

Appendix A Air Quality/GHG Data

Appendices

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Appendix A

Air Quality and Greenhouse Gas Background and Modeling Data

AIR QUALITY

Ambient air quality standards (AAQS) have been adopted and are periodically updated at state and federal levels for criteria air pollutants. In addition, both the state and federal government regulate the release of toxic air contaminants (TACs). The project site is within the South Coast Air Basin (SoCAB). Land use is subject to the rules and regulations imposed by the South Coast Air Quality Management District (SCAQMD), as well as the California AAQS adopted by the California Air Resources Board (CARB) and National AAQS adopted by the United States Environmental Protection Agency (EPA). Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the project are summarized below.

Air Quality Regulations

AMBIENT AIR QUALITY STANDARDS

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

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

Both California and the federal government have established health-based AAQS for seven air pollutants. As shown in Table 1, *Ambient Air Quality Standards for Criteria Pollutants*, these pollutants include ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), coarse inhalable particulate matter

(PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard	Federal Primary Standard	Major Pollutant Sources
Ozone (O ₃)	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO ₂)	Annual Average	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	*	0.030 ppm ²	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm ¹	
	24 hours	0.04 ppm	0.014 ppm ²	
Respirable Coarse Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m ³	150 µg/m ³	
Respirable Fine Particulate Matter (PM _{2.5})	Annual Arithmetic Mean	12 µg/m ³	12 µg/m ³	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m ³	
Lead (Pb)	Monthly	1.5 µg/m ³	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	*	1.5 µg/m ³	
	3-Month Average	*	0.15 µg/m ³	
Sulfates (SO ₄)	24 hours	25 µg/m ³	*	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles ¹	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard	Federal Primary Standard	Major Pollutant Sources
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H ₂ S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hour	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Source: CARB 2015a.

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

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

¹ When relative humidity is less than 70 percent.

² On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. The 1971 SO₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

³ On December 14, 2012, EPA lowered the federal primary PM_{2.5} annual standard from 15.0 µg/m³ to 12.0 µg/m³. EPA made no changes to the primary 24-hour PM_{2.5} standard or to the secondary PM_{2.5} standards.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:

- AB 1493: Pavley Fuel Efficiency Standards
- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards
- Title 24, Part 6, CCR: Building and Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code

anner Air Toxics Act and Air Toxics Hots Information and Assessment Act

Public exposure to TACs is a significant environmental health issue in California. In 1983, the California legislature enacted a program to identify the health effects of TACs and to reduce exposure to them. The California Health and Safety Code defines a TAC as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health” (17 CCR § 93000). A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 U.S. Code § 7412[b]) is a toxic air contaminant. Under state law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

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

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- CARB Rule 2485 (13 CCR Chapter 10, Section 2485), Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- CARB Rule 2480 (13 CCR Chapter 10, Section 2480), Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- CARB Rule 2477 (13 CCR Section 2477 and Article 8), Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate

AIR POLLUTANTS OF CONCERN

Criteria Air Pollutants

The pollutants emitted into the ambient air by stationary and mobile sources are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb) are primary air pollutants. Of these, CO, SO₂, NO₂, PM₁₀, and PM_{2.5} are “criteria air pollutants,” which means that AAQS have been established for them. VOC and NO_x are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O₃) and nitrogen dioxide (NO₂) are the principal secondary pollutants.

A description of each of the primary and secondary criteria air pollutants and its known health effects is presented below.

Carbon Monoxide (CO) is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion, engines and motor vehicles

operating at slow speeds are the primary source of CO in the SoCAB. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (SCAQMD 2005; EPA 2015a). The SoCAB is designated under the California and National AAQS as being in attainment of CO criteria levels (CARB 2014a).

Volatile Organic Compounds (VOC) are composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of VOCs. Other sources include evaporative emissions from paints and solvents, asphalt paving, and household consumer products such as aerosols (SCAQMD 2005). There are no AAQS for VOCs. However, because they contribute to the formation of O₃, SCAQMD has established a significance threshold.

Nitrogen Oxides (NO_x) are a by-product of fuel combustion and contribute to the formation of ground-level O₃, PM₁₀, and PM_{2.5}. The two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO₂). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. The principal form of NO₂ produced by combustion is NO, but NO reacts quickly with oxygen to form NO₂, creating the mixture of NO and NO₂ commonly called NO_x. NO₂ is an acute irritant and more injurious than NO in equal concentrations. At atmospheric concentrations, however, NO₂ is only potentially irritating. NO₂ absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO₂ exposure concentrations near roadways are of particular concern for susceptible individuals, including asthmatics, children, and the elderly. Current scientific evidence links short-term NO₂ exposures, ranging from 30 minutes to 24 hours, with adverse respiratory effects, including airway inflammation in healthy people and increased respiratory symptoms in people with asthma. Also, studies show a connection between elevated short-term NO₂ concentrations and increased visits to emergency departments and hospital admissions for respiratory issues, especially asthma (SCAQMD 2005; USEPA 2015a). The SoCAB is designated as an attainment area for NO₂ under the National and California AAQS (CARB 2014a).

Sulfur Dioxide (SO₂) is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and from chemical processes at chemical plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO₂ (SCAQMD 2005; EPA 2015a). When sulfur dioxide forms sulfates (SO₄) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_x). Thus, SO₂ is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO₂ may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO₂ may do greater harm by injuring lung tissue. The SoCAB is designated as attainment under the California and National AAQS (CARB 2014a).

Suspended Particulate Matter (PM₁₀ and PM_{2.5}) consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM₁₀, include particulate matter with an aerodynamic diameter of 10 microns or less (i.e., ≤10 millionths of a meter or 0.0004 inch). Inhalable fine particles, or PM_{2.5}, have an aerodynamic diameter of 2.5 microns or less (i.e., ≤2.5 millionths of a meter or 0.0001 inch). Particulate discharge into the atmosphere

results primarily from industrial, agricultural, construction, and transportation activities. Both PM₁₀ and PM_{2.5} may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. The EPA's scientific review concluded that PM_{2.5}, which penetrates deeply into the lungs, is more likely than PM₁₀ to contribute to health effects and at far lower concentrations. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing) (SCAQMD 2005). There has been emerging evidence that ultrafine particulates (UFPs), which are even smaller particulates with an aerodynamic diameter of <0.1 microns or less (i.e., ≤0.1 millionths of a meter or <0.000004 inch), have human health implications, because UFPs' toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs (SCAQMD 2013). However, the EPA or CARB has yet to adopt AAQS to regulate these particulates. Diesel particulate matter (DPM) is classified by CARB as a carcinogen (CARB 1998). Particulate matter can also cause environmental effects such as visibility impairment,¹ environmental damage,² and aesthetic damage³ (SCAQMD 2005; USEPA 2015a). The SoCAB is a nonattainment area for PM_{2.5} under California and National AAQS and a nonattainment area for PM₁₀ under the California AAQS (CARB 2014).⁴

Ozone (O₃) is commonly referred to as “smog” and is a gas that is formed when VOCs and NO_x, both by-products of internal combustion engine exhaust, undergo photochemical reactions in the presence of sunlight. O₃ is a secondary criteria air pollutant. O₃ concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for the formation of this pollutant. O₃ poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O₃ can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O₃ also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O₃ also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O₃ harms sensitive vegetation during the growing season (SCAQMD 2005; EPA 2015a). The SoCAB is designated as extreme nonattainment under the California AAQS (1-hour and 8-hour) and National AAQS (8-hour) (CARB 2014a).

Lead (Pb) is a metal found naturally in the environment as well as in manufactured products. Once taken into the body, lead distributes throughout the body in the blood and accumulates in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the

¹ PM_{2.5} is the main cause of reduced visibility (haze) in parts of the United States.

² Particulate matter can be carried over long distances by wind and then settle on ground or water, making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.

³ Particulate matter can stain and damage stone and other materials, including culturally important objects such as statues and monuments.

⁴ CARB approved the SCAQMD's request to redesignate the SoCAB from serious nonattainment for PM₁₀ to attainment for PM₁₀ under the National AAQS on March 25, 2010, because the SoCAB did not violate federal 24-hour PM₁₀ standards from 2004 to 2007. The EPA approved the State of California's request to redesignate the South Coast PM₁₀ nonattainment area to attainment of the PM₁₀ National AAQS, effective on July 26, 2013.

oxygen-carrying capacity of the blood. The effects of lead most commonly encountered in current populations are neurological effects in children and cardiovascular effects in adults (e.g., high blood pressure and heart disease). Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits, and lowered IQ (SCAMQD 2005; EPA 2015a). The major sources of lead emissions have historically been mobile and industrial sources. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. However, in 2008 the EPA and CARB adopted more strict lead standards, and special monitoring sites immediately downwind of lead sources recorded very localized violations of the new state and federal standards.⁵ As a result of these violations, the Los Angeles County portion of the SoCAB is designated as nonattainment under the National AAQS for lead (SCAQMD 2012; CARB 2014). Because emissions of lead are found only in projects that are permitted by SCAQMD, lead is not a pollutant of concern for the project.

Toxic Air Contaminants

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

Diesel Particulate Matter

In 1998, CARB identified diesel particulate matter as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs.

Air Quality Management Planning

SCAQMD is the agency responsible for preparing the air quality management plan (AQMP) for the SoCAB in coordination with the Southern California Association of Governments (SCAG). Since 1979, a number of AQMPs have been prepared.

2012 AQMP

On December 7, 2012 SCAQMD adopted the 2012 AQMP, which employs the most up-to-date science and analytical tools and incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on-road and off-road mobile sources, and area sources. The plan also addresses

⁵ Source-oriented monitors record concentrations of lead at lead-related industrial facilities in the SoCAB, which include Exide Technologies in the City of Commerce; Quemetco, Inc., in the City of Industry; Trojan Battery Company in Santa Fe Springs; and Exide Technologies in Vernon. Monitoring conducted between 2004 through 2007 showed that the Trojan Battery Company and Exide Technologies exceed the federal standards (SCAQMD 2012).

several state and federal planning requirements, incorporating new scientific information, primarily in the form of updated emissions inventories, ambient measurements, and new meteorological air quality models. The 2012 AQMP builds upon the approach identified in the 2007 AQMP for attainment of federal PM and ozone standards, and highlights the significant amount of reductions needed and the urgent need to engage in interagency coordinated planning to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria air pollutant standards within the timeframes allowed under the Federal CAA. The plan demonstrates attainment of federal 24-hour PM_{2.5} standard by 2014 and the federal 8-hour ozone standard by 2023. Preliminary ambient air quality data suggests that meeting the 2016 federal 24-hour PM_{2.5} standards by the end of 2014 is not likely, largely due to the usually extreme drought conditions in the SoCAB (SCAQMD 2015c). It includes an update to the revised EPA 8-hour ozone control plan with new commitments for short-term NO_x and VOC reductions. In addition, it also identifies emerging issues of ultrafine (PM_{1.0}) particulate matter and near-roadway exposure, and an analysis of energy supply and demand.

2016 DRAFT AQMP

The SCAQMD is in the process of updating the AQMP. The 2016 AQMP will address strategies and measures to attain the 2008 federal 8-hour ozone standard by 2032 and the 2012 federal annual PM_{2.5} standard by 2021. The 2016 AQMP will also take an initial look at the 2015 federal 8-hour ozone standard. It will also update previous attainment plans for ozone and PM_{2.5} that have not yet been met (SCAQMD 2015d).

LEAD STATE IMPLEMENTATION PLAN

In 2008, the EPA designated the Los Angeles County portion of the SoCAB as a nonattainment area under the federal lead classification due to the addition of source-specific monitoring under the new federal regulation. This designation was based on two source-specific monitors in the City of Vernon and the City of Industry that exceeded the new standard in the 2007-to-2009 period. The remainder of the SoCAB, outside the Los Angeles County nonattainment area, remains in attainment of the new 2008 lead standard. On May 24, 2012, CARB approved the State Implementation Plan (SIP) revision for the federal lead standard, which the EPA revised in 2008. Lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011. The SIP revision was submitted to the EPA for approval.

Existing Setting

SOUTH COAST AIR BASIN

The project site lies within the South Coast Air Basin (SoCAB), which includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino Counties. The SoCAB is a coastal plain with connecting broad valleys and low hill. The SoCAB is bounded by the Pacific Ocean in the southwest quadrant, with high mountains forming the remainder of the perimeter. The general region lies in the semipermanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds (SCAQMD 2005).

