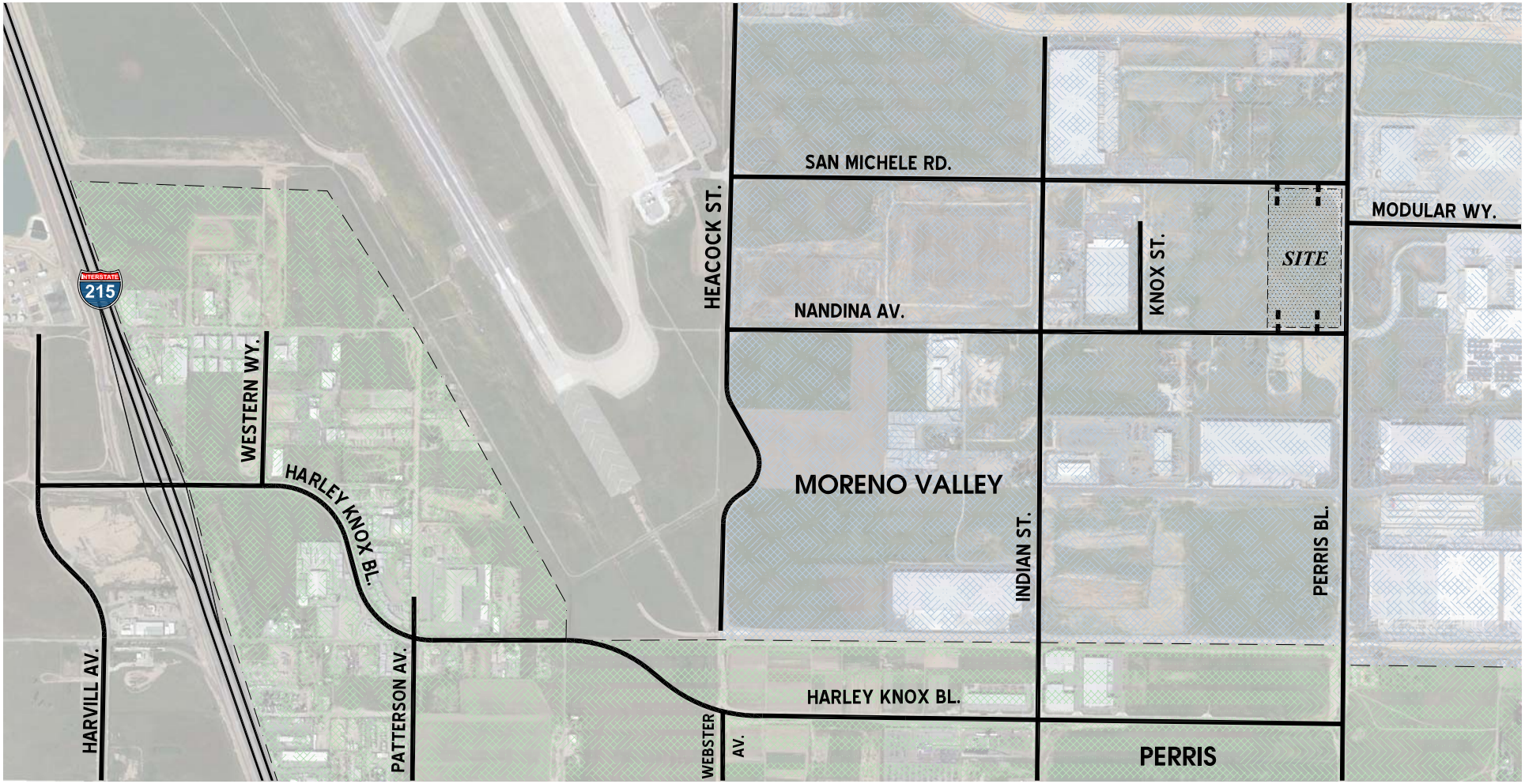
There is one school located within one (1) mile of the proposed Project site: El Potrero Elementary School, located approximately 0.7 mile northeast of the site. In addition, the March Air Reserve Base is located approximately 0.9 mile to the west.

1.2 SUMMARY OF FINDINGS

Results of the analysis presented in this GHGA report indicate that Project-generated GHG emissions would not have a significant impact on the environment. In this regard, the Project is consistent with, or otherwise not in conflict with, the recommended measures and actions listed in the California Air Resources Board (CARB) December 2008 Scoping Plan (CARB Scoping Plan). The CARB Scoping Plan identifies strategies and measures that the state can implement in order to achieve the GHG reductions goals set forth in the Global Warming Solutions Act of 2006 (AB 32). The Project is also consistent with GHG emission reduction strategies set forth in the 2006 Climate Action Team (CAT) Report, prepared in response to Executive Order S-3-05, which established total GHG emission targets for the State of California.

EXHIBIT 1-1

LOCATION MAP



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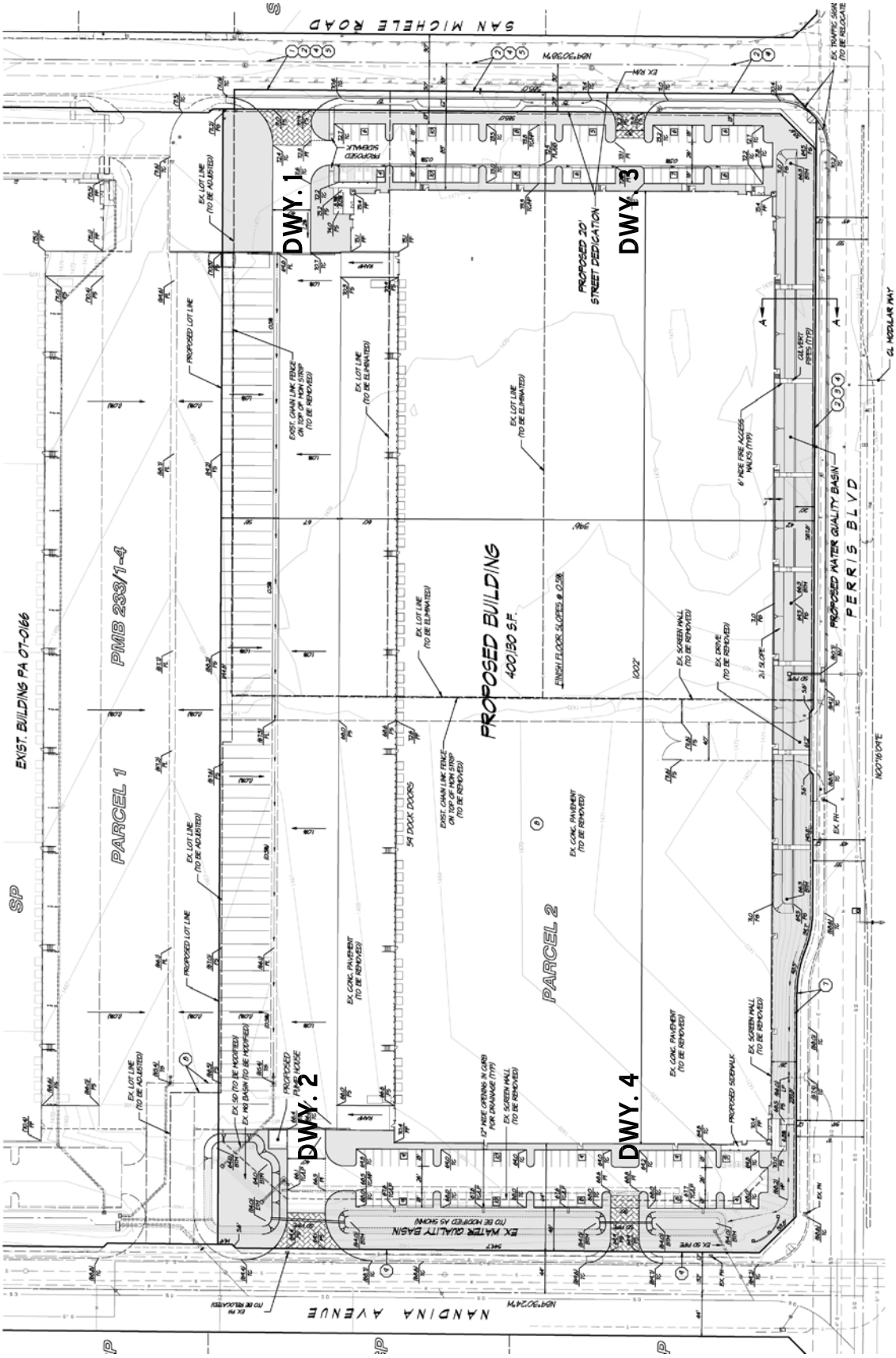
First Inland Logistics II
City of Moreno Valley, CA (JN - 08180:001.dwg)

URBAN CROSSROADS

EXHIBIT 1-2

PRELIMINARY SITE PLAN



Mitigation measures and mandated rule/regulation compliance are identified for the Project that would reduce the Project's criteria pollutant emissions and, as a byproduct, further reduce GHG emissions associated with the Project beyond what is calculated herein. This analysis however, takes no credit for such GHG emissions reductions. Thus, the analysis in this GHGA conservatively estimates the Project's generation of GHG emissions and its resulting contribution to global climate change would be less than is identified here.

1.3 REQUIREMENTS

The Project would be required to comply with all mandatory regulatory requirements imposed by the State of California and the South Coast Air Quality Management District aimed at the reduction of air quality emissions. Those that are applicable to the Project and that would assist in the reduction of greenhouse gas emissions include: are:

- 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.

2.0 BACKGROUND

2.1 INTRODUCTION TO GLOBAL CLIMATE CHANGE

Global Climate Change (GCC) is 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 environmental issues in the United States, and much debate exists within the scientific community about whether or not GCC is occurring naturally or as a result of human activity. Some data suggests that GCC has occurred in the past over the course of thousands or millions of years. These historical changes to the Earth's climate have occurred naturally without human influence, as in the case of an ice age. However, many scientists believe that the climate shift taking place since the industrial revolution (1900) is occurring at a quicker rate and magnitude than in the past. 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 like that considered here cannot generate enough greenhouse gas emissions to effect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of greenhouse gasses 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, Section 3.0 will evaluate the potential for the proposed Project to have a significant effect upon the 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 by the Intergovernmental Panel on Climate Change for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Man-made GHG emissions data for Annex I nations are available through 2009. Man-made GHG emissions data for Non-Annex I nations are available through 2007. For the Year 2009 the

sum of these emissions totaled approximately 40,084 MMTCO_2e.[1] Emissions from the top five countries and the European Union accounted for approximately 65 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, as a single country, was the number two producer of GHG emissions in 2009. The primary greenhouse gas emitted by human activities in the United States was CO_2, representing approximately 83 percent of total greenhouse gas emissions.[2] Carbon dioxide from fossil fuel combustion, the largest source of US greenhouse gas emissions, accounted for approximately 78 percent of the GHG emissions.[3]

TABLE 2-1

TOP GHG PRODUCER COUNTRIES AND THE EUROPEAN UNION[4]

Emitting Countries	GHG Emissions (MMT CO_2e)
China	6,703
United States	6,608
European Union (27 member countries)	8,338
Russian Federation	2,159
India	1,410
Japan	1,209
Total	**26,427**

State of California

[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 1990–2009," http://www.epa.gov/climatechange/emissions/usgginventory.html. 2011.