Climate/Meteorology

Temperature and Precipitation

The annual average temperature varies little throughout the SoCAB, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station nearest to the project site that best represents the climatological conditions of the project area is the Anaheim Monitoring Station (ID No. 040192). The lowest average temperature is reported at 46.9°F in January, and the highest average temperature is 87.1°F in August (WRCC 2015).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November through April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains. Rainfall averages 14.09 inches per year in the project area (WRCC 2015).

Humidity

Although the SoCAB has a semiarid climate, the air near the earth's surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds, the "ocean effect" is dominant. Periods of heavy fog, especially along the coast, are frequent. Low clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB (SCAQMD 2005).

Wind

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

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

The mountain ranges to the east affect the transport and diffusion of pollutants by inhibiting their eastward transport. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions (SCAQMD 2005).

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, there are two similarly distinct types of temperature inversions that control the vertical

depth through which pollutants are mixed. These are the marine/subsidence inversion and the radiation inversion. The combination of winds and inversions are critical determinants in leading to the highly degraded air quality in summer and the generally good air quality in the winter in the project area (SCAQMD 2005).

SoCAB NONATTAINMENT DESIGNATIONS

The AQMP provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards through the State Implementation Plan (SIP). Areas are classified as attainment or nonattainment areas for particular pollutants, depending on whether they meet ambient air quality standards. Severity classifications for ozone nonattainment range in magnitude from marginal, moderate, and serious to severe and extreme.

- **Unclassified:** a pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- **Attainment:** a pollutant is in attainment if the CAAQS for that pollutant was not violated at any site in the area during a three-year period.
- **Nonattainment:** a pollutant is in nonattainment if there was at least one violation of a state AAQS for that pollutant in the area.
- **Nonattainment/Transitional:** a subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the SoCAB is shown in Table 2, *Attainment Status of Criteria Pollutants in the South Coast Air Basin*. The SoCAB is designated in attainment of the California AAQS for sulfates and designated a nonattainment area for lead (Los Angeles County only) under the National AAQS.

Table 2 Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
Ozone – 1-hour	Extreme Nonattainment	No Federal Standard
Ozone – 8-hour	Extreme Nonattainment	Extreme Nonattainment
PM ₁₀	Serious Nonattainment	Attainment/Maintenance
PM _{2.5}	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO ₂	Attainment	Attainment/Maintenance
SO ₂	Attainment	Attainment
Lead	Attainment	Nonattainment (Los Angeles County only) ¹
All others	Attainment/Unclassified	Attainment/Unclassified

Source: CARB 2014a.

¹ In 2010, the Los Angeles portion of the SoCAB was designated nonattainment for lead under the new 2008 federal AAQS as a result of large industrial emitters. Remaining areas within the SoCAB are unclassified.

EXISTING AMBIENT AIR QUALITY

Existing ambient air quality, historical trends, and projections in the vicinity of the project site are best documented by measurements made by SCAQMD. The majority of the plan area is in Source Receptor Area (SRA) 16 – Metropolitan (North Orange County). The air quality monitoring station closest to the plan area is the La Habra Monitoring Station. This station does not have information for SO₂, PM₁₀, and PM_{2.5} so the information for this criteria air pollutant was obtained from the Costa Mesa – Mesa Verde Drive and Anaheim – Pampa Lane monitoring stations. Data from these stations are summarized in Table 3, *Ambient Air Quality Monitoring Summary*. The data show that the concentration levels of the general area regularly exceed the state and federal one-hour and eight-hour O₃ standards as well as the state PM₁₀ and federal PM_{2.5} standards. The CO, SO₂, and NO₂ standards have not been exceeded in the last five years in the project vicinity.

Table 3 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels during Such Violations				
	2010	2011	2012	2013	2014
Ozone (O₃)¹					
State 1-Hour ≥ 0.09 ppm	2	1	3	2	5
State 8-hour ≥ 0.07 ppm	4	3	4	2	6
Federal 8-Hour > 0.075 ppm	1	0	2	1	2
Max. 1-Hour Conc. (ppm)	0.118	0.095	0.100	0.104	0.119
Max. 8-Hour Conc. (ppm)	0.096	0.074	0.078	0.078	0.088
Carbon Monoxide (CO)¹					
State 8-Hour > 9.0 ppm	0	0	0	*	*
Federal 8-Hour ≥ 9.0 ppm	0	0	0	*	*
Max. 8-Hour Conc. (ppm)	1.83	2.16	2.37	*	*
Nitrogen Dioxide (NO₂)¹					
State 1-Hour ≥ 0.18 ppm	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.0825	0.0698	0.0675	0.0849	0.0836
Sulfur Dioxide (SO₂)²					
State 1-Hour ≥ 0.04 ppm	0	0	0	0	*
Max. 1-Hour Conc. (ppm)	0.002	0.002	0.001	0.001	*
Coarse Particulates (PM₁₀)¹					
State 24-Hour > 50 µg/m ³	0	2	0	1	2
Federal 24-Hour > 150 µg/m ³	0	0	0	0	0
Max. 24-Hour Conc. (µg/m ³)	43.0	53.0	48.0	77.0	85.0
Fine Particulates (PM_{2.5})¹					
Federal 24-Hour > 35 µg/m ³	0	2	4	1	4
Max. 24-Hour Conc. (µg/m ³)	31.7	39.2	50.1	37.8	45.0

Source: CARB 2016.

ppm: parts per million; ppb: parts per billion; µg/m³: micrograms per cubic meter; NA: not available

* Data not available

¹ Data obtained from the La Habra Monitoring Station at 621 West Lambert Road in the City of La Habra.

² Data obtained from the Costa Mesa – Mesa Verde Drive Monitoring Station at 2850 Mesa Verde Drive East in the City of Costa Mesa.

³ Data obtained from the Anaheim – Pampa Lane Monitoring Station at 1630 Pampas Lane in the City of Anaheim.

Multiple Airborne Toxics Exposure Study (MATES)

The Multiple Air Toxics Exposure Study (MATES) is a monitoring and evaluation study on ambient concentrations of TACs and the potential health risks from air toxics in the SoCAB. In 2008, SCAQMD conducted its third update to the MATES study (MATES III) based on the Office of Environmental Health Hazards Assessment (OEHHA) 2003 Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (2003 HRA Guidance Manual). The results showed that the overall risk for excess cancer from a lifetime exposure to ambient levels of air toxics was about 1,200 in a million. The largest contributor to this risk was diesel exhaust, which accounted for 84 percent of the cancer risk (SCAQMD 2008a)

SCAQMD recently released the fourth update (MATES IV), which was also based on OEHHA's 2003 HRA Guidance Manual. The results showed that the overall monitored risk for excess cancer from a lifetime exposure to ambient levels of air toxics decreased to approximately 418 in one million. Compared to the 2008 MATES III, monitored excess cancer risks decreased by approximately 65 percent. Approximately 90 percent of the risk is attributed to mobile sources, and 10 percent is attributed to TACs from stationary sources, such as refineries, metal processing facilities, gas stations, and chrome plating facilities. The largest contributor to this risk was diesel exhaust, which accounted for approximately 68 percent of the air toxics risk. Compared to MATES III, MATES IV found substantial improvement in air quality and associated decrease in air toxics exposure. As a result, the estimated basinwide population-weighted risk decreased by approximately 57 percent since MATES III. Based on the results of the MATES^{IV} analysis, cancer risk within the Valley Boulevard Specific Plan measures at 342 per million over a 70-year lifetime (SCAQMD 2015c).

OEHHA updated the guidelines for estimating cancer risks on March 6, 2015. The new method utilizes higher estimates of cancer potency during early life exposures, which result in a higher calculation of risk. There are also differences in the assumptions on breathing rates and length of residential exposures. When combined together, SCAQMD estimates that risks for a given inhalation exposure level will be about 2.7 times higher than the risk identified in MATES IV using the 2015 OEHHA guidance methodology (e.g., 2.7 times higher than 418 in one million overall excess cancer risk) (SCAQMD 2015c).

Sensitive Receptors

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

Residential areas are considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Schools are also considered sensitive receptors, as children are present for extended durations and engage in regular outdoor activities. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution.

Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

Methodology

Projected-related air pollutant emissions are calculated using the California Emissions Estimator Model (CalEEMod), Version 2013.2.2, distributed by the California Air Pollutant Control Officers Association (CAPCOA). CalEEMod compiles an emissions inventory of construction (fugitive dust, off-gas emissions, onroad emissions, and offroad emissions), area sources, indirect emissions from energy use, mobile sources, indirect emissions from waste disposal (annual only), and indirect emissions from water/wastewater (annual only) use. The calculated emissions of the project are compared to thresholds of significance for individual projects using the SCAQMD’s *CEQA Air Quality Analysis Guidance Handbook*.

Thresholds of Significance

The analysis of the proposed project’s air quality impacts follows the guidance and methodologies recommended in SCAQMD’s *CEQA Air Quality Handbook* and the significance thresholds on SCAQMD’s website.⁶ CEQA allows the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. SCAQMD has established thresholds of significance for regional air quality emissions for construction activities and project operation. In addition to the daily thresholds listed above, projects are also subject to the AAQS. These are addressed through an analysis of localized CO impacts and localized significance thresholds (LSTs).

REGIONAL SIGNIFICANCE THRESHOLDS

CAQMD has adopted regional construction and operational emissions thresholds to determine a project’s cumulative impact on air quality in the SoCAB. Table 4, *SCAQMD Significance Thresholds*, lists thresholds that are applicable for all projects uniformly regardless of size or scope. There is growing evidence that although UFPs contribute a very small portion of the overall atmospheric mass concentration, they represent a greater proportion of the health risk from PM. However, the EPA or CARB have not yet adopted AAQS to regulate UFPs; therefore, SCAQMD has not developed thresholds for them.

Table 4 SCAQMD Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase
Reactive Organic Gases (ROGs)/ Volatile Organic Compounds (VOCs)	75 lbs/day	55 lbs/day
Nitrogen Oxides (NO _x)	100 lbs/day	55 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Sulfur Oxides (SO _x)	150 lbs/day	150 lbs/day
Particulates (PM ₁₀)	150 lbs/day	150 lbs/day
Particulates (PM _{2.5})	55 lbs/day	55 lbs/day

Source: SCAQMD 2015b.

⁶ SCAQMD’s Air Quality Significance Thresholds are current as of March 2011 and can be found here: <http://www.aqmd.gov/ceqa/hdbk.html>.

Projects that exceed the regional significance threshold contribute to the nonattainment designation of the SoCAB. The attainment designations are based on the AAQS, which are set at levels of exposure that are determined to not result in adverse health. Exposure to fine particulate pollution and ozone causes myriad health impacts, particularly to the respiratory and cardiovascular systems:

- Linked to increased cancer risk (PM_{2.5}, TACs)
- Aggravates respiratory disease (O₃, PM_{2.5})
- Increases bronchitis (O₃, PM_{2.5})
- Causes chest discomfort, throat irritation, and increased effort to take a deep breath (O₃)
- Reduces resistance to infections and increases fatigue (O₃)
- Reduces lung growth in children (PM_{2.5})
- Contributes to heart disease and heart attacks (PM_{2.5})
- Contributes to premature death (O₃, PM_{2.5})
- Linked to lower birth weight in newborns (PM_{2.5}) (SCAQMD 2015f)

Exposure to fine particulates and ozone aggravates asthma attacks and can amplify other lung ailments such as emphysema and chronic obstructive pulmonary disease. Exposure to current levels of PM_{2.5} is responsible for an estimated 4,300 cardiopulmonary-related deaths per year in the SoCAB. In addition, University of Southern California scientists responsible for a landmark children's health study found that lung growth improved as air pollution declined for children aged 11 to 15 in five communities in the SoCAB (SCAQMD 2015g).

Mass emissions in Table 4 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the SoCAB. Therefore, regional emissions from a single project do not single-handedly trigger a regional health impact, and it is speculative to identify how many more individuals in the air basin would be affected by the health effects listed above. It is also speculative for this broad-based, specific plan analysis to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment, which is the purpose of the AQMP. SCAQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of air quality in the SoCAB. To achieve the health-based standards established by the EPA, SCAQMD prepares an AQMP that details regional programs to attain the AAQS.

CO HOTSPOTS

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to AAQS is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. Typically, for an intersection to exhibit a significant CO concentration, it would operate at level of service (LOS) E or worse without improvements

(Caltrans 1997). However, at the time of the 1993 SCAQMD *Handbook*, the SoCAB was designated nonattainment under the California AAQS and National AAQS for CO. With the turnover of older vehicles and introduction of cleaner fuels, as well as implementation of control technology on industrial facilities, CO concentrations in the SoCAB and the state have steadily declined. In 2007, the SoCAB was designated in attainment for CO under both the California and National AAQS. The CO hotspot analysis conducted for the attainment by SCAQMD for busiest intersections in Los Angeles during the peak morning and afternoon periods plan did not predict a violation of CO standards.⁷ As identified in SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SoCAB in previous years, prior to redesignation, were a result of unusual meteorological and topographical conditions, not congestion at a particular intersection. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (BAAQMD 2011).

LOCALIZED SIGNIFICANCE THRESHOLDS

SCAQMD developed LSTs for emissions of NO₂, CO, PM₁₀, and PM_{2.5} generated at the project site (offsite mobile-source emissions are not included in the LST analysis). LSTs represent the maximum emissions at a project site that are not expected to cause or contribute to an exceedance of the most stringent federal or state AAQS and are shown in Table 5, *SCAQMD Localized Significance Thresholds*.

Table 5 SCAQMD Localized Significance Thresholds

Air Pollutant (Relevant AAQS)	Concentration
1-Hour CO Standard (CAAQS)	20 ppm
8-Hour CO Standard (CAAQS)	9.0 ppm
1-Hour NO ₂ Standard (CAAQS)	0.18 ppm
Annual NO ₂ Standard (CAAQS)	0.03 ppm
24-Hour PM ₁₀ Standard – Construction (SCAQMD) ¹	10.4 µg/m ³
24-Hour PM _{2.5} Standard – Construction (SCAQMD) ¹	10.4 µg/m ³
24-Hour PM ₁₀ Standard – Operation (SCAQMD) ¹	2.5 µg/m ³
24-Hour PM _{2.5} Standard – Operation (SCAQMD) ¹	2.5 µg/m ³
Annual Average PM ₁₀ Standard (SCAQMD) ¹	1.0 µg/m ³

Source: SCAQMD 2015b.

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

¹ Threshold is based on SCAQMD Rule 403. Since the SoCAB is in nonattainment for PM₁₀ and PM_{2.5}, the threshold is established as an allowable change in concentration. Therefore, background concentration is irrelevant.

To assist lead agencies, SCAQMD developed screening-level LSTs to back-calculate the mass amount (pounds per day) of emissions generated onsite that would trigger the levels shown in Table 5 for projects under 5-acres. These “screening-level” LSTs tables are the localized significance thresholds for all projects of five acres and less; however, it can be used as screening criteria for larger projects to determine whether or not

⁷ The four intersections were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day with LOS E in the morning peak hour and LOS F in the evening peak hour.

dispersion modeling may be required to compare concentrations of air pollutants generated by the project to the localized concentrations shown in Table 5.

LST analysis for construction is applicable to all projects of five acres and less; however, it can be used as screening criteria for larger projects to determine whether or not dispersion modeling may be required. In accordance with SCAQMD’s LST methodology, construction LSTs are based on the acreage disturbed per day based on equipment use. The construction LSTs for the project site in SRA 16 are shown in Table 6, *SCAQMD Screening-Level Construction Localized Significance Thresholds*, for sensitive receptors at 369 meters and non-sensitive receptors within 25 meters.

Table 6 SCAQMD Screening-Level Construction Localized Significance Thresholds

Acreage Disturbed	Threshold (lbs/day) ¹			
	Nitrogen Oxides (NO _x)	Carbon Monoxide (CO)	Coarse Particulates (PM ₁₀)	Fine Particulates (PM _{2.5})
≤1.00 Acre Disturbed Per Day	103	522	53	20
1.5 Acres Disturbed Per Day	125	642	57	22
2.38 Acres Disturbed Per Day	156	831	63	25

Source: SCAQMD 2008c, Based on receptors in SRA 16.

¹ LSTs for NO_x and CO are based on non-sensitive receptors within 82 feet (25 meters) of the site in SRA 16. Operational LSTs for PM₁₀ and PM_{2.5} are based on sensitive receptors within 660 feet (201 meters) of the site in SRA 16.

Because the project is not an industrial project that has the potential to emit substantial sources of stationary emissions, operational LSTs are not an air quality impact of concern associated with the project. The operational LSTs in SRA 16 are shown in Table 7, *SCAQMD Screening-Level Operational Localized Significance Thresholds*.

Table 7 SCAQMD Screening-Level Operational Localized Significance Thresholds

Air Pollutant	Threshold (lbs/day)
	Operational
Nitrogen Oxides (NO _x) ¹	144
Carbon Monoxide (CO) ¹	745
Coarse Particulates (PM ₁₀) ²	15
Fine Particulates (PM _{2.5}) ²	5

Source: SCAQMD 2008c, Based on receptors in SRA 16.

¹ LSTs are based on non-residential receptors within 82 feet (25 meters) for a project site size of 1.93 acres.

² LSTs are based on residential receptors within 660 feet (201 meters) for a project site size of 1.93 acres.

HEALTH RISK THRESHOLDS

A project would expose sensitive receptors to elevated pollutant concentrations if it would place the project in an area with pollutant concentrations above ambient concentrations in the SoCAB. Recent air pollution studies have shown an association between proximity to major air pollution sources and a variety of health effects, which are attributed to a high concentration of air pollutants. Guidance from the CARB and the

CAPCOA recommends the evaluation of vehicle-generated emissions when freeways are within 500 feet of sensitive land uses (i.e., residences, schools, daycare centers, and hospitals).

Whenever a project would require use of chemical compounds that have been identified in SCAQMD Rule 1401, placed on CARB’s air toxics list pursuant to AB 1807, or placed on the EPA’s National Emissions Standards for Hazardous Air Pollutants, a health risk assessment is required by the SCAQMD. Table 8, *SCAQMD Toxic Air Contaminants Incremental Risk Thresholds*, lists the SCAQMD’s TAC incremental risk thresholds for operation of a project. Residential, commercial, and office uses do not use substantial quantities of TACs, and these thresholds are typically applied for new industrial projects.

Table 8 SCAQMD Toxic Air Contaminants Incremental Risk Thresholds

Maximum Incremental Cancer Risk	≥ 10 in 1 million
Hazard Index (project increment)	≥ 1.0
Cancer Burden in areas ≥ 1 in 1 million	> 0.5 excess cancer cases
Source: SCAQMD 2015b.	

GREENHOUSE GAS EMISSIONS

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. Climate change is the variation of Earth's climate over time, whether due to natural variability or as a result of human activities. The primary source of GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor,⁸ carbon dioxide (CO₂), methane (CH₄), and ozone (O₃)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st centuries. Other GHGs identified by the IPCC that contribute to global warming to a lesser extent are nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).⁹ The major GHGs are briefly described below.

- **Carbon dioxide (CO₂)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g. manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH₄)** is emitted during the production and transport of coal, natural gas, and oil. It also results from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.
- **Nitrous oxide (N₂O)** is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.
- **Fluorinated gases** are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as high global-warming-potential (GWP) gases.
 - **Chlorofluorocarbons (CFCs)** are GHGs covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down ozone. These gases are also ozone-

⁸ Water vapor (H₂O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant, but part of the feedback loop rather than a primary cause of change.

⁹ Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities (CARB 2014b). However, state and national GHG inventories do not yet include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

depleting gases and are therefore being replaced by other compounds that are GHGs covered under the Kyoto Protocol.

- **Perfluorocarbons (PFCs)** are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF₄] and perfluoroethane [C₂F₆]) were introduced as alternatives, along with HFCs, to the ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high GWP.
- **Sulfur Hexafluoride (SF₆)** is a colorless gas soluble in alcohol and ether, slightly soluble in water. SF₆ is a strong GHG used primarily in electrical transmission and distribution systems as an insulator.
- **Hydrochlorofluorocarbons (HCFCs)** contain hydrogen, fluorine, chlorine, and carbon atoms. Although ozone-depleting substances, they are less potent at destroying stratospheric ozone than CFCs. They have been introduced as temporary replacements for CFCs and are also GHGs.
- **Hydrofluorocarbons (HFCs)** contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs (IPCC 2001; EPA 2015b).

GHGs are dependent on the lifetime or persistence of the gas molecule in the atmosphere. Some GHGs have stronger greenhouse effects than others. These are referred to as high GWP gases. The GWP of GHG emissions are shown in Table 9, *GHG Emissions and Their Relative Global Warming Potential Compared to CO₂*. The GWP is used to convert GHGs to CO₂-equivalence (CO₂e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Second Assessment Report GWP values for CH₄, a project that generates 10 metric tons (MT) of CH₄ would be equivalent to 210 MT of CO₂.¹⁰

¹⁰ CO₂-equivalence is used to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. The global warming potential of a GHG is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

Table 9 GHG Emissions and their Relative Global Warming Potential Compared to CO₂

GHGs	Second Assessment Report Atmospheric Lifetime (Years)	Fourth Assessment Report Atmospheric Lifetime (Years)	Second Assessment Report Global Warming Potential Relative to CO ₂ ¹	Fourth Assessment Report Global Warming Potential Relative to CO ₂ ¹
Carbon Dioxide (CO ₂)	50 to 200	50 to 200	1	1
Methane ² (CH ₄)	12 (±3)	12	21	25
Nitrous Oxide (N ₂ O)	120	114	310	298
Hydrofluorocarbons:				
HFC-23	264	270	11,700	14,800
HFC-32	5.6	4.9	650	675
HFC-125	32.6	29	2,800	3,500
HFC-134a	14.6	14	1,300	1,430
HFC-143a	48.3	52	3,800	4,470
HFC-152a	1.5	1.4	140	124
HFC-227ea	36.5	34.2	2,900	3,220
HFC-236fa	209	240	6,300	9,810
HFC-4310mee	17.1	15.9	1,300	1,030
Perfluoromethane: CF ₄	50,000	50,000	6,500	7,390
Perfluoroethane: C ₂ F ₆	10,000	10,000	9,200	12,200
Perfluorobutane: C ₄ F ₁₀	2,600	NA	7,000	8,860
Perfluoro-2-methylpentane: C ₆ F ₁₄	3,200	NA	7,400	9,300
Sulfur Hexafluoride (SF ₆)	3,200	NA	23,900	22,800

Source: IPCC 1996 and IPCC 2007.

Notes: The IPCC has published updated global warming potential (GWP) values in its Fifth Assessment Report (2013) that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO₂. However, GWP values identified in the Second Assessment Report are still used by SCAQMD to maintain consistency in GHG emissions modeling. In addition, the 2008 Scoping Plan was based on the GWP values in the Second Assessment Report.

¹ Based on 100-year time horizon of the GWP of the air pollutant relative to CO₂.

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

Regulatory Settings

REGULATION OF GHG EMISSIONS ON A NATIONAL LEVEL

The US Environmental Protection Agency (EPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The EPA's final findings respond to the 2007 US Supreme Court decision that GHG emissions fit within the Clean Air Act (CAA) definition of air pollutants. The findings did not themselves impose any emission reduction requirements, but allowed the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation (EPA 2009).

The EPA's endangerment finding covers emissions of six key GHGs—CO₂, CH₄, N₂O, hydro fluorocarbons, per fluorocarbons, and SF₆—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world (the first three are applicable to the proposed project).

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 metric tons (MT) or more of CO₂ per year are required to submit an annual report.

US Mandatory Report Rule for GHGs (2009)

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 MT or more of CO₂ per year are required to submit an annual report.

Update to Corporate Average Fuel Economy Standards (2010/2012)

The current Corporate Average Fuel Economy (CAFE) standards (for model years 2011 to 2016) incorporate stricter fuel economy requirements promulgated by the federal government and California into one uniform standard. Additionally, automakers are required to cut GHG emissions in new vehicles by roughly 25 percent by 2016 (resulting in a fleet average of 35.5 miles per gallon [mpg] by 2016). Rulemaking to adopt these new standards was completed in 2010. California agreed to allow automakers who show compliance with the national program to also be deemed in compliance with state requirements. The federal government issued new standards in 2012 for model years 2017–2025, which will require a fleet average of 54.5 mpg in 2025.

EPA Regulation of Stationary Sources under the Clean Air Act (Ongoing)

Pursuant to its authority under the CAA, the EPA has been developing regulations for new stationary sources such as power plants, refineries, and other large sources of emissions. Pursuant to the President's 2013 Climate Action Plan, the EPA will be directed to also develop regulations for existing stationary sources.