[3] *ibid*

[4] World Resources Institute, " Climate Analysis Indicator Tool (CAIT) Excludes emissions and removals from land use, land-use change and forestry (LULUCF) Emissions Inventory," http://cait.wri.org

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 $MMTCO_2e$ ***including*** emissions resulting from imported electrical power in 2008.[5] Based on the CARB inventory data and GHG inventories compiled by the World Resources Institute[6], California's total statewide GHG emissions rank second in the United States (Texas is number one) with emissions of 417 $MMTCO_2e$ ***excluding*** emissions related to imported power.

2.3 GLOBAL CLIMATE CHANGE DEFINED

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 since the industrial revolution 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.

Although California's rate of growth of greenhouse gas emissions is slowing, the state is still a substantial contributor to the U.S. emissions inventory total. In 2004, California is estimated to have produced 492 million gross metric tons of carbon dioxide equivalent (CO_2e) greenhouse gas emissions.

[5] 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.
[6] World Resources Institute, " Climate Analysis Indicator Tool (CAIT)-US – Yearly Emissions Inventory," http://cait.wri.org

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.[7]

2.4 GREENHOUSE GASES

For the purposes of this analysis, emissions of carbon dioxide, methane, and nitrous oxide were evaluated (see Table 3-4 later in this report) because these gasses are the primary contributors to GCC from development projects. Although other substances such as fluorinated gases also contribute to GCC, sources of fluorinated gases are not well defined and no accepted emissions factors or methodology exist to accurately calculate these gases.

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 (CH_4)	50,000	6,500
PFC: Hexafluoroethane (C_2F_6)	10,000	9,200
Sulfur Hexafluoride (SF_6)	3,200	23,900
Source: EPA 2006 (URL: http://www.epa.gov/nonco2/econ-inv/table.html)		

[7] California Energy Commission, "Inventory of California Greenhouse Gas Emissions and Sinks," http://www.energy.ca.gov/2005publications/CEC-600-2005-025/CEC-600-2005-025.PDF. 2005.

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 human 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).[8] 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

[8] ibid.

naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks[9].

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.[10]

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. [11]

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)[12].

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).[13] Nitrous oxide is produced by microbial

[9] On a warmer Earth, chemical weathering is promoted by more vigorous cycling of water through the atmosphere and higher temperatures. "More chemical weathering removes more CO2 from the atmosphere as carbonic acid reacts with silicate minerals, producing bicarbonate ion." *Carbon Cycle and Climate Change* – J Bret Bennington, Hofstra University. http://www.cengage.com/custom/enrichment_modules/data/Carbon_Cycle_0495738557_LowRes.pdf
[10] International Panel on Climate Change 2007, "Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report," http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg1_report_the_physical_science_basis.htm
[11] ibid.
[12] U.S. Department of Labor. Occupational Safety and Health Guideline for Nitrous Oxide. http://www.osha.gov/SLTC/healthguidelines/nitrousoxide/recognition.html
[13] ibid.

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.[14] No health effects are known to result from exposure to HFCs, which are manmade for applications such as automobile air conditioners and refrigerants.

[14] U.S. EPA. High Global Warming Potential (GWP) Gases. http://www.epa.gov/highgwp/scientific.html

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.[15]

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.[16] 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 ENVIRONMENTAL EFFECTS OF CLIMATE CHANGE IN CALIFORNIA

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°F); medium warming range (5.5-8.0°F); and higher warming range (8.0-10.5°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.

[15] ibid.
[16] ibid.

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

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:

Air Quality/General Thermal Effects

According to Cal EPA, 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 difficult 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 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°F in Los Angeles and 95°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 temperatures continue to increase, 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 temperatures 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

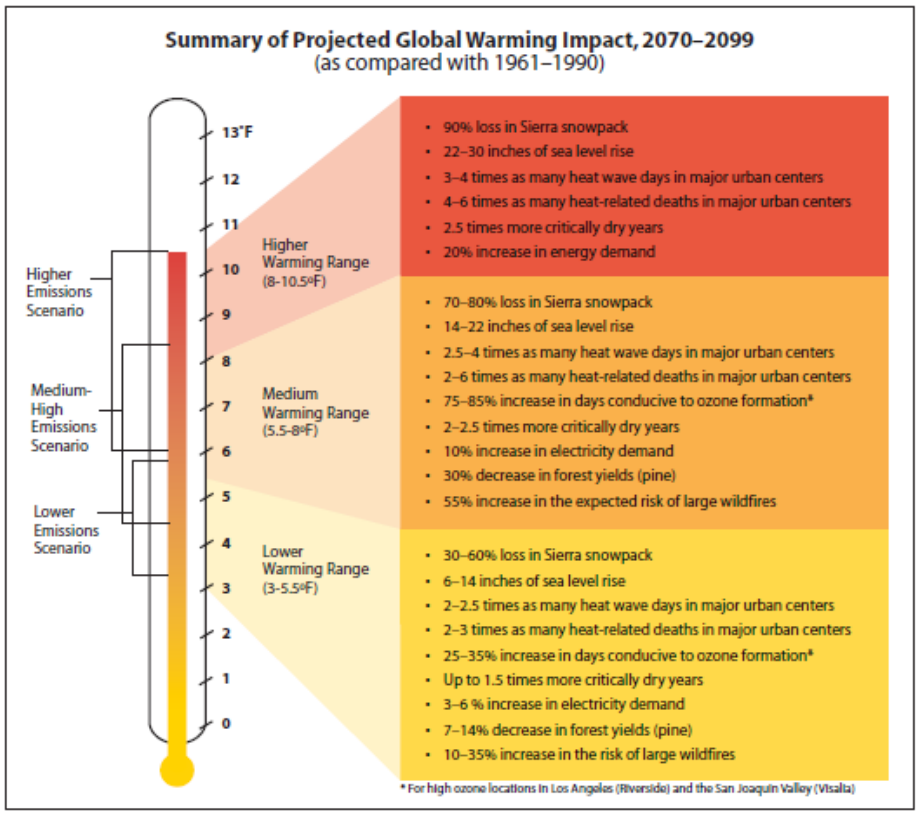
Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas

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 HUMAN HEALTH EFFECTS OF GHG EMISSIONS

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 in the scientific community. Their cumulative effects to global climate change have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport 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 in the earth's atmosphere 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 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 for member nations to adopt.

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 2009 meeting in 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 the U.S. 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 incidental 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."[17] 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 the *2010 California Green Building Standards Code* on its Web site.[18] Unless otherwise noted in the regulation, all newly constructed buildings in California are subject of the requirements of the CALGreen Code.

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

California Assembly Bill No. 1493 (AB 1493):

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 California. 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 CO_2 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) both of these programs are aimed at light-duty auto and light-duty trucks.

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 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 also is required to 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)[19]. Accordingly, 427 MMTs of CO_2 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.

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 CO_2 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

[19] 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%).

Early Actions and Reductions. Implementation of individual measures must begin no later than January 1, 2012, so that the emissions reduction target can be fully achieved by 2020.

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 CO_2e, 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 2006 levels by 2020 to ensure that municipal and community-wide emissions match the state's reduction target. 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 CO_2e (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 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.

TABLE 2-3

SCOPING PLAN GHG REDUCTION MEASURES TOWARD 2020 TARGET

Recommended Reduction Measures	*Reductions Counted toward 2020 Target of 169 MMT CO_2e*	*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 CO_2e: million metric tons of CO_2e 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 CO_2e (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

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. 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."

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 CEQA Guidelines Section 15130(f)).

Section 15064.4(b) of the CEQA 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.

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?

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.

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 MPO's 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 being 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:

Separate from its Scoping Plan approved in December of 2008, CARB issued a Staff Proposal in October 2008, as its first step toward developing recommended statewide interim thresholds of significance for GHGs that may be adopted by local agencies for their own use. CARB staff's objective in this proposal is to develop a threshold of significance that will result in the vast majority (approximately 90 percent statewide) of GHG emissions from new industrial projects being subject to CEQA's requirement to impose feasible mitigation. The proposal does not attempt to address every type of project that may be subject to CEQA, but instead focuses on common project types that, collectively, are responsible for substantial GHG emissions – specifically, industrial, residential, and commercial projects. CARB is developing these thresholds in these sectors to advance climate objectives, streamline project review, and encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the state. These draft thresholds are under revision in response to comments. There is currently no timetable for finalized thresholds at this time.

As currently proposed by CARB, the threshold consists of a quantitative threshold of 7,000 metric tons (MT) of CO_2e per year for operational emissions (excluding transportation), and performance standards for construction and transportation emissions. These performance standards have not yet been adopted.

However, CARB's proposal is not yet final, and thus cannot be applied to the Project. Further, CARB's proposal sets forth draft thresholds for industrial projects that have high operational stationary GHG emissions, such as manufacturing plants, or uses that utilize combustion engines. The Project does not propose or requires these types of uses. This Project's GHG emissions are mostly from mobile sources, and as such, the CARB proposal is not germane to the Project.[20]

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."[21] 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 ($MTCO_2e$) as a screening numerical threshold for stationary sources.

In September 2010, the Working Group released additional revisions which recommended a threshold of 3,500 $MTCO_2e$ for residential projects, 1,400 $MTCO_2e$ for commercial projects, and 3,000 $MTCO_2e$ for mixed use projects, additionally the working group identified project-level efficiency target of 4.8 $MTCO_2e$ per service population as a 2020 target and 3.0 $MTCO_2e$ per service population as a 2035 target. The recommended areawide or plan-level target for 2020 was 6.6 $MTCO_2e$ and the plan-level target for 2035 was 4.1 $MTCO_2e$. The SCAQMD has not established a timeline for formal consideration of these thresholds.