REGULATION OF GHG EMISSIONS ON A STATE LEVEL

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-03-05, Executive Order B-30-15, Assembly Bill 32, and Senate Bill 375.

Executive Order S-03-05

Executive Order S-03-05, signed June 1, 2005. Executive Order S-03-05 set the following GHG reduction targets for the State:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

Executive Order B-30-15

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions within the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in Executive Order S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaptation strategy,

Safeguarding California, in order to ensure climate change is accounted for in state planning and investment decisions.

Assembly Bill 32

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in AB 32, the Global Warming Solutions Act. AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-03-05.

CARB 2008 Scoping Plan

The final Scoping Plan was adopted by CARB on December 11, 2008. AB 32 directed CARB to adopt discrete early action measures to reduce GHG emissions and outline additional reduction measures to meet the 2020 target. In order to effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 MT of CO₂e per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012.

The 2008 Scoping Plan identified that GHG emissions in California are anticipated to be approximately 596 MMTCO₂e in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 MMTCO₂e (471 million tons) for the state. The 2020 target requires a total emissions reduction of 169 MMTCO₂e, 28.5 percent from the projected emissions of the business-as-usual (BAU) scenario for the year 2020 (i.e., 28.5 percent of 596 MMTCO₂e) (CARB 2008).¹¹

Key elements of CARB's GHG reduction plan that may be applicable to the project include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards (adopted and cycle updates in progress).
- Achieving a mix of 33 percent for energy generation from renewable sources (anticipated by 2020).
- A California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system for large stationary sources (adopted 2011).
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets (several sustainable communities strategies have been adopted).

¹¹ CARB defines BAU in its Scoping Plan as emissions levels that would occur if California continued to grow and add new GHG emissions but did not adopt any measures to reduce emissions. Projections for each emission-generating sector were compiled and used to estimate emissions for 2020 based on 2002–2004 emissions intensities. Under CARB's definition of BAU, new growth is assumed to have the same carbon intensities as was typical from 2002 through 2004.

- Adopting and implementing measures pursuant to state laws and policies, including California’s clean car standards (amendments to the Pavley Standards adopted 2009; Advanced Clean Car standard adopted 2012), goods movement measures, and the Low Carbon Fuel Standard (adopted 2009).
- Creating target fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the state’s long-term commitment to AB 32 implementation (in progress).

Table 10, *Scoping Plan GHG Reduction Measures and Reductions toward 2020 Target*, shows the proposed reductions from regulations and programs outlined in the 2008 Scoping Plan. In recognition of the critical role that local governments play in the successful implementation of AB 32, CARB is recommending GHG reduction goals of 15 percent of baseline 2005-2008 levels by 2020 to ensure that municipal and community-wide emissions match the state’s reduction target.¹² Measures that local governments take to support shifts in land use patterns are anticipated to emphasize compact, low-impact growth over development in greenfields, resulting in fewer vehicle miles traveled (VMT) (CARB 2008).

¹² The Scoping Plan references a goal for local governments to reduce community GHG emissions by 15 percent from current (interpreted as 2008) levels by 2020, but it does not rely on local GHG reduction targets established by local governments to meet the state’s GHG reduction target of AB 32.

Table 10 Scoping Plan Greenhouse Gas Reduction Measures and Reductions 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 Targets ¹	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 ²	To Be Determined ²	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. Note: the percentages in the right-hand column add up to more than 100 percent because the emissions reduction goal is 169 MMTCO_{2e} and the Scoping Plan identifies 174 MMTCO_{2e} of emissions reductions strategies.
MMTCO_{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. A discussion of the regional targets for the Southern California Region and local land use changes recommended within the Southern California Association of Government's (SCAG) Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS) are included later in this section.

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.

2014 Scoping Plan Update

CARB recently completed a five-year update to the 2008 Scoping Plan, as required by AB 32. The First Update to the Scoping Plan was adopted at the May 22, 2014, board hearing. The Update to the Scoping Plan defines CARB's climate change priorities for the next five years and lays the groundwork to reach post-2020

goals in Executive Orders S-3-05 and B-16-2012. The update includes the latest scientific findings related to climate change and its impacts, including short-lived climate pollutants. The GHG target identified in the 2008 Scoping Plan is based on IPCC's GWPs identified in the Second and Third Assessment Reports (see Table 5.5-1). IPCC's Fourth and Fifth Assessment Reports identified more recent GWP values based on the latest available science. CARB recalculated the 1990 GHG emission levels with the updated GWPs in the Fourth Assessment Report, and the 427 MMTCO_{2e} 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, is slightly higher, at 431 MMTCO_{2e} (CARB 2014a). CARB projected that statewide BAU emissions in 2020 would be approximately 509 million MTCO_{2e}.¹³ Therefore, to achieve the AB 32 target of 431 million MTCO_{2e} (i.e., 1990 emissions levels) by 2020, the state would need to reduce emissions by 78 million MTCO_{2e} compared to BAU conditions, a reduction of 15.3 percent from BAU in 2020 (CARB 2014a).¹⁴

The update highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the original 2008 Scoping Plan. As identified in the Update to the Scoping Plan, California is on track to meeting the goals of AB 32. However, the Update to the Scoping Plan also addresses the state's longer-term GHG goals within a post-2020 element. The post-2020 element provides a high level view of a long-term strategy for meeting the 2050 GHG goals, including a recommendation for the state to adopt a mid-term target. According to the Update to the Scoping Plan, local government reduction targets should chart a reduction trajectory that is consistent with, or exceeds, the trajectory created by statewide goals (CARB 2014a).

According to the Update to the Scoping Plan, reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit (CARB 2014a).

Second Update to the Scoping Plan

The new Executive Order B-30-15 requires CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. According to CARB, the Scoping Plan will be updated by late 2016 to address the new 2030 interim target to achieve a 40 percent reduction below 1990 levels by 2030 (CARB 2015b).

SB 375 – Regional Transportation Plan (RTP) / Sustainable Communities Strategy (SCS)

In 2008, Senate Bill 375 (SB 375), the Sustainable Communities and Climate Protection Act, was adopted to connect the GHG emissions reductions targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT

¹³ The BAU forecast includes GHG reductions from Pavley and the 33% Renewable Portfolio Standard.

¹⁴ If the GHG emissions reductions from Pavley I and the Renewable Electricity Standard are accounted for as part of the BAU scenario (30 million MTCO_{2e} total), then the state would need to reduce emissions by 108 million MTCO_{2e}, which is a 20 percent reduction from BAU.

and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPOs). Southern California Association of Governments (SCAG) is the MPO for the Southern California region, which includes the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial.

Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target. SCAG's targets are an 8 percent per capita reduction from 2005 GHG emission levels by 2020 and a 13 percent per capita reduction from 2005 GHG emission levels by 2035 (CARB 2010a). SB 375 requires CARB to periodically update the targets, no later than every 8 years. CARB plans to propose updated targets for consideration in 2016, with the intent to make them effective in 2018. Sustainable communities strategies (SCSs) adopted in 2018 would be subject to the updated targets (CARB 2015c).

The 2020 targets are smaller than the 2035 targets because a significant portion of the built environment in 2020 has been defined by decisions that have already been made. In general, the 2020 scenarios reflect that more time is needed for large land use and transportation infrastructure changes. Most of the reductions in the interim are anticipated to come from improving the efficiency of the region's transportation network. The targets would result in 3 MMTCO_{2e} of reductions by 2020 and 15 MMTCO_{2e} of reductions by 2035. Based on these reductions, the passenger vehicle target in CARB's Scoping Plan (for AB 32) would be met (CARB 2015b).

CARB is currently in the process of updating the next round of targets and methodology to comply with the requirement for updates every eight years. Considerations for the next round of targets include whether to change the nature or magnitude of the emissions reduction targets for each of the MPOs, and whether the target-setting methodology should account for advances in technologies that reduce emissions. Such changes in methodology would permit cities to account for emissions reductions from advances in cleaner fuels and vehicles and not only from land use and transportation planning strategies.

SCAG 2012 RTP/SCS

SB 375 requires the MPOs to prepare a sustainable communities strategy in their regional transportation plan. For the SCAG region, the 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted in April 2012 (SCAG 2012). The SCS outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement). The SCS is meant to provide growth strategies that will achieve the regional GHG emissions reduction targets. However, the SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS; instead, provides incentives to governments and developers for consistency.

SCAG recently released a draft of the 2016-2040 RTP/SCS, which projects that the SCAG region will meet or exceed the passenger vehicle per capita targets set in 2010 by CARB. Pursuant to the draft 2016-2040 RTP/SCS, SCAG anticipates lowering GHG emissions below 2005 levels by 8 percent by 2020, 18 percent by 2035, and 22 percent by 2040. Land use strategies to achieve the region's targets include planning for new

growth around High Quality Transit Areas (HQTA), Livable Corridors, and creating Neighborhood Mobility Areas to integrate land use and transportation and plan for more active lifestyles (SCAG 2015).

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles (see also the discussion on the update to the CAFE standards under *Federal Laws*, above). In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

Executive Order S-01-07

On January 18, 2007, the state set a new low carbon fuel standard (LCFS) for transportation fuels sold within the state. Executive Order S-01-07 sets a declining standard for GHG emissions measured in carbon dioxide equivalent gram per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applies to refiners, blenders, producers, and importers of transportation fuels, and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods.

Executive Order B-16-2012

On March 23, 2012, the state identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate zero-emissions vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directs the number of zero-emission vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are zero-emission by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions from the transportation sector 80 percent below 1990 levels.

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

A major component of California's Renewable Energy Program is the renewable portfolio standard established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08 was signed in November 2008,

which expanded the state's Renewable Energy Standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SBX1-2). The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

Senate Bill 350

Senate Bill 350 (de Leon), signed into law September 2015, establishes tiered increases to the RPS of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

California Building Code – Building and Energy Efficiency Standards

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2013 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On May 31, 2012, the CEC adopted the 2013 Building and Energy Efficiency Standards, which went into effect on July 1, 2014. Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features.

Most recently, the CEC adopted the 2016 Building and Energy Efficiency Standards. The 2016 Standards will continue to improve upon the current 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. These standards will go into effect on January 1, 2017. Under the 2016 Standards, residential buildings are 28 percent more energy efficient than the 2013 Standards, and nonresidential buildings are 5 percent more energy efficient than the 2013 Standards (CEC 2015a).

The 2016 standards will not achieve zero net energy (ZNE). However, they do get very close to the state's goal and make important steps toward changing residential building practices in California. The 2019 standards will take the final step to achieve ZNE for newly constructed residential buildings throughout California (CEC 2015b).

California Building Code – CALGreen

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.¹⁵ The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011, and were updated most recently in 2013.

¹⁵ The green building standards became mandatory in the 2010 edition of the code.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR §§ 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances. Though these regulations are now often viewed as “business as usual,” they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

Solid Waste Regulations

California’s Integrated Waste Management Act of 1989 (AB 939, Public Resources Code 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses.

The California Solid Waste Reuse and Recycling Access Act (AB 1327, California Public Resources Code §§ 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

Section 5.408 of the 2013 California Green Building Standards Code also requires that at least 50 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

Water Efficiency Regulations

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed “SBX7-7.” SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 requires urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including

irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

Thresholds of Significance

The CEQA Guidelines recommend that a lead agency consider the following when assessing the significance of impacts from GHG emissions on the environment:

1. The extent to which the project may increase (or reduce) GHG 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;
3. The extent to which the project complies with regulations or requirements adopted to implement an adopted statewide, regional, or local plan for the reduction or mitigation of GHG emissions.¹⁶

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) held in September 2010, SCAQMD identified a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency:

- **Tier 1.** If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.
- **Tier 2.** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (i.e., city or county), project-level and cumulative GHG emissions are less than significant.

For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment of GHG emissions. SCAQMD identified a screening-level threshold of 3,000 MTCO_{2e} annually for all land use types or the following land-use-specific thresholds: 1,400 MTCO_{2e} for commercial projects, 3,500 MTCO_{2e} for residential projects, or 3,000 MTCO_{2e} for mixed-use projects. This bright-line threshold is based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on their review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds identified above. Therefore, projects that do not exceed the bright-line

¹⁶ The Governor's Office of Planning and Research recommendations include a requirement that such a plan must be adopted through a public review process and include specific requirements that reduce or mitigate the project's incremental contribution of GHG 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.

threshold would have a nominal; and therefore, less than cumulatively considerable impact on GHG emissions:

- **Tier 3.** If GHG emissions are less than the screening-level threshold, project-level and cumulative GHG emissions are less than significant.
- **Tier 4.** If emissions exceed the screening threshold, a more detailed review of the project's GHG emissions is warranted.

SCAQMD has identified an efficiency target for projects that exceed the screening threshold of 4.8 MTCO_{2e} per year per service population (MTCO_{2e}/year/SP) for project-level analyses and 6.6 MTCO_{2e}/year/SP for plan level projects (e.g., program-level projects such as general plans).¹⁷ The per capita efficiency targets are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for CARB's 2008 Scoping Plan.¹⁸

For the purpose of this project, SCAQMD's project-level thresholds are used. If projects exceed the bright-line and per capita efficiency targets, GHG emissions would be considered potentially significant in the absence of mitigation measures.

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¹⁷ It should be noted that the Working Group also considered efficiency targets for 2035 for the first time in this Working Group meeting.

¹⁸ SCAQMD took the 2020 statewide GHG reduction target for land use only GHG emissions sectors and divided it by the 2020 statewide employment for the land use sectors to derive a per capita GHG efficiency metric that coincides with the GHG reduction targets of AB 32 for year 2020.

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Regional Construction Emissions Worksheet - Unmitigated

Asphalt Demolition		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	2016						
	Fugitive Dust					0.0254	0.00385
	Off-Road	2.2254	21.7478	16.6728	0.0183	1.2433	1.1716
	Total	2.2254	21.7478	16.6728	0.0183	1.2687	1.1755
Offsite							
	Hauling	0.00434	0.0633	0.051	0.00016	0.00453	0.00184
	Vendor	0.0388	0.3542	0.4914	0.00086	0.0289	0.0118
	Worker	0.0292	0.0394	0.4137	0.00103	0.0831	0.0226
	Total	0.0723	0.4569	0.956	0.00205	0.1165	0.0362
TOTAL		2.2977	22.2047	17.6288	0.0204	1.3852	1.2117
Trenching		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	2016						
	Off-Road	0.3406	3.2551	2.4126	0.00311	0.2506	0.2306
	Total	0.3406	3.2551	2.4126	0.00311	0.2506	0.2306
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0	0	0	0	0	0
	Worker	0.011	0.0148	0.1551	0.00039	0.0311	0.00846
	Total	0.011	0.0148	0.1551	0.00039	0.0311	0.00846
TOTAL		0.3516	3.2699	2.5677	0.0035	0.2817	0.2391
Asphalt Demo+Trenching		2.6493	25.4746	20.1965	0.0239	1.6669	1.4508
Grading		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	2016						
	Fugitive Dust					2.8011	1.4396
	Off-Road	2.853	29.947	19.6345	0.0206	1.6671	1.5337
	Total	2.853	29.947	19.6345	0.0206	4.4682	2.9733
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0.0388	0.3542	0.4914	0.00086	0.0289	0.0118
	Worker	0.0365	0.0493	0.5171	0.00128	0.1038	0.0282
	Total	0.0753	0.4035	1.0085	0.00214	0.1327	0.04
TOTAL		2.9283	30.3505	20.6430	0.0227	4.6009	3.0133
Trenching+Grading		3.2799	33.6204	23.2107	0.0262	4.8826	3.2524

Equipment Installation			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2016						
	Off-Road		0.8377	6.5439	4.9083	0.00791	0.4817	0.4702
	Total		0.8377	6.5439	4.9083	0.00791	0.4817	0.4702
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.0291	0.2656	0.3685	0.00064	0.0217	0.00886
	Worker		0.0329	0.0444	0.4654	0.00116	0.0934	0.0254
	Total		0.062	0.31	0.8339	0.0018	0.1151	0.0343
TOTAL			0.8997	6.8539	5.7422	0.0097	0.5968	0.5045
Trenching+Equipment Install			1.2513	10.1238	8.3099	0.0132	0.8785	0.7436

Paving			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2016						
	Off-Road		1.4443	14.8172	10.1298	0.015	0.896	0.8255
	Paving		1.2314				0	0
	Total		2.6757	14.8172	10.1298	0.015	0.896	0.8255
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0475	0.0641	0.6722	0.00167	0.135	0.0367
	Total		0.0475	0.0641	0.6722	0.00167	0.135	0.0367
TOTAL			2.7232	14.8813	10.8020	0.0167	1.0310	0.8622

Architectural Coating			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2016						
	Architectural Coating		1.1523				0	0
	Off-Road		0.3685	2.3722	1.8839	0.00297	0.1966	0.1966
	Total		1.5207	2.3722	1.8839	0.00297	0.1966	0.1966
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0073	0.00986	0.1034	0.00026	0.0208	0.00564
	Total		0.0073	0.00986	0.1034	0.00026	0.0208	0.00564
TOTAL			1.5280	2.3821	1.9873	0.0032	0.2174	0.2022

Landscaping			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2016						
	Off-Road		0.1141	1.4761	1.3898	0.00204	0.0824	0.0759
	Total		0.1141	1.4761	1.3898	0.00204	0.0824	0.0759
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.0291	0.2656	0.3685	0.00064	0.0217	0.00886
	Worker		0.0329	0.0444	0.4654	0.00116	0.0934	0.0254
	Total		0.062	0.31	0.8339	0.0018	0.1151	0.0343
TOTAL			0.1761	1.7861	2.2237	0.0038	0.1975	0.1102

Gas and Electrical Piping Connection

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	2016						
	Off-Road	0.8377	6.5439	4.9083	0.00791	0.4817	0.4702
	Total	0.8377	6.5439	4.9083	0.00791	0.4817	0.4702
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0.0291	0.2656	0.3685	0.00064	0.0217	0.00886
	Worker	0.0329	0.0444	0.4654	0.00116	0.0934	0.0254
	Total	0.062	0.31	0.8339	0.0018	0.1151	0.0343
TOTAL		0.8997	6.8539	5.7422	0.0097	0.5968	0.5045

Finishing/Landscaping+Piping Connection **1.0758** **8.6400** **7.9659** **0.0136** **0.7943** **0.6147**

MAX DAILY **3.28** **33.62** **23.21** **0.03** **4.88** **3.25**

Regional Thresholds **75** **100** **550** **150** **150** **55**
 Exceeds Thresholds? No No No No No No

Localized Construction Emissions Worksheet - Unmitigated

Asphalt Demolition					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite	2016				
	Fugitive Dust			0.0254	0.00385
	Off-Road	21.7478	16.6728	1.2433	1.1716
	Total	21.7478	16.6728	1.2687	1.1755
TOTAL		21.7478	16.6728	1.2687	1.1755
	1-Acre LSTs	103	522	53	20
	Exceeds Threshold?	No	No	No	No

Trenching					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite	2016				
	Off-Road	3.2551	2.4126	0.2506	0.2306
	Total	3.2551	2.4126	0.2506	0.2306
TOTAL		3.2551	2.4126	0.2506	0.2306

Asphalt Demo+Trenching		25.0029	19.0854	1.5193	1.4061
	1.5-Acre LSTs	125	642	57	22
	Exceeds Threshold?	No	No	No	No

Grading					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite	2016				
	Fugitive Dust			2.8011	1.4396
	Off-Road	29.947	19.6345	1.6671	1.5337
	Total	29.947	19.6345	4.4682	2.9733
TOTAL		29.9470	19.6345	4.4682	2.9733

Trenching+Grading		33.2021	22.0471	4.7188	3.2039
	2.38-Acre LSTs	156	831	63	25
	Exceeds Threshold?	No	No	No	No

Equipment Installation					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite		2016			
	Off-Road	6.5439	4.9083	0.4817	0.4702
	Total	6.5439	4.9083	0.4817	0.4702
TOTAL		6.5439	4.9083	0.4817	0.4702
Trenching+Equipment Install		9.7990	7.3209	0.7323	0.7008

0.5-Acre LSTs **103** **522** **53** **20**
Exceeds Threshold? **No** **No** **No** **No**

Paving					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite		2016			
	Off-Road	14.8172	10.1298	0.896	0.8255
	Paving			0	0
	Total	14.8172	10.1298	0.896	0.8255
TOTAL		14.8172	10.1298	0.8960	0.8255
<1-Acre LSTs		103	522	53	20
Exceeds Threshold?		No	No	No	No

Architectural Coating					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite		2016			
	Architectural Coating			0	0
	Off-Road	2.3722	1.8839	0.1966	0.1966
	Total	2.3722	1.8839	0.1966	0.1966
TOTAL		2.3722	1.8839	0.1966	0.1966
<1-Acre LSTs		103	522	53	20
Exceeds Threshold?		No	No	No	No

Landscaping					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite		2016			
	Off-Road	1.4761	1.3898	0.0824	0.0759
	Total	1.4761	1.3898	0.0824	0.0759
TOTAL		1.4761	1.3898	0.0824	0.0759
0.5-Acre LSTs		103	522	53	20
Exceeds Threshold?		No	No	No	No

Gas and Electrical Piping Connection

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		2016				
	Off-Road		6.5439	4.9083	0.4817	0.4702
	Total		6.5439	4.9083	0.4817	0.4702
TOTAL			6.5439	4.9083	0.4817	0.4702

Finishing/Landscaping+Piping Connecti

	0.5-Acre LSTs	103	522	53	20
	Exceeds Threshold?	No	No	No	No

Regional Operational Emissions Worksheet

Summer

	VOC	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.412	0	0.004	0	0	0
Energy	0	0	0	0	0	0
Mobile ¹	0.442	13.905	12.120	0.000	1.884	0.017
Total	0.853	13.905	12.124	0	1.884	0.017

Winter

	VOC	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.412	0	0.004	0	0	0
Energy	0	0	0	0	0	0
Mobile ¹	0.442	13.905	12.120	0.000	1.884	0.017
Total	0.853	13.905	12.124	0.000	1.884	0.017

Max Daily

	VOC	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.412	0	0.004	0	0	0
Energy	0	0	0	0	0	0
Mobile ¹	0.442	13.905	12.120	0	1.884	0.017
Total	0.853	13.905	12.124	0	1.884	0.017

Regional Thresholds

Regional Thresholds	55	55	550	150	150	550
Exceeds Thresholds?	No	No	No	No	No	No

¹ Based on EMFAC2014, v1.0.7, emission rates for CNG-powered urban buses (UBUS).

GHG Emissions Worksheet

Proposed Project Buildout

		<u>MTons Total</u>
Total Construction		25.1836
Year 2017 Emission Rates		
Source	Buildout MTCO ₂ e/Year	Percent of Project Total
Area	0	0%
Energy	5	1%
Mobile ¹	567	99%
Waste	0	0%
Water	0	0%
Amortized Construction Emissions ²	1	0%
Total All Sectors	573	100%
	SCAQMD Bright-Line Screening Threshold	3,000
	Exceed Threshold?	No

¹ Based on year 2017 emission rates.

² Total construction emissions are amortized over 30 years per SCAQMD methodology; SCAQMD. 2010, September 28. Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting 15. <http://www.aqmd.gov/ceqa/handbook/GHG/2010/sept28mtg/sept29.html>.

CalEEMod Land Use Inputs: Proposed

Type	Land Use Type	Land Use Unit Amount	Land Use Size Metric	Lot Acreage	Land Use Square Feet
Gas station		3	pump	0	0
Parking	Other Non-Asphalt	1.59	acre	1.59	0
Parking	Parking lot	14.7	1000bsf	0.34	14,700
parking	Parking lot	15	space	0.13	6,000

Project Location: Orange County
 Climate Zone: 8
 Operation Year: 2017
 Land Use Setting: Urban
 Utility Company: SCE
 Source Receptor Area: 16

Land Uses/Development

Other

Surface Parking:* 14,700 square feet
Other Non-Asphalt Surface: 1.59 acres

* As measured using Google Earth Pro, Version 7.1.2.2041, based on site plan.

Trip Generation

Total New Average Daily Trips (ADT):* 560 ADTs
Trip Rate: 186.67 ADTs/pump

*Garland Associates. 2015, November. Traffic Impact Analysis for the Proposed District Bus Yard & CNG Fueling Station: 1050 Leslie Street Nort of Imperial Highway.

Water Use

Assumes no net increase in water usage compared to current operations.

Solid Waste

Assumes no net increase in solid waste generation compared to current operations.