[20] http://www.arb.ca.gov/cc/localgov/ceqa/meetings/102708/prelimdraftproposal102408.pdf
[21] For more information visit: http://www.aqmd.gov/ceqa/handbook/GHG/GHG.html.

The SCAQMD has also adopted Rules 2700, 2701, and 2702 that address GHG reductions. However, these rules address boilers and process heaters, forestry, and manure management projects, none of which are proposed or required by the First Inland Logistics II Project.

2.8 CITY OF MORENO VALLEY GENERAL PLAN MEASURES

Although the City of Moreno Valley General Plan does not identify specific GHG or climate change policies or goals, a number of the measures identified in the General Plan's Air Quality Element act to reduce or control criteria pollutant emissions and peripherally reduce GHG emissions. The proposed Project has been evaluated for consistency with the City's General Plan Air Quality Element, as shown on Table 2-4.

TABLE 2-4

CITY OF MORENO VALLEY GENERAL PLAN CONSISTENCY

Objective 6.6: Promote land use patterns that reduce daily automotive trips and reduce trip distance for work, shopping, school, and recreation.	***Consistent.*** *The Project site is located proximate to existing and proposed major roadways, acting to reduce vehicle trip lengths.*
Objective 6.7: Reduce mobile and stationary source air pollutant emissions.	***Consistent.*** *The Project site is located proximate to existing and proposed major roadways, acting to generally reduce vehicle trip lengths, thereby reducing mobile source emissions. The Project will further reduce mobile source emissions by creating local employment opportunities, reducing commuter vehicle miles traveled (VMT) within the region. Additionally, the Project will implement energy efficient designs and operational programs meeting or surpassing California Code of Regulations (CCR) Title 24 Building Standards, including but not limited to compliance with or betterment of, energy conservation requirements identified at CCR Title 24, Part 6, Energy Code. Energy efficient designs and programs implemented by the Project reduce resources consumption with correlating reductions in stationary-source emissions.*
Policy 6.7.5: Require grading activities to comply with South Coast Air Quality Management District's Rule 403 regarding the control of fugitive dust.	***Consistent.*** *The Project will be required to implement fugitive dust control measures consistent with SCAQMD Rule 403.*
Policy 6.7.6: Require building construction to comply with the energy conservation requirements of Title 24 of the California Administrative Code [California Code of Regulations].	***Consistent.*** *Pursuant to City and State Building Code requirements, the Project will meet or surpass applicable CCR Title 24 energy conservation requirements.*

Source: City of Moreno Valley General Plan, Safety Element

2.9 CITY OF MORENO VALLEY ENERGY EFFICIENCY AND CLIMATE ACTION STRATEGY

On May 8, 2012, the City of Moreno Valley released their *Energy Efficiency and Climate Action Strategy Draft Document* to the public. At the time of preparation of this GHG Analysis, the *Energy Efficiency and Climate Action Strategy Draft Document* has not been adopted and is subject to change. The overall goal of the *Energy Efficiency and Climate Action Strategy Draft Document* is to ensure that the City is consistent with and would not otherwise conflict with the provisions of AB 32.

2.10 DISCUSSION ON ESTABLISHMENT OF SIGNIFICANCE THRESHOLDS

In order to assess the significance of a proposed Project's environmental impacts it is necessary to identify quantitative or qualitative thresholds which, if exceeded, would constitute a finding of significance. As discussed above, while Project-related GHG emissions can be estimated, the direct impacts of such emissions on climate change and global warming cannot be determined on the basis of available science. There is no evidence at this time that would indicate that the emissions from a project the size of the proposed First Inland Logistics II Project would directly or indirectly affect global climate change.

AB 32 states, in part, that "[g]lobal warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." Because global warming is the result of GHG emissions, and GHGs are emitted by innumerable sources worldwide, global climate change is considered to be a cumulative impact.

As previously discussed, the *CEQA Guidelines* indicate that a project would result in a significant climate change impact if that project were to: a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. Or b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Since AB 32 is the primary plan, policy or regulation adopted to reduce GHG emissions, a project would have a significant impact if it did not comply with the regulations developed under AB32.

Currently, neither the City of Moreno Valley nor the South Coast Air Quality Management District (SCAQMD) have adopted a threshold of significance for determining the significance of a project's GHG emissions on global climate change.

Based on the preceding, for the purposes of this analysis, the significance of the Project's GCC impacts is contingent upon on whether or not the Project can demonstrate compliance with the CARB Scoping Plan prepared in response to California Assembly Bill 32 (AB 32); and compliance with the State of California's Climate Action Team Report (2006), prepared in response to the California Governor's Executive Order S-3-05. This approach is consistent with past practice in the City of Moreno Valley.

3.0 PROJECT GREENHOUSE GAS IMPACT

3.1 PROJECT RELATED GREENHOUSE GAS EMISSIONS

CEQA Guidelines 15064.4 (a) states in pertinent part:

A lead agency shall have the discretion to determine, in the context of a particular project whether to:
(1) Use a model or methodology to quantify greenhouse gas emissions from a project, and which model or methodology to use. . . .

On February 3, 2011, the SCAQMD released the California Emissions Estimator Model (CALEEMOD) Emissions Inventory Model™. The purpose of this 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. The February 2011 CalEEMod™ was employed to quantify GHG emissions for this Project. The CalEEMod™ model includes GHG emissions from the following source categories: construction, area, energy, mobile, waste, water.

3.2 LIFE-CYCLE ANALYSIS

A full life-cycle analysis (LCA) is not included in this analysis due to the lack of consensus guidance on CA methodology at this time.[22] Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the project development and infrastructure) depends on emission factors or econometric factors that are not well established for all processes. At this time a LCA would be extremely speculative and thus has not been prepared.

3.3 CONSTRUCTION EMISSIONS

Construction activities associated with the proposed Project will result in emissions of CO_2, CH_4, and N_2O from the following construction activities:

- Demolition
- Site Preparation
- Grading

[22] California Natural Resources Agency, *Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97,* December 2009.

- Paving
- Building Construction
- Architectural Coatings (Painting)
- Construction Workers Commuting

The Project site is currently occupied with a 10.8 acre trailer yard. This Parking area and associated surface improvements will be demolished. Demolished asphaltic and concrete surfaces will be pulverized and stockpiled onsite for subsequent use in Project construction activities. It is estimated that demolition activities will be completed within three working weeks.

The duration of construction activity and associated equipment was estimated based on construction of similar projects in the City of Moreno Valley,[23] CalEEMod™ model defaults, and information provided by the project applicant. Please refer to specific detailed modeling inputs/outputs contained in Appendix "A" of this Analysis. A detailed summary of construction equipment assumptions by phase is provided at Table 3-1.

For construction source emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SCAQMD recommends calculating the total greenhouse gas emissions for the construction activities, dividing it by the project life (i.e., 30 years) then adding that number to the annual operational phase GHG emissions (SCAQMD, 2009). Accordingly, within this analysis construction-source emissions were amortized over a 30 year period and added to the annual operational phase GHG emissions.

Demolition is expected to occur within the month of January 2013, Site Preparation is expected to occur from January 2013 through February 2013, Grading activities are expected to occur within the month of February 2013, Building Construction is expected to occur from February 2013 through October 2013, Paving is expected to occur from October 2013 through November 2013, Architecture Coatings are expected to occur from November 2013 through December 2013. This construction schedule represents a "worst-case" analysis scenario should construction occur any time after these respective dates since emission factors for construction equipment decrease as the analysis year increases.

[23] *VIP Moreno Valley Final Environmental Impact Report (June 27, 2012)*: http://www.moval.org/misc/vip-eir060420.shtml

TABLE 3-1 CONSTRUCTION EQUIPMENT ASSUMPTIONS

Operation	Crushing/Processing	Water Trucks	Concrete/Industrial Saws	Scraper	Grader	Rubber Tired Dozer	Tractor / Loader / Backhoe	Excavator	Pavers	Paving Equipment	Rollers	Forklift	Cranes	Air Compressor	Generator Set	Welder
Demolition	1		1			2		3								
Site Preparation		3				3	4									
Grading		3		2	1	1	2	2								
Building Construction							3					3	2		1	1
Paving									2	2	2					
Architectural Coating														1		

Construction emissions for construction worker vehicles traveling to and from the Project site, as well as vendor trips (construction materials delivered to the Project site) were estimated based on information from the applicant and the CalEEMod™ model.

3.4 OPERATIONAL EMISSIONS

Operational activities associated with the proposed Project will result in emissions of CO_2, CH_4, and N_2O from the following primary sources:

- Building Energy Use (Combustion Emissions Associated with Natural Gas and Electricity)
- Water Supply, Treatment and Distribution
- Solid Waste
- Vehicles

3.4.1 BUILDING ENERGY USE

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO_2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building. GHGs are also emitted during the off-site generation of electricity from fossil fuels; these emissions are

considered to be indirect emissions. Unless otherwise noted, CalEEMod™ default parameters were used.

3.4.2 WATER SUPPLY, TREATMENT AND DISTRIBUTION

Indirect GHG emissions result from the off-site production of electricity used to convey, treat and distribute water and wastewater. The amount of electricity required to convey, treat and distribute water depends on the volume of water as well as the sources of the water.

The Project's water demand was estimated based on data available from the Eastern Municipal Water District (EMWD) for similar developments projects. The Project is estimated to result in a demand for approximately 12,110 gallons of potable water per day (or approximately 13.6 acre-feet per year).

3.4.3 SOLID WASTE

The Project will result in the generation and disposal of solid waste. A large percentage of this waste will be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted will be disposed of at a landfill. GHG emissions from landfills are associated with the anaerobic breakdown of material. Using solid waste generation rates for light industrial/warehouse uses reported by CalRecycle[24], GHG emissions associated with the disposal of solid waste associated with the proposed Project were calculated by the CalEEMod model.

3.4.4 VEHICLES

GHG emissions will also result from mobile sources associated with the Project. These mobile source GHG emissions are generated by typical daily operation of motor vehicles by visitors, employees, and customers.