Demolition

Asphalt
Asphalt to be demolished: 25 tons
Total Haul Trips 2 trip ends (CalEEMod Default)
1-way haul distance 20 miles (CalEEMod Default)
Haul truck capacity 20 tons (CalEEMod default)

Architectural Coating

Modeling also assumes a VOC of 100 g/L for interior paints used for non-residential buildings pursuant to SCAQMD Rule 1113

Construction Phasing*

5-Day Work Week

Adjusted Schedule

Phase Name	Start Date	End Date	Workdays	Total Days
Demolition	2/9/2016	2/19/2016	9	10
Demolition Debris Haul	2/9/2016	2/19/2016	9	10
Trenching	2/16/2016	4/12/2016	41	56
Grading	2/24/2016	2/29/2016	4	5
Equipment Installation	3/22/2016	3/24/2016	3	2
Asphalt Paving	4/15/2016	4/15/2016	1	0
Architectural Coating	4/16/2016	4/22/2016	5	6
Landscaping	5/16/2016	5/26/2016	9	10
Above Ground Gas & Electrical Piping Connection	5/23/2016	5/26/2016	4	3

*Based on schedule provided by the District.

Construction Equipment Mix*

*CalEEMod default unless otherwise noted.

Commercial - General Office Bldg	Pieces of Equipment	Hrs Op	HP	LF	Worker Trips/ Day	CalEEMod Vendor Trips
Demolition - Asphalt					Default+4	Default
Concrete/Industrial Saws	1	8	81	0.73		
Rubber Tired Dozers	1	8	255	0.40		
Tractors/Loaders/Backhoes	1	8	97	0.37		
Water Truck*	1				4	
Utility Trenching**					Default	Default
Tractors/Loaders/Backhoes	1	8	97	0.37		
Grading					Default+4	Default
Grader	1	8	174	0.41		
Rubber Tired Dozers	1	8	255	0.40		
Tractors/Loaders/Backhoes	2	7	97	0.37		
Water Truck*	1				4	
Equipment Installation					Default	Default
Forklift	1	7	89	0.20		
Generator Sets	1	8	84	0.74		
Asphalt Paving					Default	Default
Cement and Mortar Mixers	1	8	9	0.56		
Pavers	1	8	125	0.42		
Paving Equipment	1	8	130	0.36		
Rollers	1	8	80	0.38		
Tractors/Loaders/Backhoes	1	8	97	0.37		
Architectural Coating					Default	Default
Air compressor	1	6	78	0.48		
Finishing/Landscaping**					Default	Default
Skid Steer Loader	1	8	64	0.37		
Gas and Electrical Piping Connection					Default	Default
Forklifts	1	7	89	0.20		
Generator Sets	1	8	84	0.74		

*Four water truck trips per day are assumed for purposes of this analysis. Emissions accounted for in the vendor trips assigned.

**Assumes use of an excavator for trenching and a skid steer loader for finishing/landscaping.

Pavement Volume to Weight Conversion

Location	Total SF of Area ¹	Assumed Thickness (Foot) ²	Parking Debris Volume (cu. ft)	Weight of Crushed Asphalt (lbs/cf) ³	AC Mass (lbs)	AC Mass (tons)
Asphalt Demo Area	3,339	0.33	1,113	45	50,085	25
					Total	25

¹ As measured using Google Earth Pro, Version xxx, based on the site plan.

² *Pavements and Surface Materials*. Nonpoint Education for Municipal Officials, Technical Paper Number 8. University of Connecticut Cooperative Extension System, 1999.

³ http://www.reade.com/Particle_Briefings/spec_gra2.html

CNG/Diesel Vehicle Emissions Worksheet

Daily Trip Generation:¹ 560 ADTs
 Daily VMT:² 995 miles

Vehicle Type: CNG-Powered Urban Buses

CNG Emission Rates (g/mile) ³													
VOC	NOx	CO	SOx	PM10	PM10PMTW	PM10PMBW	PM10Total	PM25	PM25PMTW	PM25PMBW	PM25Total	CO2	CH4
0.201304	6.34	5.52	0.00	0.0048	0.01200	0.84182	0.858608	0.004581	0.00458	0.00300	0.00758	1,455.59	1.33

Diesel Emission Rates (g/mile) ⁴													
VOC	NOx	CO	SOx	PM10	PM10PMTW	PM10PMBW	PM10Total	PM25	PM25PMTW	PM25PMBW	PM25Total	CO2	CH4
0.482804	23.84	4.70	0.02	0.3357	0.01200	0.84182	1.189544	0.321200	0.00458	0.00300	0.32878	1,899.68	0.02

Engine Type	Emissions (g/day)													
	VOC	NOx	CO	SOx	PM10	PM10PMTW	PM10PMBW	PM10Total	PM25	PM25PMTW	PM25PMBW	PM25Total	CO2	CH4
CNG	200.3129649	6,307.09	5,497.73	0.00	4.7644	11.94092	837.67566	854.381007	4.558447	4.55845	2.98523	7.54368	1,448,422.03	1,325.42
Diesel	480.4271188	23,724.16	4,678.52	18.04	334.0712	11.94092	837.67566	1,183.687783	319.618708	4.55745	2.98523	327.16139	1,890,326.73	22.31

Engine Type	Emissions (lb/day)													
	VOC	NOx	CO	SOx	PM10	PM10PMTW	PM10PMBW	PM10Total	PM25	PM25PMTW	PM25PMBW	PM25Total	CO2	CH4
CNG	0.441609962	13.90	12.12	0.00	0.0105	0.02632	1.84674	1.883568	0.010050	0.01005	0.00658	0.01663	3,193.19	2.92
Diesel	1.059149626	52.30	10.31	0.04	0.7365	0.02632	1.84674	2.609558	0.704631	0.01005	0.00658	0.72126	4,167.41	0.05

Criteria Air Pollutants (pounds per day)

	VOC	NOx	CO	SOx	PM10	PM25
CNG	0.4	13.9	12.1	0.0	1.9	0.0
Diesel	1.1	52.3	10.3	0.0	2.6	0.7

2nd Assessment Report (SAR) Global Warming Potential⁵

N₂O:⁶ 310
 CH₄: 21

GHG (MTCO₂e/yr)

CNG 567
 Diesel 800

¹ Garland Associates. 2015, November. Traffic Impact Analysis for the Proposed District Bus Yard & CNG Fueling Station, 1050 Leslie Street Nort of Imperial Highway

² Based on CalEEMod Version 2013.2.2 methodology and default vehicle trip lengths. CalEEMod assumes one calendar year as 364 days.

³ Based on year 2017 EMFAC2014, v1.0.7, emission rates for the NG-powered UBUS vehicle class.

⁴ Based on year 2017 EMFAC2014, v1.0.7, emission rates for the diesel-powered UBUS vehicle class.

⁵ Intergovernmental Panel on Climate Change (IPCC). 1995. Second Assessment Report: Climate Change 1995.

⁶ N₂O emissions were calculated using an off-model adjustment provided by CARB for gas emissions in the 2014 Technical Support Document for California's 2000-2012 GHG Emissions inventory. The off-model adjustment uses for every gram of NOx emitted from gasoline vehicles, an average of 0.0416 grams of N₂O are emitted. (N₂O = 0.0416 x NOx)

**CNG Fueling Facility
Orange County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.59	Acre	1.59	0.00	0
Parking Lot	14.70	1000sqft	0.34	14,700.00	0
Parking Lot	15.00	Space	0.13	6,000.00	0
Gasoline/Service Station	3.00	Pump	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Gas station land use is a placeholder only for the trip rate. Other non-asphalt surfaces assumes to not generate emissions.

Construction Phase - Based on information provided by the District.

Off-road Equipment -

Off-road Equipment - Assumes only 1 tractor/loader/backhoe.

Off-road Equipment - Assumes only forklift and generator set for this activity.

Off-road Equipment - Assumes 1 forklift and generator set.

Off-road Equipment -

Off-road Equipment - Assumes skid steer loader.

Off-road Equipment - Assumes 1 roller only.

Off-road Equipment - Based on information provided by the District.

Trips and VMT - Assumes 4 water truck trip ends per day.

Demolition -

Grading -

Architectural Coating - Per SCAQMD Rule 1113.

Vehicle Trips - Based on information provided by Garland Associates.

Water And Wastewater - Assumes no net increase in water usage over current operations.

Solid Waste - Assumes no net increase in solid waste generation over current operations.

Area Mitigation - Per SCAQMD Rule 1113.

Construction Off-road Equipment Mitigation - SCAQMD Rules 403 and 1186.

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	220.00	3.00
tblConstructionPhase	NumDays	220.00	9.00
tblConstructionPhase	NumDays	220.00	4.00
tblConstructionPhase	NumDays	20.00	9.00

tblConstructionPhase	NumDays	6.00	4.00
tblConstructionPhase	NumDays	10.00	1.00
tblConstructionPhase	PhaseEndDate	3/3/2016	3/24/2016
tblConstructionPhase	PhaseEndDate	5/5/2016	5/26/2016
tblConstructionPhase	PhaseEndDate	6/1/2016	5/26/2016
tblConstructionPhase	PhaseEndDate	4/18/2016	2/29/2016
tblConstructionPhase	PhaseEndDate	3/25/2016	4/15/2016
tblConstructionPhase	PhaseEndDate	4/18/2016	4/12/2016
tblConstructionPhase	PhaseStartDate	3/1/2016	3/22/2016
tblConstructionPhase	PhaseStartDate	4/23/2016	5/16/2016
tblConstructionPhase	PhaseStartDate	5/27/2016	5/23/2016
tblConstructionPhase	PhaseStartDate	4/13/2016	2/24/2016
tblConstructionPhase	PhaseStartDate	3/25/2016	4/15/2016
tblConstructionPhase	PhaseStartDate	2/20/2016	2/16/2016
tblLandUse	LandUseSquareFeet	69,260.40	0.00
tblLandUse	LandUseSquareFeet	423.52	0.00
tblLandUse	LotAcreage	0.01	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblSolidWaste	SolidWasteGenerationRate	1.62	0.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblVehicleTrips	ST_TR	162.78	186.67
tblVehicleTrips	SU_TR	162.78	186.67
tblVehicleTrips	WD_TR	162.78	186.67
tblWater	IndoorWaterUseRate	39,845.67	0.00
tblWater	OutdoorWaterUseRate	24,421.54	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2016	3.2798	33.6203	23.2107	0.0262	6.7226	1.9243	8.6469	3.4131	1.7703	5.1835	0.0000	2,688.6574	2,688.6574	0.7505	0.0000	2,704.4176
Total	3.2798	33.6203	23.2107	0.0262	6.7226	1.9243	8.6469	3.4131	1.7703	5.1835	0.0000	2,688.6574	2,688.6574	0.7505	0.0000	2,704.4176

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	lb/day										lb/day					
2016	3.2798	33.6203	23.2107	0.0262	2.9584	1.9243	4.8827	1.4821	1.7703	3.2524	0.0000	2,688.6574	2,688.6574	0.7505	0.0000	2,704.4176
Total	3.2798	33.6203	23.2107	0.0262	2.9584	1.9243	4.8827	1.4821	1.7703	3.2524	0.0000	2,688.6574	2,688.6574	0.7505	0.0000	2,704.4176

	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
Percent Reduction	0.00	0.00	0.00	0.00	55.99	0.00	43.53	56.58	0.00	37.25	0.00	0.00	0.00	0.00	0.00	0.00

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	lb/day										lb/day					
Area	0.4142	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.3761	1.3673	7.9234	0.0113	0.7653	0.0151	0.7804	0.2042	0.0139	0.2181		947.6841	947.6841	0.0456		948.6413
Total	1.7902	1.3673	7.9270	0.0113	0.7653	0.0151	0.7804	0.2042	0.0139	0.2181		947.6916	947.6916	0.0456	0.0000	948.6492

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	lb/day										lb/day					
Area	0.4118	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.3761	1.3673	7.9234	0.0113	0.7653	0.0151	0.7804	0.2042	0.0139	0.2181		947.6841	947.6841	0.0456		948.6413
Total	1.7878	1.3673	7.9270	0.0113	0.7653	0.0151	0.7804	0.2042	0.0139	0.2181		947.6916	947.6916	0.0456	0.0000	948.6492

	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
Percent Reduction	0.13	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/9/2016	2/19/2016	5	9	
2	Trenching	Trenching	2/16/2016	4/12/2016	5	41	
3	Grading	Grading	2/24/2016	2/29/2016	5	4	
4	Equipment Installation	Building Construction	3/22/2016	3/24/2016	5	3	
5	Paving	Paving	4/15/2016	4/15/2016	5	1	
6	Architectural Coating	Architectural Coating	4/16/2016	4/22/2016	5	5	
7	Landscaping	Building Construction	5/16/2016	5/26/2016	5	9	
8	Gas and Electrical Piping Connection	Building Construction	5/23/2016	5/26/2016	5	4	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 932; Non-Residential Outdoor: 311 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Equipment Installation	Cranes	0	8.00	226	0.29
Equipment Installation	Forklifts	1	7.00	89	0.20
Equipment Installation	Generator Sets	1	8.00	84	0.74
Equipment Installation	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Equipment Installation	Welders	0	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Landscaping	Cranes	0	8.00	226	0.29

Landscaping	Forklifts	0	7.00	89	0.20
Landscaping	Generator Sets	0	8.00	84	0.74
Landscaping	Skid Steer Loaders	1	8.00	64	0.37
Landscaping	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Landscaping	Welders	0	8.00	46	0.45
Gas and Electrical Piping Connection	Cranes	0	8.00	226	0.29
Gas and Electrical Piping Connection	Forklifts	1	7.00	89	0.20
Gas and Electrical Piping Connection	Generator Sets	1	8.00	84	0.74
Gas and Electrical Piping Connection	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Gas and Electrical Piping Connection	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	3	8.00	4.00	2.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Equipment Installation	2	9.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Landscaping	1	9.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Gas and Electrical Piping Connection	2	9.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2016

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	lb/day										lb/day					
Fugitive Dust					0.0594	0.0000	0.0594	9.0000e-003	0.0000	9.0000e-003			0.0000			0.0000
Off-Road	2.2254	21.7478	16.6728	0.0183		1.2433	1.2433		1.1716	1.1716		1,839.7750	1,839.7750	0.4335		1,848.8792
Total	2.2254	21.7478	16.6728	0.0183	0.0594	1.2433	1.3027	9.0000e-003	1.1716	1.1806		1,839.7750	1,839.7750	0.4335		1,848.8792

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	lb/day										lb/day					
Hauling	4.3400e-003	0.0633	0.0510	1.6000e-004	3.8700e-003	9.2000e-004	4.7900e-003	1.0600e-003	8.5000e-004	1.9100e-003		16.4350	16.4350	1.2000e-004		16.4374
Vendor	0.0388	0.3542	0.4914	8.6000e-004	0.0250	5.5400e-003	0.0305	7.1200e-003	5.0900e-003	0.0122		86.0122	86.0122	6.3000e-004		86.0255
Worker	0.0292	0.0394	0.4137	1.0300e-003	0.0894	6.2000e-004	0.0901	0.0237	5.8000e-004	0.0243		85.9654	85.9654	4.2700e-003		86.0551
Total	0.0723	0.4569	0.9560	2.0500e-003	0.1183	7.0800e-003	0.1254	0.0319	6.5200e-003	0.0384		188.4125	188.4125	5.0200e-003		188.5180

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	lb/day										lb/day					
Fugitive Dust					0.0254	0.0000	0.0254	3.8500e-003	0.0000	3.8500e-003			0.0000			0.0000
Off-Road	2.2254	21.7478	16.6728	0.0183		1.2433	1.2433		1.1716	1.1716	0.0000	1,839.7750	1,839.7750	0.4335		1,848.8792
Total	2.2254	21.7478	16.6728	0.0183	0.0254	1.2433	1.2687	3.8500e-003	1.1716	1.1755	0.0000	1,839.7750	1,839.7750	0.4335		1,848.8792

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	lb/day										lb/day					
Hauling	4.3400e-003	0.0633	0.0510	1.6000e-004	3.6100e-003	9.2000e-004	4.5300e-003	1.0000e-003	8.5000e-004	1.8400e-003		16.4350	16.4350	1.2000e-004		16.4374
Vendor	0.0388	0.3542	0.4914	8.6000e-004	0.0234	5.5400e-003	0.0289	6.7200e-003	5.0900e-003	0.0118		86.0122	86.0122	6.3000e-004		86.0255
Worker	0.0292	0.0394	0.4137	1.0300e-003	0.0824	6.2000e-004	0.0831	0.0220	5.8000e-004	0.0226		85.9654	85.9654	4.2700e-003		86.0551
Total	0.0723	0.4569	0.9560	2.0500e-003	0.1094	7.0800e-003	0.1165	0.0297	6.5200e-003	0.0362		188.4125	188.4125	5.0200e-003		188.5180

3.3 Trenching - 2016

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	lb/day										lb/day					
Off-Road	0.3406	3.2551	2.4126	3.1100e-003		0.2506	0.2506		0.2306	0.2306		323.6773	323.6773	0.0976		325.7276
Total	0.3406	3.2551	2.4126	3.1100e-003		0.2506	0.2506		0.2306	0.2306		323.6773	323.6773	0.0976		325.7276

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0110	0.0148	0.1551	3.9000e-004	0.0335	2.3000e-004	0.0338	8.8900e-003	2.2000e-004	9.1100e-003		32.2370	32.2370	1.6000e-003		32.2707
Total	0.0110	0.0148	0.1551	3.9000e-004	0.0335	2.3000e-004	0.0338	8.8900e-003	2.2000e-004	9.1100e-003		32.2370	32.2370	1.6000e-003		32.2707

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	lb/day										lb/day					
Off-Road	0.3406	3.2551	2.4126	3.1100e-003		0.2506	0.2506		0.2306	0.2306	0.0000	323.6773	323.6773	0.0976		325.7276
Total	0.3406	3.2551	2.4126	3.1100e-003		0.2506	0.2506		0.2306	0.2306	0.0000	323.6773	323.6773	0.0976		325.7276

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0110	0.0148	0.1551	3.9000e-004	0.0309	2.3000e-004	0.0311	8.2500e-003	2.2000e-004	8.4600e-003		32.2370	32.2370	1.6000e-003		32.2707
Total	0.0110	0.0148	0.1551	3.9000e-004	0.0309	2.3000e-004	0.0311	8.2500e-003	2.2000e-004	8.4600e-003		32.2370	32.2370	1.6000e-003		32.2707

3.4 Grading - 2016

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	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.8530	29.9470	19.6345	0.0206		1.6671	1.6671		1.5337	1.5337		2,139.274 2	2,139.274 2	0.6453		2,152.825 1
Total	2.8530	29.9470	19.6345	0.0206	6.5523	1.6671	8.2195	3.3675	1.5337	4.9012		2,139.274 2	2,139.274 2	0.6453		2,152.825 1

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0388	0.3542	0.4914	8.6000e-004	0.0250	5.5400e-003	0.0305	7.1200e-003	5.0900e-003	0.0122		86.0122	86.0122	6.3000e-004		86.0255
Worker	0.0365	0.0493	0.5171	1.2800e-003	0.1118	7.8000e-004	0.1126	0.0296	7.2000e-004	0.0304		107.4568	107.4568	5.3400e-003		107.5688
Total	0.0753	0.4035	1.0085	2.1400e-003	0.1368	6.3200e-003	0.1431	0.0368	5.8100e-003	0.0426		193.4689	193.4689	5.9700e-003		193.5943

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	lb/day										lb/day					
Fugitive Dust					2.8011	0.0000	2.8011	1.4396	0.0000	1.4396			0.0000			0.0000
Off-Road	2.8530	29.9470	19.6345	0.0206		1.6671	1.6671		1.5337	1.5337	0.0000	2,139.274 2	2,139.274 2	0.6453		2,152.825 1
Total	2.8530	29.9470	19.6345	0.0206	2.8011	1.6671	4.4682	1.4396	1.5337	2.9733	0.0000	2,139.274 2	2,139.274 2	0.6453		2,152.825 1

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0388	0.3542	0.4914	8.6000e-004	0.0234	5.5400e-003	0.0289	6.7200e-003	5.0900e-003	0.0118		86.0122	86.0122	6.3000e-004		86.0255
Worker	0.0365	0.0493	0.5171	1.2800e-003	0.1030	7.8000e-004	0.1038	0.0275	7.2000e-004	0.0282		107.4568	107.4568	5.3400e-003		107.5688
Total	0.0753	0.4035	1.0085	2.1400e-003	0.1264	6.3200e-003	0.1327	0.0342	5.8100e-003	0.0400		193.4689	193.4689	5.9700e-003		193.5943

3.5 Equipment Installation - 2016

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	lb/day										lb/day					
Off-Road	0.8377	6.5439	4.9083	7.9100e-003		0.4817	0.4817		0.4702	0.4702		761.9163	761.9163	0.0989		763.9932
Total	0.8377	6.5439	4.9083	7.9100e-003		0.4817	0.4817		0.4702	0.4702		761.9163	761.9163	0.0989		763.9932

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0291	0.2656	0.3685	6.4000e-004	0.0188	4.1600e-003	0.0229	5.3400e-003	3.8200e-003	9.1600e-003		64.5091	64.5091	4.8000e-004		64.5191
Worker	0.0329	0.0444	0.4654	1.1600e-003	0.1006	7.0000e-004	0.1013	0.0267	6.5000e-004	0.0273		96.7111	96.7111	4.8000e-003		96.8120
Total	0.0620	0.3100	0.8339	1.8000e-003	0.1194	4.8600e-003	0.1242	0.0320	4.4700e-003	0.0365		161.2202	161.2202	5.2800e-003		161.3311

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	lb/day										lb/day					
Off-Road	0.8377	6.5439	4.9083	7.9100e-003		0.4817	0.4817		0.4702	0.4702	0.0000	761.9163	761.9163	0.0989		763.9932
Total	0.8377	6.5439	4.9083	7.9100e-003		0.4817	0.4817		0.4702	0.4702	0.0000	761.9163	761.9163	0.0989		763.9932

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0291	0.2656	0.3685	6.4000e-004	0.0175	4.1600e-003	0.0217	5.0400e-003	3.8200e-003	8.8600e-003		64.5091	64.5091	4.8000e-004		64.5191
Worker	0.0329	0.0444	0.4654	1.1600e-003	0.0927	7.0000e-004	0.0934	0.0248	6.5000e-004	0.0254		96.7111	96.7111	4.8000e-003		96.8120
Total	0.0620	0.3100	0.8339	1.8000e-003	0.1103	4.8600e-003	0.1151	0.0298	4.4700e-003	0.0343		161.2202	161.2202	5.2800e-003		161.3311

3.6 Paving - 2016

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	lb/day										lb/day					
Off-Road	1.4443	14.8172	10.1298	0.0150		0.8960	0.8960		0.8255	0.8255		1,532.3821	1,532.3821	0.4522		1,541.8788
Paving	1.2314					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.6757	14.8172	10.1298	0.0150		0.8960	0.8960		0.8255	0.8255		1,532.3821	1,532.3821	0.4522		1,541.8788

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0475	0.0641	0.6722	1.6700e-003	0.1453	1.0200e-003	0.1463	0.0385	9.4000e-004	0.0395		139.6938	139.6938	6.9400e-003		139.8395
Total	0.0475	0.0641	0.6722	1.6700e-003	0.1453	1.0200e-003	0.1463	0.0385	9.4000e-004	0.0395		139.6938	139.6938	6.9400e-003		139.8395

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	lb/day										lb/day					
Off-Road	1.4443	14.8172	10.1298	0.0150		0.8960	0.8960		0.8255	0.8255	0.0000	1,532.3821	1,532.3821	0.4522		1,541.8788
Paving	1.2314					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.6757	14.8172	10.1298	0.0150		0.8960	0.8960		0.8255	0.8255	0.0000	1,532.3821	1,532.3821	0.4522		1,541.8788

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0475	0.0641	0.6722	1.6700e-003	0.1339	1.0200e-003	0.1350	0.0358	9.4000e-004	0.0367		139.6938	139.6938	6.9400e-003		139.8395
Total	0.0475	0.0641	0.6722	1.6700e-003	0.1339	1.0200e-003	0.1350	0.0358	9.4000e-004	0.0367		139.6938	139.6938	6.9400e-003		139.8395

3.7 Architectural Coating - 2016

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	lb/day										lb/day					
Archit. Coating	1.1523					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449
Total	1.5207	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	7.3000e-003	9.8600e-003	0.1034	2.6000e-004	0.0224	1.6000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		21.4914	21.4914	1.0700e-003		21.5138
Total	7.3000e-003	9.8600e-003	0.1034	2.6000e-004	0.0224	1.6000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		21.4914	21.4914	1.0700e-003		21.5138