Trip characteristics available from the report, First Inland Logistics II Project Traffic Impact Analysis (Urban Crossroads, Inc., 2012) (Project TIA) were utilized in this analysis. Project operational (vehicular) impacts are dependent on both overall daily vehicle trip generation and the effect of the Project on peak

[24] CalRecycle, 2011. "Estimated Solid Waste Generation Rates" available at www.calrecycle.ca.gov/WasteChar/WasteGenRates/default.htm. Accessed June 11, 2011.

hour traffic volumes and traffic operations. Project-related operational air quality impacts derive predominantly from mobile sources [approximately 96.6 percent (by weight) of all Project operational-source emissions are generated by mobile sources (vehicles). It should be noted that the Project's traffic study presents the total Project vehicle trips in terms of Passenger Car Equivalents (PCEs) in an effort to recognize and acknowledge the effects of heavy vehicles at the study area intersections. Notwithstanding, for purposes of the air quality study, the PCE trips were not used. Rather, to more accurately estimate and model vehicular-source emissions, the actual number of vehicles, by vehicle classification (e.g., passenger cars (including light trucks), heavy trucks) were used in the analysis. The vehicle fleet mix, in terms of actual vehicles, as derived from the traffic study for the Project is comprised of approximately 46% passenger cars (265 passenger cars) and approximately 54% total trucks (311 trucks). The total traffic generation in vehicles is 576 per day.

For clarity in the air quality modeling process, the Project was input as a single category or type of land-use (in this case Unrefrigerated Warehouse – No Rail) in the CalEEMod™ emissions inventory model. The Project's total traffic generation in vehicles (576 per day) was then divided by the total number of square feet for the Project (400,130 s.f.) to derive the trip generation rate for input into the modeling program (576 trips per day/400,130 s.f. =1.44 trips per thousand square feet (TSF) per day). This raw trip generation factor was then disaggregated and refined to reflect percentages of car trips and truck trips generated by the Project. That is, of the estimated total 1.44 trips per TSF per day generated by the Project, 46 percent or 0.66 trips per TSF/day would be passenger cars; and 54 percent or 0.78 trips per TSF per day would be trucks (6.1% two-axle, 13.9% three-axle, or 34.0% four-axle as identified in the Project TIA). These vehicle-specific estimates were then input into the CalEEMod program. The resulting estimated vehicle-source emissions are summarized at Table 3-7.

The SCAQMD has recently commented on numerous warehouse projects calling for the use of an inflated trip generation rate based on the 95th percentile of all high-cube warehouses, which the SCAQMD asserts is most appropriate according to a meta-analysis prepared by the SCAQMD as part of the CalEEMod™ emissions inventory model release[25], use of this inflated rate would mean that the Project would have a trip rate equivalent to the busiest 5% of all warehouses in the study conducted by the SCAQMD, and thus, would significantly overestimate total trips. The Project-generated daily passenger car and truck trips utilized in this analysis were obtained from the Project's traffic impact analysis report and are derived from trip generation rates specified in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 8th Edition, 2008. Use of the ITE rates are standard industry

[25] CalEEMod™ *Appendix E Technical Source Documentation: Analysis of Warehouse Trip Generation Rates by SCAQMD*

practice for the calculation of projected traffic volumes in traffic studies supporting CEQA documents throughout the State of California.

Furthermore, it is important to note that six (6) of the seven (7) trip generation studies included in the SCAQMD meta-analysis were also included as part of the dataset for estimating the daily and peak hour trip generation rates for ITE Land Use: 152 (high-cube warehouse) in ITE's 8th Edition of the *Trip Generation* manual. In addition, ITE also includes data from three (3) additional studies performed in Livermore, California, Manalapan, New Jersey and Tampa, Florida for the purposes of estimating peak hour trip rates, which further expands the number of buildings included in the sample.

Based on review of aerial imagery and oblique photography, the SCAQMD Study asserts that due to the presence of rail spurs at some survey locations or potential for partial building vacancies at others, the number of daily vehicle trips for high cube warehouses provided in ITE's *Trip Generation* manual, 8th Edition (2008) may be understated. However, the SCAQMD Study goes on to acknowledge that a lack of adequate business histories or historical photographic coverage make it difficult to state with confidence whether there is significant correlation between these site specific observations and the number of daily trips per site. As such, the SCAQMD Study conservatively recommends using a daily trip generation rate based on the 95th percentile of trip generation rate observations. In other words, it advocates use of a daily trip generation rate that is greater than 95 percent of the observed trip generation rates. This approach results in an extremely conservative trip rate, and is not in conformance with standard traffic engineering trip generation estimating methodology as described in ITE's *Trip Generation Handbook*, 2nd Edition (June 2004). In fact, the use of such a conservative trip rate would not only tend to overstate vehicle trips on a per site basis, but could lead to a significant overestimation of vehicle trips on a cumulative level. It appears that the SCAQMD Study recognized this issue, which is likely why it acknowledges that when evaluating a large number of sites (>10), the average rate of 1.44 trips per TSF from the ITE 8th Edition Trip Generation manual is recommended.

The SCAQMD Study acknowledges that a lack historical photographic coverage and/or business history make it difficult to discern the degree of correlation between the variation in site specific observations and the conclusion that the ITE rates may be understated. In addition, the use of a 95th percentile trip generation rate is not standard traffic engineering practice nor required by CEQA, as this approach will tend to significantly overstate site specific vehicle trips estimates and associated emissions. Therefore, it was determined that the trip generation rates for high cube warehouse use (Land Use 152) as published in the 8th Edition of ITE's *Trip Generation* manual, and currently widely

accepted throughout Riverside and San Bernardino Counties, are the most appropriate trip rates to be utilized to calculate vehicle trips for the Project.

It should also be noted that operational emissions evaluation is based on a conservative analysis year of 2013 (Project buildout). This analysis year was selected as it is the most conservative from an emissions generating standpoint because GHG emissions from vehicles would decrease as the analysis year increases due to implementation of regulatory requirements and vehicle fleet turnover contained in the EMFAC model.

3.4.4.1 TRIP LENGTH

BACKGROUND

A technical deficiency inherent in calculating mobile source GHG emissions associated with any project is related to the estimation of trip length and vehicle miles traveled (VMT). VMT for a given project is calculated by the total number of vehicle trips to/from the Project multiplied by the average trip length. This method of estimating VMT for use in calculating vehicle emissions likely results in the over-estimation and double-counting of emissions because, for a distribution warehouse center such as the Project, the land use is likely to attract (divert) existing vehicle trips that are already on the circulation system as opposed to generating new trips. In this regard, the Project would, to a large extent, redistribute existing mobile-source GHG emissions rather than generate new and additional mobile-source GHG emissions. As such, the estimation of the First Inland Logistics II Project's vehicular-source GHG emissions is likely overstated in that no credit for, or reduction in, emissions is assumed based on diversion of existing trips.

Provided below is a summary of the VMT recommendations of the SCAQMD and SCAG, followed by a description of the methodology used to calculate the VMT rates used in this GHGA.

SCAQMD RECOMMENDATION

The SCAQMD notes that for warehouse/distribution center and industrial land use projects, most of the heavy-duty trucks would be hauling consumer goods, often from the Ports of Long Beach and Los Angeles (POLA and POLB) and/or to destinations outside of California. The SCAQMD states that for this reason, the CalEEMod™ and the URBan EMISsions model default trip length (approximately 12.6 miles) would not be representative of activities at like facilities. The SCAQMD generally recommends the use of a 40-mile one-way trip length.

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENT (SCAG) HEAVY DUTY TRUCK MODEL

SCAG is comprised of six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 190 cities in Southern California, and is the organization charged with addressing and resolving short- and long-term regional policy issues. The SCAG region also consists of 14 subregional entities recognized by the Regional Council as partners in the regional policy planning process. The SCAG region has more than 19 million residents and encompasses more than 38,000 square miles, representing the largest and most diverse region in the country.

SCAG maintains a regional transportation model. In its most recent (2008) transportation validation for the 2003 Regional Model, SCAG indicates the average internal truck trip length for the SCAG region is 5.92 miles for Light Duty Trucks, 13.06 miles for Medium Duty Trucks, and 24.11 miles for Heavy Duty Trucks.

APPROACH FOR ANALYSIS OF THE PROJECT

Trip lengths and VMT estimates employed in this GHGA report generate vehicular-source emissions that would represent a maximum impact scenario. Other Environmental Impact Reports (EIRs) for similar land use projects within the City of Moreno Valley[26] have utilized these same or similar estimates. To maintain analytic consistency and establish the maximum impact scenario noted above, the following approach has been utilized in calculating emissions associated with vehicles accessing the Project.

For passenger car trips, a one-way trip length of 17 miles was assumed as contained in the SCAQMD CEQA Handbook (SCAQMD 1993) for Riverside County for the year 2010 (this trip length was used in lieu of the CalEEMod™ model defaults because it is more conservative). For heavy duty trucks, an average trip length was derived from distances from the Project site to the far edges of the South Coast Air Basin (SCAB) as follows. It is appropriate to stop the VMT calculation at the boundary of the SCAB because any activity beyond that boundary would be speculative, this approach is also consistent with professional industry practice.

- Project site to the Port of Los Angeles/Long Beach: 78 miles;
- Project site to Banning Pass: 27 miles;
- Project site to San Diego County line: 46 miles;
- Project site to Cajon Pass: 42 miles;

- Project site to downtown Los Angeles: 64 miles.

Assuming that 50 percent of all delivery trips will travel to and from the Project and the Port of Los Angeles/Long Beach, and the remainder as distribution trips to all other locations, the average truck trip length is calculated as 61 miles. An overall weighted-average trip length for the Project was calculated using the percentage of trips associated with passenger cars (including light duty trucks) versus heavy trucks, the passenger car trip length of 17 miles and truck trip length of 61 miles is calculated. The resulting weighted average trip length of 40.76 miles was entered into the CalEEMod™ model calculations.

For analysis purposes heavy truck trips include all light HD trucks through heavy HD trucks (Vehicle classes 5-8). The percentages have been apportioned according to data provided in a 1985 ARB document for converting number of axles to vehicle class (*Assessment of Heavy-Duty Gasoline and Diesel Vehicles in California: Population and Use Patterns, ARB 1985)*. The passenger cars include light duty auto through medium duty trucks (vehicle classes 1-4), proportional to the default CalEEMod distribution for the SCAQMD. This would result in the distribution shown below.

TABLE 3-2

PASSENGER CAR PERCENTAGE BREAKDOWN

Vehicle Class		Percentage of Vehicles
01 - Light-Duty Autos (PC)	LDA	55%
02 - Light-Duty Trucks (T1)	LDT1	8%
03 - Light-Duty Trucks (T2)	LDT2	25%
04 - Medium-Duty Trucks (T3)	MDV	12%

TABLE 3-3

HEAVY DUTY TRUCK PERCENTAGE BREAKDOWN

Vehicle Class		Percentage of Vehicles
05 - Light HD Trucks (T4)	LHD1	4.6%
06 - Light HD Trucks (T5)	LHD2	1.3%
07 - Medium HD Trucks (T6)	MHD	45.2%
08 - Heavy HD Trucks (T7)	HHD	48.9%

3.5 EMISSIONS SUMMARY

The total amount of Project-related GHG emissions when accounting for applicable regulatory developments, and the Project's general Air Quality mitigation measures would total 10,632.09 $MMTCO_2e$ as shown on Table 3-4.

TABLE 3-4

TOTAL PROJECT 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	24.96	0.002	--	25.00
Energy	397.18	0.02	0.01	399.66
Mobile Sources	8,216.61	0.20	--	8,220.79
Waste	877.21	51.84	--	1,965.87
Water Usage	16.79	0.14	--	20.77
Total CO_2E (All Sources)		**10,632.09**		

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

3.6 GREENHOUSE GAS EMISSIONS FINDINGS AND RECOMMENDATIONS

As discussed at in section 15064(b) of the *CEQA Guidelines*, the determination of impact significance is not "ironclad;" rather, the "determination of whether a project may have a significant effect on the environment calls for a "careful judgment" by the City "based to the extent possible on scientific and factual data."

The City of Moreno Valley has not adopted a numeric threshold of significance for emissions of greenhouse gases, and as previously noted, CARB's proposed threshold is not yet final. Similarly, the SCAQMD thresholds are currently in Draft form.

Nevertheless, comparison of the GHG emissions from the Project's area sources (construction, energy, waste, and water usage) indicates that the Project's emissions from such sources are well below the proposed CARB and SCAQMD thresholds for stationary sources. With regard to GHG emissions from mobile sources, as discussed above, the estimation of the Project's impact on mobile source GHG

emissions is conservative and likely overestimated. No methods or models exist to reliably and accurately estimate the Project's net contribution to regional or global vehicle miles traveled. Further, there are no adopted thresholds for mobile-source GHG emissions. In light of the preceding considerations, and consistent with previous GHG analyses prepared for and by the Lead Agency, the analysis presented here considers the Project's qualitative, rather than quantitative compliance with State greenhouse gas reduction guidelines and policies.

More specifically, consistent with past practice in the City of Moreno Valley, the significance of the Project's GCC impacts is based upon on whether or not the Project can demonstrate compliance with the CARB Scoping Plan prepared in response to California Assembly Bill 32 (AB 32); and compliance with the State of California's Climate Action Team Report (2006), prepared in response to the California Governor's Executive Order S-3-05. The analysis below sets out the factual basis for the City's determination regarding the effect of greenhouse gases. The analysis is specific to this Project, and may not necessarily apply to other projects within the City of Moreno Valley.

Consistency with the CARB Scoping Plan

AB 32 requires California to reduce its GHG emissions by approximately 29% below business as usual. CARB identified reduction measures to achieve this goal as set forth in the CARB Scoping Plan. Thus, projects that are consistent with the CARB Scoping Plan are also consistent with the 29% reduction below business as usual required by AB 32.

The proposed Project would generate GHG emissions from a variety of sources which would all emit CO_2, CH_4 and N_2O. GHGs could also be indirectly generated by incremental electricity consumption and waste generation from the proposed Project.

Table 3-5 below, presents the 39 Recommended Actions (qualitative measures) identified to date by CARB in its Climate Change Proposed Scoping Plan. Of the 39 measures identified, those that would be considered to be applicable to the Project would primarily be those actions related to transportation, electricity and natural gas use, green building design and industrial uses. Consistency of the Project with these measures is evaluated by each source-type measure below. Table 3-5 identifies which CARB Recommended Actions apply to the Project, and of those, whether the Project is consistent therewith. A discussion of how the Project is consistent with each applicable CARB Recommended Action is set forth after Table 3-5.

TABLE 3-5

RECOMMENDED ACTIONS FOR CLIMATE CHANGE PROPOSED SCOPING PLAN

ID #	Sector	Strategy Name	Applicable to Project?	Will Project Conflict With Implementation?
T-1	Transportation	Pavley I and II – Light-Duty Vehicle GHG Standards	NO	NO
T-2	Transportation	Low Carbon Fuel Standard (Discrete Early Action)	NO	NO
T-3	Transportation	Regional Transportation-Related GHG Targets	NO	NO
T-4	Transportation	Vehicle Efficiency Measures	NO	NO
T-5	Transportation	Ship Electrification at Ports (Discrete Early Action)	NO	NO
T-6	Transportation	Goods-movement Efficiency Measures	NO	NO
T-7	Transportation	Heavy Duty Vehicle Greenhouse Gas Emission Reduction Measure – Aerodynamic Efficiency (Discrete Early Action)	NO	NO
T-8	Transportation	Medium and Heavy-Duty Vehicle Hybridization	NO	NO
T-9	Transportation	High Speed Rail	NO	NO
E-1	Electricity and Natural Gas	Increased Utility Energy efficiency programs More stringent Building and Appliance Standards	YES	NO
E-2	Electricity and Natural Gas	Increase Combined Heat and Power Use by 30,000GWh	NO	NO
E-3	Electricity and Natural Gas	Renewable Portfolio Standard	NO	NO
E-4	Electricity and Natural Gas	Million Solar Roofs	YES	NO
CR-1	Electricity and Natural Gas	Energy Efficiency	YES	NO
CR-2	Electricity and Natural Gas	Solar Water Heating	NO	NO
GB-1	Green Buildings	Green Buildings	YES	NO
W-1	Water	Water Use Efficiency	YES	NO
W-2	Water	Water Recycling	NO	NO
W-3	Water	Water System Energy Efficiency	YES	NO
W-4	Water	Reuse Urban Runoff	NO	NO
W-5	Water	Increase Renewable Energy Production	NO	NO
W-6	Water	Public Goods Charge (Water)	NO	NO
I-1	Industry	Energy Efficiency and Co-benefits Audits for Large Industrial Sources	YES	NO
I-2	Industry	Oil and Gas Extraction GHG Emission Reduction	NO	NO
I-3	Industry	GHG Leak Reduction from Oil and Gas Transmission	NO	NO
I-4	Industry	Refinery Flare Recovery Process Improvements	NO	NO
I-5	Industry	Removal of Methane Exemption from Existing Refinery Regulations	NO	NO
RW-1	Recycling and Waste Management	Landfill Methane Control (Discrete Early Action)	NO	NO
RW-2	Recycling and Waste Management	Additional Reductions in Landfill Methane – Capture Improvements	NO	NO
RW-3	Recycling and Waste Management	High Recycling/Zero Waste	NO	NO
F-1	Forestry	Sustainable Forest Target	NO	NO
H-1	High Global Warming Potential Gases	Motor Vehicle Air Conditioning Systems (Discrete Early Action)	NO	NO
H-2	High Global Warming Potential Gases	SF_6 Limits in Non-Utility and Non-Semiconductor Applications (Discrete Early Action)	NO	NO
H-3	High Global Warming Potential Gases	Reduction in Perflourocarbons in Semiconductor Manufacturing (Discrete Early Action)	NO	NO
H-4	High Global Warming Potential Gases	Limit High GWP Use in Consumer Products (Discrete Early Action, Adopted June 2008)	NO	NO
H-5	High Global Warming Potential Gases	High GWP Reductions from Mobile Sources	NO	NO
H-6	High Global Warming Potential Gases	High GWP Reductions from Stationary Sources	NO	NO
H-7	High Global Warming Potential Gases	Mitigation Fee on High GWP Gases	NO	NO
A-1	Agriculture	Methane Capture at Large Dairies	NO	NO

SOURCE: CARB, 2008.

Discussion of the applicability of each measure and Project consistency with or support of its implementation follows. It also noted that certain measures and enforcement actions listed below are beyond the scope of control of the Project. Notwithstanding implementation and enforcement of these measures by the State or other responsible entity will act to reduce areawide GHG emissions.

Transportation

CARB's Scoping Plan identifies nine transportation-related recommended actions. Action T-1 concerns improvements to light-duty vehicle technology for the purposes of reducing GHG emissions. This action focuses on legislating improved controls for vehicle manufacturers and would not generally be considered applicable to the proposed Project. Implementation of the Pavley standards is dependent on implementation by the State on vehicle fuel economy standards.

Implementation of such a standard is not within the purview of this Project. Therefore, the proposed Project would not conflict with measures concerning the Pavley standards.

Action T-2 concerns implementation of a low carbon fuel standard. To reduce the carbon intensity of transportation fuels, CARB is developing a Low Carbon Fuel Standard (LCFS), which would reduce the carbon intensity of California's transportation fuels by at least ten percent by 2020 as called for by Governor Schwarzenegger in Executive Order S-01-07. LCFS will incorporate compliance mechanisms that provide flexibility to fuel providers in how they meet the requirements to reduce greenhouse gas emissions.

Implementation of such a standard is not within the purview of a this Project. Therefore, the proposed Project would not conflict with measures concerning the use of low carbon fuels.

Action T-3 addressees regional transportation targets for reducing GHG emissions. SB 375 requires CARB to develop, in consultation with metropolitan planning organizations (MPOs), passenger vehicle greenhouse gas emissions reduction targets for 2020 and 2035. It sets forth a collaborative process to establish these targets, including the appointment by CARB of a Regional Targets Advisory Committee to recommend factors to be considered and methodologies for setting greenhouse gas emissions reduction targets. SB 375 also provides incentives – relief from certain California Environmental Quality Act (CEQA) requirements for development projects that are consistent with regional plans that achieve the targets.

Implementation of such a standard is not within the purview of this Project. Therefore, the proposed Project would not conflict with measures concerning SB375.

Action T-4 is concerned with vehicle efficiency measures. The California Integrated Waste Management Board (CIWMB) with various partners continues to conduct a public awareness campaign to promote sustainable tire practices. CARB is pursuing a regulation to ensure that tires are properly inflated when vehicles are serviced. In addition, CEC in consultation with CIWMB is developing an efficient tire program focusing first on data gathering and outreach, then on potential adoption of minimum fuel-efficient tire standards, and lastly on the development of consumer information requirements for replacing tires. CARB is also pursuing ways to reduce engine load via lower friction oil and reducing the need for air conditioner use. ARB is actively engaged in the regulatory development process for the tire inflation component of this measure.

Implementation of such a standard is not within the purview of this Project. Therefore, the proposed Project would not conflict with applicable measures.

Action T-5 addresses electrification of ships at ports and is not applicable to the proposed Project.

Action T-6 also primarily addresses port operations and is not applicable to the proposed Project.

Action T-7 requires existing trucks/trailers to be retrofitted with the best available technology and/or CARB-approved technology.

Implementation of such a standard is not within the purview of the proposed Project since various trucks fleets from numerous commercial entities may access the site. Therefore, the proposed Project would not conflict with this measure.

Action T-8 focuses on hybridization of medium- and heavy-duty vehicles. The implementation approach to Action T-8 is to adopt a regulation and/or incentive program that reduces GHG emissions by encouraging hybrid technology as applied to vocational applications that have significant urban, stop-and-go driving, idling, and power take-off operations in their duty cycle. Such applications include parcel delivery trucks and vans.

Implementation of such a standard is not within the purview of the proposed Project since various trucks fleets from numerous commercial entities may access the site. Therefore, the proposed Project would not conflict with this measure.

Action T-9 concerns implementation of a high speed rail system. This measure is not applicable to the Project. Electricity and Natural Gas

Action E-1/CR-1, together with Action GB-1 (Green Building), aims to reduce electricity demand by increased efficiency of Utility Energy Programs and adoption of more stringent building and appliance standards.

The Project will comply with or surpass incumbent Title 24 Energy Efficiency Standards.. Therefore, the proposed Project would not conflict with this measure.

Action E-2 encourages an increase in the use of combined heat and power (CHP) use, or co-generation, facilities. California has supported CHP for many years, but market and other barriers continue to keep CHP from reaching its full market potential. Increasing the deployment of efficient CHP will require a multi-pronged approach that includes addressing significant barriers and instituting incentives or mandates where appropriate.

Implementation of such a standard is not within the purview of the proposed Project; therefore, the proposed Project would not conflict with this measure.

Action E-3 concerns Renewable Portfolio Standards for utilities and does not apply to development projects.

Action E-4 strives to promote solar generated electricity.

Project building designs will accommodate renewable energy sources, such as photovoltaic solar electricity systems, appropriate to their architectural design(s). The Project would therefore not conflict with the recommended measure.

Action CR-2 strives to promote solar water heaters (SWH). The ARB recommends that California pursue approaches with the goal of developing a viable SWH industry for 2020 and beyond.

Implementation of such a standard is not within the purview of the Project; therefore, the proposed Project would not conflict with this measure.

Water Use

Implementation of all but two of the Recommended Actions related to water use are not within the purview of the proposed Project. The two measures that apply are measures W-1 (Water Use Efficiency) and W-3 (Water System Energy Efficiency). However, since the proposed Project would not exceed the audit threshold of 25,000 MT CO_2[27] from on-site combustion and related activities, the proposed Project is consistent with and would not obstruct the recommended actions.

Industrial Use

All but one of the Recommended Actions related to industrial use are specific to oil and gas extraction, refining and transmission and are not applicable to the proposed Project. The one other Action I-1 targets large emitters of GHGs (in excess of 0.5 million metric tons (MMT)/year of CO_2E (equivalent)) for auditing[28]. Because the proposed Project would not exceed the audit threshold, as set forth in Section 3.0, the proposed Project is consistent with and would not obstruct the recommended actions.

Consistency with GHG Emission Reduction Strategies set forth in the 2006 CAT Report

Table 3-6 (as follows) sets forth the emission reduction strategies set forth in the 2006 CAT Report along with an explanation as to how the Project is consistent therewith. Table 3-6 also notes whether the strategy is applicable to the Project:

Although implementation of the CAT strategies would reduce GHG emissions to the extent possible, it is not possible to specifically quantify the reduction in GHG that will result from implementation of CAT strategies and programs. However, a project that is consistent with CAT strategies is consistent with the strategies suggested to reduce California's emissions to the levels proposed by Executive Order S-3-05 and AB 32, and therefore the Project will result in a less than significant impact on GCC.

[27] CARB Frequently Asked Questions Regarding the GHG Mandatory Reporting and Verification Program http://www.arb.ca.gov/cc/reporting/ghg-rep/updated_faq.pdf

[28] Certain "covered sectors" of activities in California account for 85% of GHG emissions. Each source in these sectors will be subject to a system of declining GHG emissions allowances issued by CARB under a total emissions cap, as well as an allowance trading system. The Plan's lynch-pin is a cap-and-trade program that would apply to the electricity sector, the transportation sector, the commercial and residential sector, and large industrial sources (those emitting more than 0.5 million metric tons per year of carbon dioxide ("CO2") equivalents).
http://www.paulhastings.com/assets/publications/937.pdf

Table 3-6: Project Compliance with Applicable 2006 CAT Report Greenhouse Gas Emissions Reduction Strategies

Strategy	Remarks
California Air Resource Board	
Vehicle Climate Change Standards AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by the ARB in September 2004.	The noted measures are beyond the purview of the Project. Their implementation by the State and others will act to reduce areawide GHG emissions.
Other Light Duty Vehicle Technology New standards would be adopted to phase in beginning in the 2017 model.	
Heavy-Duty Vehicle Emission Reduction Measures Increased efficiency in the design of heavy-duty vehicles and an education program for the heavy-duty vehicle sector.	
Diesel Anti-Idling In July 2004, the CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	Compliant. Heavy-duty diesel trucks that access the project site will be required to limit idling to no more than five minutes.
Hydrofluorocarbon Reduction 1) Ban retail sale of HFC in small cans; 2) Require that only low GWP refrigerants be used in new vehicular systems; 3) Adopt specifications for new commercial refrigeration; 4) Add refrigerant leak-tightness to the pass criteria for vehicular Inspection and Maintenance programs; 5) Enforce federal ban on releasing HFCs.	The noted measures are beyond the purview of the Project. Their implementation by the State and others will act to reduce areawide GHG emissions.
Transportation Refrigeration Units (TRUs), Off-Road Electrification, Port Electrification Strategies to reduce emissions from TRUs, increase off-road electrification, and increase use of shore-side/port electrification.	The noted measures are beyond the purview of the Project. Their implementation by the State and others will act to reduce areawide GHG emissions. Further, no refrigerated truck units will access the Project site, nor does the Project proposed refrigerated warehousing.
Alternative Fuels: Biodiesel Blends CARB would develop regulations to require the use of 1 to 4 percent biodiesel displacement of California diesel fuel.	The noted measures are beyond the purview of the Project. Their implementation by the State and others will act to reduce areawide GHG emissions.
Reduced Venting and Leaks in Oil and Gas Systems Rule considered for adoption by the Air Pollution Control Districts for improved management practices.	The noted measures are beyond the purview of the Project. Their implementation by the State and others will act to reduce areawide GHG emissions.
Hydrogen Highway The California Hydrogen Highway Network (CA H_2 Net) is a State initiative to promote the use of hydrogen as a means of diversifying the sources of transportation energy.	The noted measures are beyond the purview of the Project. Their implementation by the State and others will act to reduce areawide GHG emissions.
Integrated Waste Management Board	
Achieve 50 percent Statewide Recycling Goal Achieving the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter	Compliant. The project is required to comply with the City's Source Reduction and Recycling Element (SRRE). To this end, the Project design includes provisions for tenants

1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48 percent has been achieved on a statewide basis. Therefore, a 2 percent additional reduction is needed.	to recycle. In accordance with the California Solid Waste Reuse and Recycling Act of 1991 (Cal Pub Res. Code § 42911), the Project would provide adequate areas for collecting and loading recyclable materials where solid waste is collected. The collection areas are required to be shown on construction drawings and be in place before occupancy permits are issued.
Zero Waste - High Recycling Additional recycling beyond the State's 50 percent recycling goal.	
Department of Forestry	
Forest Management Strategies for storing more carbon through forest management activities can involve a range of management activities such as increasing either the growth of individual trees, the overall age of trees prior to harvest, or dedicating land to older age trees.	The noted measures are beyond the purview of the Project. Their implementation by the State and others will act to reduce areawide GHG emissions.
Forest Conservation Conservation projects are designed to minimize/prevent the climate change emissions that are associated with the conversion of forestland to non-forest uses by adding incentives to maintain an undeveloped forest landscape.	The noted measures are beyond the purview of the Project. Their implementation by the State and others will act to reduce areawide GHG emissions.
Fuels Management/Biomass Large, episodic, unnaturally hot fires are an increasing trend on California's wild lands because of decades of fire suppression activities, sustained drought, and increasing insect, disease, and invasive plans infestations. Actions taken to reduce wildfire severity through fuel reduction and biomass development would reduce climate change emissions from wildfire, increase carbon sequestration, replace fossil fuels, and provide significant economic development opportunities.	The noted measures are beyond the purview of the Project. Their implementation by the State and others will act to reduce areawide GHG emissions.
Urban Forestry A new statewide goal of planting 5 million trees in urban areas by 2020 would be achieved through the expansion of local urban forestry programs.	The Project does not involve or propose a formal urban forestry program. Nor has the City adopted or implemented an urban forestry program. Notwithstanding, the Project will construct landscaping improvements, including tree plantings, consistent with the City's landscape design guidelines.
Afforestation/Reforestation Projects Reforestation projects focus on restoring native tree cover on lands that were previously forested and are now covered with other vegetative types.	The noted measures are beyond the purview of the Project. Their implementation by the State and others will act to reduce areawide GHG emissions.
Department of Water Resources	
Water Use Efficiency Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions.	Compliant. The Project shall implement U.S. EPA Certified WaterSense labeled or equivalent faucets and high-efficiency toilets (HETs), and implement water-conserving shower heads where applicable.
California Energy Commission (CEC)	
Building Energy Efficiency Standards in Place and in Progress	Compliant. Project will be compliant with incumbent California

Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions to and alterations to existing buildings).	Code of Regulations, Title 24 (Energy Efficiency Standards for Residential and Nonresidential Buildings).
Appliance Energy Efficiency Standards in Place and in Progress Public Resources Code 25402 authorizes the Energy Commission to adopt and periodically update its appliance energy efficiency standards (that apply to devices and equipment using energy that are sold or offered for sale in California).	Compliant. Appliances purchased for use in the Project will be consistent with all applicable energy efficiency standards.
Fuel-Efficient Replacement Tires & Inflation Programs State legislation (Chapter 912, Statues of 2001) directed the Energy Commission to investigate and to recommend ways to improve fuel efficiency of vehicle tires. The bill established a statewide program to encourage the production and use of more fuel efficient tires.	Not Applicable. The noted measures are beyond the purview of the Project. Their implementation by the State and others will act to reduce areawide GHG emissions.
Cement Manufacturing Cost-effective reductions to reduce energy consumption and to lower carbon dioxide emissions in the cement industry.	Not Applicable. The noted measures are beyond the purview of the Project. Their implementation by the State and others will act to reduce areawide GHG emissions.
Municipal Utility Strategies Includes energy efficiency programs, renewable portfolio standard, combined heat and power, and transitioning away from carbon-intensive generation.	Not Applicable. The noted measures are beyond the purview of the Project. Their implementation by the State and others will act to reduce areawide GHG emissions.
Alternative Fuels: non-Petroleum Fuels Increasing the use of non-petroleum fuels in California's transportation sector, as recommended in the CEC=s 2003 and 2005 Integrated Energy Policy Reports.	Not Applicable. The noted measures are beyond the purview of the Project. Their implementation by the State and others will act to reduce areawide GHG emissions.
Business Transportation and Housing	
Smart Land Use and Intelligent Transportation Systems (ITS) Smart land use strategies encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density residential/commercial development along transit corridors. ITS is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services. Governor Schwarzenegger is finalizing a comprehensive 10-year strategic growth plan with the intent of developing ways to promote, through state investments, incentives and technical assistance, land use, and technology strategies that provide for a prosperous economy, social equity, and a quality environment.	Compliant. The Project is proximate to serving transportation corridors, thereby promoting operational efficiencies.

Measures to Improve Transportation Energy Efficiency Builds on current efforts to provide a framework for expanded and new initiatives including incentives, tools and information that advance cleaner transportation and reduce climate change emissions.	Compliant. The Project promotes transportation efficiencies through its location proximate to serving transportation corridors. Moreover, distribution warehouse uses such as those proposed by the Project act to consolidate regional transport and delivery of goods, thereby reducing VMT within the region, further improving transportation efficiencies. trips
Department of Food and Agriculture	
Conservation tillage/cover crops Conservation tillage and cover crops practices are increasingly being used by California farmers for a variety of reasons, including improved soil tilth, improved water use efficiency, reduced tillage requirements, saving labor and fuel, and reduced fertilizer inputs.	The noted measures are beyond the purview of the Project. Their implementation by the State and others will act to reduce areawide GHG emissions.
Enteric Fermentation Cattle emit methane from digestion processes. Changes in diet could result in a reduction in emissions.	Not Applicable. The noted measures are beyond the purview of the Project. Their implementation by the State and others will act to reduce areawide GHG emissions.
State and Consumer Services Agency	Not Applicable.
Green Buildings Initiative Green Building Executive Order, S-20-04 (CA 2004), sets a goal of reducing energy use in public and private buildings by 20 percent by the year 2015, as compared with 2003 levels.	Compliant. The Project will meet or surpass Title 24 Energy Efficiency standards, acting to reduce area source GHG emissions. Further, State mandated programs (Pavely et al.) will act to substantively reduce mobile-source GHG emissions. Additionally, the Project is required to comply with the mandatory provisions of the California Green Building Standards Code (CALGreen) pursuant to the California Code of Regulations, Title 24, which became effective on January 1, 2011.
Public Utilities Commission (PUC)	
Accelerated Renewable Portfolio Standard The Governor has set a goal of achieving 33 percent renewables in the State's resource mix by 2020. The joint PUC/Energy Commission September 2005 Energy Action Plan II (EAP II) adopts the 33 percent goal.	Not Applicable. The noted measures are beyond the purview of the Project. Their implementation by the State and others will act to reduce areawide GHG emissions.
California Solar Initiative Installation of 1 million solar roofs or an equivalent 3,000 MW by 2017 on homes and businesses; increased use of solar thermal systems to offset the increasing demand for natural gas; use of advanced metering in solar applications; and creation of a funding source that can provide rebates over 10 years through a declining incentive schedule.	Compliant. Project buildings will be designed to accommodate renewable energy sources, such as photovoltaic solar energy systems as is economically and physically feasible.
Investor-Owned Utility This strategy includes energy efficiency programs, combined heat and power initiative, and electricity sector carbon policy for investor owned utility.	Not Applicable. The noted measures are beyond the purview of the Project. Their implementation by the State and others will act to reduce areawide GHG emissions.

Source: State of California, Environmental Protection Agency, Climate Action Team, 2006.

Conclusion

The Project is consistent with, or otherwise not in conflict with the CARB Scoping Plan recommended measures and actions and the GHG emission reduction strategies set forth in the 2006 CAT Report.

As such, an assessment of Project impacts based upon consistency with the CARB Scoping Plan and the 2006 CAT Report, supports the conclusion that the Project GHG emissions are not individually significant or cumulatively considerable. Already less-than-significant Project GHG emissions will be further reduced as a byproduct of other general Project Air Quality Mitigation Measures. This analysis does not take any credit for a reduction of GHG emissions as a result of implementation of such measures.

3.7 REQUIREMENTS

The Project would be required to comply with all mandatory regulatory requirements imposed by the State of California and the South Coast Air Quality Management District aimed at the reduction of air quality pollutant emissions. Those that are applicable to the Project and that would assist in the reduction of greenhouse gas emissions are:

- 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.

In addition to the above requirements, the Project will implement general Air Quality Mitigation Measures that will, as a corollary benefit, also act to further reduce Project GHG emissions. Please refer also to Air Quality Impact Analysis Mitigation Measures AQ-1 through AQ-4 (EIR Mitigation Measures 4.3.1 through 4.3.4).

4.0 REFERENCES

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4. California Building Standards Commission, 2010. 2008 *California Green Building Standards Code.*

5. California Energy Commission, 2005. *Inventory of California Greenhouse Gas Emissions and Sinks.*

6. California Integrated Waste Management Board, 2011. *Estimated Solid Waste Generation Rates for Industrial Establishments:* http://www.calrecycle.ca.gov/wastechar/WasteGenRates/Industrial.htm

7. International Panel on Climate Change, 2007. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report.*

8. South Coast Air Quality Management District (SCAQMD), 1993. *CEQA Air Quality Handbook.*

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12. United States Environmental Protection Agency, 2010. *High Global Warming Potential (GWP) Gases.*

13. Urban Crossroads, Inc., 2012. *First Inland Logistics II Traffic Impact Analysis.*

14. World Resources Institute, 2011. *Climate Analysis Indicator Tool (CAIT) – US – Yearly Emissions Inventory.*

APPENDIX A

CalEEMod™ Input/Output
Construction and Operational Emissions

First Inland Logistics II

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Unrefrigerated Warehouse-No Rail	400.13	1000sqft
Parking Lot	7.8	Acre

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	31		

1.3 User Entered Comments

Project Characteristics -

Land Use - LU & Acreage given from Project Description.

Construction Phase - Construction schedule with an opening year of late 2013.

Off-road Equipment -

Off-road Equipment - OFFROAD 2011 Load Factors.

Off-road Equipment - OFFROAD 2011 Load Factors.

Off-road Equipment - OFFROAD 2011 Load Factors.

Off-road Equipment - OFFROAD 2011 Load Factors.

Off-road Equipment - OFFROAD 2011 Load Factors.

Trips and VMT - Water Truck Trips added to Site Preparation and Grading.

Demolition -

Grading - Total Acres Disturbed from Site Plan.

Architectural Coating - VOCs calculated separately since CalEEMod does not allow user to alter SF to be painted.

Vehicle Trips - Trip rate based on data in traffic study.

Vechicle Emission Factors - Fleet mix reflects passenger car (LDA, LDT1, LDT2, MDV), 2, 3, and 4+ axle trucks per traffic study.

Vechicle Emission Factors - Fleet mix reflects passenger car (LDA, LDT1, LDT2, MDV), 2, 3, and 4+ axle trucks per traffic study.

Vechicle Emission Factors - Fleet mix reflects passenger car (LDA, LDT1, LDT2, MDV), 2, 3, and 4+ axle trucks per traffic study.

Area Coating - Low-VOC Paints

Water And Wastewater - Water Usage Project Demand

Solid Waste -

Construction Off-road Equipment Mitigation -

Area Mitigation - Low-VOC Paints (150g/L)

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					
2013	0.77	5.33	4.21	0.01	0.85	0.29	1.14	0.11	0.29	0.40	0.00	748.77	748.77	0.06	0.00	750.01
Total	**0.77**	**5.33**	**4.21**	**0.01**	**0.85**	**0.29**	**1.14**	**0.11**	**0.29**	**0.40**	**0.00**	**748.77**	**748.77**	**0.06**	**0.00**	**750.01**

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					
2013	0.69	4.22	4.42	0.01	0.64	0.27	0.91	0.05	0.27	0.31	0.00	748.77	748.77	0.06	0.00	750.01
Total	**0.69**	**4.22**	**4.42**	**0.01**	**0.64**	**0.27**	**0.91**	**0.05**	**0.27**	**0.31**	**0.00**	**748.77**	**748.77**	**0.06**	**0.00**	**750.01**

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	1.91	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
Energy	0.00	0.04	0.04	0.00		0.00	0.00		0.00	0.00	0.00	397.18	397.18	0.02	0.01	399.66
Mobile	3.97	40.26	29.03	0.07	4.40	1.58	5.98	0.09	1.46	1.56	0.00	8,216.61	8,216.61	0.20	0.00	8,220.79
Waste						0.00	0.00		0.00	0.00	877.21	0.00	877.21	51.84	0.00	1,965.87
Water						0.00	0.00		0.00	0.00	0.00	16.79	16.79	0.14	0.00	20.77
Total	**5.88**	**40.30**	**29.07**	**0.07**	**4.40**	**1.58**	**5.98**	**0.09**	**1.46**	**1.56**	**877.21**	**8,630.58**	**9,507.79**	**52.20**	**0.01**	**10,607.09**

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	1.91	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
Energy	0.00	0.04	0.04	0.00		0.00	0.00		0.00	0.00	0.00	397.18	397.18	0.02	0.01	399.66
Mobile	3.97	40.26	29.03	0.07	4.40	1.58	5.98	0.09	1.46	1.56	0.00	8,216.61	8,216.61	0.20	0.00	8,220.79
Waste						0.00	0.00		0.00	0.00	877.21	0.00	877.21	51.84	0.00	1,965.87
Water						0.00	0.00		0.00	0.00	0.00	16.79	16.79	0.14	0.00	20.77
Total	**5.88**	**40.30**	**29.07**	**0.07**	**4.40**	**1.58**	**5.98**	**0.09**	**1.46**	**1.56**	**877.21**	**8,630.58**	**9,507.79**	**52.20**	**0.01**	**10,607.09**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Demolition - 2013

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					0.18	0.00	0.18	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.05	0.40	0.24	0.00		0.02	0.02		0.02	0.02	0.00	37.98	37.98	0.00	0.00	38.07
Total	**0.05**	**0.40**	**0.24**	**0.00**	**0.18**	**0.02**	**0.20**	**0.03**	**0.02**	**0.05**	**0.00**	**37.98**	**37.98**	**0.00**	**0.00**	**38.07**

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	0.04	0.44	0.24	0.00	0.26	0.02	0.28	0.00	0.02	0.02	0.00	62.61	62.61	0.00	0.00	62.65
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	1.45	1.45	0.00	0.00	1.45
Total	**0.04**	**0.44**	**0.25**	**0.00**	**0.26**	**0.02**	**0.28**	**0.00**	**0.02**	**0.02**	**0.00**	**64.06**	**64.06**	**0.00**	**0.00**	**64.10**

3.2 Demolition - 2013

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					0.07	0.00	0.07	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.04	0.23	0.23	0.00		0.02	0.02		0.02	0.02	0.00	37.98	37.98	0.00	0.00	38.07
Total	**0.04**	**0.23**	**0.23**	**0.00**	**0.07**	**0.02**	**0.09**	**0.01**	**0.02**	**0.03**	**0.00**	**37.98**	**37.98**	**0.00**	**0.00**	**38.07**

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	0.04	0.44	0.24	0.00	0.26	0.02	0.28	0.00	0.02	0.02	0.00	62.61	62.61	0.00	0.00	62.65
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	1.45	1.45	0.00	0.00	1.45
Total	**0.04**	**0.44**	**0.25**	**0.00**	**0.26**	**0.02**	**0.28**	**0.00**	**0.02**	**0.02**	**0.00**	**64.06**	**64.06**	**0.00**	**0.00**	**64.10**

3.3 Site Preparation - 2013

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					0.10	0.00	0.10	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.27	0.15	0.00		0.01	0.01		0.01	0.01	0.00	24.55	24.55	0.00	0.00	24.61
Total	**0.03**	**0.27**	**0.15**	**0.00**	**0.10**	**0.01**	**0.11**	**0.05**	**0.01**	**0.06**	**0.00**	**24.55**	**24.55**	**0.00**	**0.00**	**24.61**

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	0.75	0.75	0.00	0.00	0.75
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97	0.97	0.00	0.00	0.97
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.72**	**1.72**	**0.00**	**0.00**	**1.72**

3.3 Site Preparation - 2013

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					0.04	0.00	0.04	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.02	0.15	0.14	0.00		0.01	0.01		0.01	0.01	0.00	24.55	24.55	0.00	0.00	24.61
Total	**0.02**	**0.15**	**0.14**	**0.00**	**0.04**	**0.01**	**0.05**	**0.02**	**0.01**	**0.03**	**0.00**	**24.55**	**24.55**	**0.00**	**0.00**	**24.61**

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	0.75	0.75	0.00	0.00	0.75
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97	0.97	0.00	0.00	0.97
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.72**	**1.72**	**0.00**	**0.00**	**1.72**

3.4 Grading - 2013

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					0.05	0.00	0.05	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.06	0.49	0.27	0.00		0.02	0.02		0.02	0.02	0.00	49.46	49.46	0.00	0.00	49.57
Total	**0.06**	**0.49**	**0.27**	**0.00**	**0.05**	**0.02**	**0.07**	**0.03**	**0.02**	**0.05**	**0.00**	**49.46**	**49.46**	**0.00**	**0.00**	**49.57**

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	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12	1.12	0.00	0.00	1.12
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.61	1.61	0.00	0.00	1.61
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.73**	**2.73**	**0.00**	**0.00**	**2.73**

3.4 Grading - 2013

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					0.02	0.00	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.04	0.27	0.29	0.00		0.02	0.02		0.02	0.02	0.00	49.46	49.46	0.00	0.00	49.57
Total	**0.04**	**0.27**	**0.29**	**0.00**	**0.02**	**0.02**	**0.04**	**0.01**	**0.02**	**0.03**	**0.00**	**49.46**	**49.46**	**0.00**	**0.00**	**49.57**

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	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12	1.12	0.00	0.00	1.12
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.61	1.61	0.00	0.00	1.61
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.73**	**2.73**	**0.00**	**0.00**	**2.73**

3.5 Building Construction - 2013

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	0.37	2.52	1.58	0.00		0.16	0.16		0.16	0.16	0.00	262.74	262.74	0.03	0.00	263.37
Total	**0.37**	**2.52**	**1.58**	**0.00**		**0.16**	**0.16**		**0.16**	**0.16**	**0.00**	**262.74**	**262.74**	**0.03**	**0.00**	**263.37**

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	0.08	0.90	0.56	0.00	0.05	0.03	0.08	0.00	0.03	0.03	0.00	135.78	135.78	0.00	0.00	135.86
Worker	0.09	0.09	0.98	0.00	0.19	0.01	0.20	0.00	0.01	0.01	0.00	148.87	148.87	0.01	0.00	149.06
Total	**0.17**	**0.99**	**1.54**	**0.00**	**0.24**	**0.04**	**0.28**	**0.00**	**0.04**	**0.04**	**0.00**	**284.65**	**284.65**	**0.01**	**0.00**	**284.92**

3.5 Building Construction - 2013

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	0.33	1.93	1.79	0.00		0.15	0.15		0.15	0.15	0.00	262.74	262.74	0.03	0.00	263.37
Total	**0.33**	**1.93**	**1.79**	**0.00**		**0.15**	**0.15**		**0.15**	**0.15**	**0.00**	**262.74**	**262.74**	**0.03**	**0.00**	**263.37**

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	0.08	0.90	0.56	0.00	0.05	0.03	0.08	0.00	0.03	0.03	0.00	135.78	135.78	0.00	0.00	135.86
Worker	0.09	0.09	0.98	0.00	0.19	0.01	0.20	0.00	0.01	0.01	0.00	148.87	148.87	0.01	0.00	149.06
Total	**0.17**	**0.99**	**1.54**	**0.00**	**0.24**	**0.04**	**0.28**	**0.00**	**0.04**	**0.04**	**0.00**	**284.65**	**284.65**	**0.01**	**0.00**	**284.92**

3.6 Paving - 2013

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	0.03	0.17	0.11	0.00		0.01	0.01		0.01	0.01	0.00	13.46	13.46	0.00	0.00	13.51
Paving	0.01					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.04**	**0.17**	**0.11**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**13.46**	**13.46**	**0.00**	**0.00**	**13.51**

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	1.21	1.21	0.00	0.00	1.21
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.21**	**1.21**	**0.00**	**0.00**	**1.21**

3.6 Paving - 2013

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	0.03	0.17	0.11	0.00		0.01	0.01		0.01	0.01	0.00	13.46	13.46	0.00	0.00	13.51
Paving	0.01					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.04**	**0.17**	**0.11**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**13.46**	**13.46**	**0.00**	**0.00**	**13.51**

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	1.21	1.21	0.00	0.00	1.21
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.21**	**1.21**	**0.00**	**0.00**	**1.21**

3.7 Architectural Coating - 2013

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	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	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	**0.00**	**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	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65	3.65	0.00	0.00	3.66
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.65**	**3.65**	**0.00**	**0.00**	**3.66**

3.7 Architectural Coating - 2013

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	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	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	**0.00**	**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	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65	3.65	0.00	0.00	3.66
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.65**	**3.65**	**0.00**	**0.00**	**3.66**

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	3.97	40.26	29.03	0.07	4.40	1.58	5.98	0.09	1.46	1.56	0.00	8,216.61	8,216.61	0.20	0.00	8,220.79
Unmitigated	3.97	40.26	29.03	0.07	4.40	1.58	5.98	0.09	1.46	1.56	0.00	8,216.61	8,216.61	0.20	0.00	8,220.79
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
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	576.19	576.19	576.19	7,972,275	7,972,275
Total	576.19	576.19	576.19	7,972,275	7,972,275

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
Parking Lot	8.90	13.30	7.40	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	40.76	13.30	40.76	59.00	0.00	41.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	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	351.49	351.49	0.02	0.01	353.69
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	351.49	351.49	0.02	0.01	353.69
NaturalGas Mitigated	0.00	0.04	0.04	0.00		0.00	0.00		0.00	0.00	0.00	45.69	45.69	0.00	0.00	45.97
NaturalGas Unmitigated	0.00	0.04	0.04	0.00		0.00	0.00		0.00	0.00	0.00	45.69	45.69	0.00	0.00	45.97
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					
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
Unrefrigerated Warehouse-No Rail	856278	0.00	0.04	0.04	0.00		0.00	0.00		0.00	0.00	0.00	45.69	45.69	0.00	0.00	45.97
Total		**0.00**	**0.04**	**0.04**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**45.69**	**45.69**	**0.00**	**0.00**	**45.97**

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					
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
Unrefrigerated Warehouse-No Rail	856278	0.00	0.04	0.04	0.00		0.00	0.00		0.00	0.00	0.00	45.69	45.69	0.00	0.00	45.97
Total		**0.00**	**0.04**	**0.04**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**45.69**	**45.69**	**0.00**	**0.00**	**45.97**

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			
Parking Lot	0					0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	1.20839e+006					351.49	0.02	0.01	353.69
Total						**351.49**	**0.02**	**0.01**	**353.69**

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Parking Lot	0					0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	1.20839e+006					351.49	0.02	0.01	353.69
Total						**351.49**	**0.02**	**0.01**	**353.69**

6.0 Area Detail

6.1 Mitigation Measures Area

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	1.91	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
Unmitigated	1.91	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
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	0.46					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	1.45					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	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
Total	**1.91**	**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**

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	0.46					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	1.45					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	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
Total	**1.91**	**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**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					16.79	0.14	0.00	20.77
Unmitigated					16.79	0.14	0.00	20.77
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			
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	4.42015 / 0					16.79	0.14	0.00	20.77
Total						**16.79**	**0.14**	**0.00**	**20.77**

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			
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	4.42015 / 0					16.79	0.14	0.00	20.77
Total						**16.79**	**0.14**	**0.00**	**20.77**

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					877.21	51.84	0.00	1,965.87
Unmitigated					877.21	51.84	0.00	1,965.87
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			
Parking Lot	0					0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	4321.4					877.21	51.84	0.00	1,965.87
Total						**877.21**	**51.84**	**0.00**	**1,965.87**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Parking Lot	0					0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	4321.4					877.21	51.84	0.00	1,965.87
Total						**877.21**	**51.84**	**0.00**	**1,965.87**

9.0 Vegetation