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	lb/day										lb/day					
Archit. Coating	1.1523					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332		282.1449
Total	1.5207	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332		282.1449

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	7.3000e-003	9.8600e-003	0.1034	2.6000e-004	0.0206	1.6000e-004	0.0208	5.5000e-003	1.4000e-004	5.6400e-003		21.4914	21.4914	1.0700e-003		21.5138
Total	7.3000e-003	9.8600e-003	0.1034	2.6000e-004	0.0206	1.6000e-004	0.0208	5.5000e-003	1.4000e-004	5.6400e-003		21.4914	21.4914	1.0700e-003		21.5138

3.8 Landscaping - 2016

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	lb/day										lb/day					
Off-Road	0.1141	1.4761	1.3898	2.0400e-003		0.0824	0.0824		0.0759	0.0759		211.4518	211.4518	0.0638		212.7912
Total	0.1141	1.4761	1.3898	2.0400e-003		0.0824	0.0824		0.0759	0.0759		211.4518	211.4518	0.0638		212.7912

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0291	0.2656	0.3685	6.4000e-004	0.0188	4.1600e-003	0.0229	5.3400e-003	3.8200e-003	9.1600e-003		64.5091	64.5091	4.8000e-004		64.5191
Worker	0.0329	0.0444	0.4654	1.1600e-003	0.1006	7.0000e-004	0.1013	0.0267	6.5000e-004	0.0273		96.7111	96.7111	4.8000e-003		96.8120
Total	0.0620	0.3100	0.8339	1.8000e-003	0.1194	4.8600e-003	0.1242	0.0320	4.4700e-003	0.0365		161.2202	161.2202	5.2800e-003		161.3311

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	lb/day										lb/day					
Off-Road	0.1141	1.4761	1.3898	2.0400e-003		0.0824	0.0824		0.0759	0.0759	0.0000	211.4518	211.4518	0.0638		212.7912
Total	0.1141	1.4761	1.3898	2.0400e-003		0.0824	0.0824		0.0759	0.0759	0.0000	211.4518	211.4518	0.0638		212.7912

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0291	0.2656	0.3685	6.4000e-004	0.0175	4.1600e-003	0.0217	5.0400e-003	3.8200e-003	8.8600e-003		64.5091	64.5091	4.8000e-004		64.5191
Worker	0.0329	0.0444	0.4654	1.1600e-003	0.0927	7.0000e-004	0.0934	0.0248	6.5000e-004	0.0254		96.7111	96.7111	4.8000e-003		96.8120
Total	0.0620	0.3100	0.8339	1.8000e-003	0.1103	4.8600e-003	0.1151	0.0298	4.4700e-003	0.0343		161.2202	161.2202	5.2800e-003		161.3311

3.9 Gas and Electrical Piping Connection - 2016

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	lb/day										lb/day					
Off-Road	0.8377	6.5439	4.9083	7.9100e-003		0.4817	0.4817		0.4702	0.4702		761.9163	761.9163	0.0989		763.9932
Total	0.8377	6.5439	4.9083	7.9100e-003		0.4817	0.4817		0.4702	0.4702		761.9163	761.9163	0.0989		763.9932

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0291	0.2656	0.3685	6.4000e-004	0.0188	4.1600e-003	0.0229	5.3400e-003	3.8200e-003	9.1600e-003		64.5091	64.5091	4.8000e-004		64.5191
Worker	0.0329	0.0444	0.4654	1.1600e-003	0.1006	7.0000e-004	0.1013	0.0267	6.5000e-004	0.0273		96.7111	96.7111	4.8000e-003		96.8120
Total	0.0620	0.3100	0.8339	1.8000e-003	0.1194	4.8600e-003	0.1242	0.0320	4.4700e-003	0.0365		161.2202	161.2202	5.2800e-003		161.3311

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	lb/day										lb/day					
Off-Road	0.8377	6.5439	4.9083	7.9100e-003		0.4817	0.4817		0.4702	0.4702	0.0000	761.9163	761.9163	0.0989		763.9932
Total	0.8377	6.5439	4.9083	7.9100e-003		0.4817	0.4817		0.4702	0.4702	0.0000	761.9163	761.9163	0.0989		763.9932

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0291	0.2656	0.3685	6.4000e-004	0.0175	4.1600e-003	0.0217	5.0400e-003	3.8200e-003	8.8600e-003		64.5091	64.5091	4.8000e-004		64.5191
Worker	0.0329	0.0444	0.4654	1.1600e-003	0.0927	7.0000e-004	0.0934	0.0248	6.5000e-004	0.0254		96.7111	96.7111	4.8000e-003		96.8120
Total	0.0620	0.3100	0.8339	1.8000e-003	0.1103	4.8600e-003	0.1151	0.0298	4.4700e-003	0.0343		161.2202	161.2202	5.2800e-003		161.3311

4.0 Operational Detail - Mobile

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	lb/day										lb/day					
Mitigated	1.3761	1.3673	7.9234	0.0113	0.7653	0.0151	0.7804	0.2042	0.0139	0.2181		947.6841	947.6841	0.0456		948.6413
Unmitigated	1.3761	1.3673	7.9234	0.0113	0.7653	0.0151	0.7804	0.2042	0.0139	0.2181		947.6841	947.6841	0.0456		948.6413

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Gasoline/Service Station	560.01	560.01	560.01	362,208	362,208
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	560.01	560.01	560.01	362,208	362,208

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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	Primary	Diverted	Pass-by
Gasoline/Service Station	16.60	8.40	6.90	2.00	79.00	19.00	14	27	59
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510449	0.057012	0.191854	0.151889	0.041459	0.005887	0.015572	0.014818	0.001440	0.002145	0.004716	0.000509	0.002251

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

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	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Gasoline/Service Station	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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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/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Gasoline/Service Station	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior
 Use Low VOC Paint - Non-Residential Exterior

	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	lb/day										lb/day					
Mitigated	0.4118	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9400e-003

Unmitigated	0.4142	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9400e-003
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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	lb/day										lb/day					
Architectural Coating	3.9500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.4000e-004	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9400e-003
Total	0.4142	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9400e-003

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	lb/day										lb/day					
Architectural Coating	1.5800e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.4000e-004	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9400e-003

Total	0.4118	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9400e-003
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7.0 Water Detail

7.1 Mitigation Measures Water

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Vegetation

**CNG Fueling Facility
Orange County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.59	Acre	1.59	0.00	0
Parking Lot	14.70	1000sqft	0.34	14,700.00	0
Parking Lot	15.00	Space	0.13	6,000.00	0
Gasoline/Service Station	3.00	Pump	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Gas station land use is a placeholder only for the trip rate. Other non-asphalt surfaces assumes to not generate emissions.

Construction Phase - Based on information provided by the District.

Off-road Equipment -

Off-road Equipment - Assumes only 1 tractor/loader/backhoe.

Off-road Equipment - Assumes only forklift and generator set for this activity.

Off-road Equipment - Assumes 1 forklift and generator set.

Off-road Equipment -

Off-road Equipment - Assumes skid steer loader.

Off-road Equipment - Assumes 1 roller only.

Off-road Equipment - Based on information provided by the District.

Trips and VMT - Assumes 4 water truck trip ends per day.

Demolition -

Grading -

Architectural Coating - Per SCAQMD Rule 1113.

Vehicle Trips - Based on information provided by Garland Associates.

Water And Wastewater - Assumes no net increase in water usage over current operations.

Solid Waste - Assumes no net increase in solid waste generation over current operations.

Area Mitigation - Per SCAQMD Rule 1113.

Construction Off-road Equipment Mitigation - SCAQMD Rules 403 and 1186.

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	220.00	3.00
tblConstructionPhase	NumDays	220.00	9.00
tblConstructionPhase	NumDays	220.00	4.00
tblConstructionPhase	NumDays	20.00	9.00

tblConstructionPhase	NumDays	6.00	4.00
tblConstructionPhase	NumDays	10.00	1.00
tblConstructionPhase	PhaseEndDate	3/3/2016	3/24/2016
tblConstructionPhase	PhaseEndDate	5/5/2016	5/26/2016
tblConstructionPhase	PhaseEndDate	6/1/2016	5/26/2016
tblConstructionPhase	PhaseEndDate	4/18/2016	2/29/2016
tblConstructionPhase	PhaseEndDate	3/25/2016	4/15/2016
tblConstructionPhase	PhaseEndDate	4/18/2016	4/12/2016
tblConstructionPhase	PhaseStartDate	3/1/2016	3/22/2016
tblConstructionPhase	PhaseStartDate	4/23/2016	5/16/2016
tblConstructionPhase	PhaseStartDate	5/27/2016	5/23/2016
tblConstructionPhase	PhaseStartDate	4/13/2016	2/24/2016
tblConstructionPhase	PhaseStartDate	3/25/2016	4/15/2016
tblConstructionPhase	PhaseStartDate	2/20/2016	2/16/2016
tblLandUse	LandUseSquareFeet	69,260.40	0.00
tblLandUse	LandUseSquareFeet	423.52	0.00
tblLandUse	LotAcreage	0.01	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblSolidWaste	SolidWasteGenerationRate	1.62	0.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblVehicleTrips	ST_TR	162.78	186.67
tblVehicleTrips	SU_TR	162.78	186.67
tblVehicleTrips	WD_TR	162.78	186.67
tblWater	IndoorWaterUseRate	39,845.67	0.00
tblWater	OutdoorWaterUseRate	24,421.54	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2016	3.2736	33.6063	23.1697	0.0263	6.7226	1.9242	8.6469	3.4131	1.7703	5.1834	0.0000	2,697.193 2	2,697.193 2	0.7505	0.0000	2,712.953 0
Total	3.2736	33.6063	23.1697	0.0263	6.7226	1.9242	8.6469	3.4131	1.7703	5.1834	0.0000	2,697.193 2	2,697.193 2	0.7505	0.0000	2,712.953 0

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	lb/day										lb/day					
2016	3.2736	33.6063	23.1697	0.0263	2.9584	1.9242	4.8827	1.4821	1.7703	3.2524	0.0000	2,697.1932	2,697.1932	0.7505	0.0000	2,712.9530
Total	3.2736	33.6063	23.1697	0.0263	2.9584	1.9242	4.8827	1.4821	1.7703	3.2524	0.0000	2,697.1932	2,697.1932	0.7505	0.0000	2,712.9530

	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
Percent Reduction	0.00	0.00	0.00	0.00	55.99	0.00	43.53	56.58	0.00	37.25	0.00	0.00	0.00	0.00	0.00	0.00

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	lb/day										lb/day					
Area	0.4142	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.2692	1.3123	7.0558	0.0118	0.7653	0.0149	0.7801	0.2042	0.0137	0.2179		989.5004	989.5004	0.0455		990.4558
Total	1.6833	1.3123	7.0593	0.0118	0.7653	0.0149	0.7801	0.2042	0.0137	0.2179		989.5079	989.5079	0.0455	0.0000	990.4637

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	lb/day										lb/day					
Area	0.4118	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.2692	1.3123	7.0558	0.0118	0.7653	0.0149	0.7801	0.2042	0.0137	0.2179		989.5004	989.5004	0.0455		990.4558
Total	1.6810	1.3123	7.0593	0.0118	0.7653	0.0149	0.7801	0.2042	0.0137	0.2179		989.5079	989.5079	0.0455	0.0000	990.4637

	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
Percent Reduction	0.14	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/9/2016	2/19/2016	5	9	
2	Trenching	Trenching	2/16/2016	4/12/2016	5	41	
3	Grading	Grading	2/24/2016	2/29/2016	5	4	
4	Equipment Installation	Building Construction	3/22/2016	3/24/2016	5	3	
5	Paving	Paving	4/15/2016	4/15/2016	5	1	
6	Architectural Coating	Architectural Coating	4/16/2016	4/22/2016	5	5	
7	Landscaping	Building Construction	5/16/2016	5/26/2016	5	9	
8	Gas and Electrical Piping Connection	Building Construction	5/23/2016	5/26/2016	5	4	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 932; Non-Residential Outdoor: 311 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Equipment Installation	Cranes	0	8.00	226	0.29
Equipment Installation	Forklifts	1	7.00	89	0.20
Equipment Installation	Generator Sets	1	8.00	84	0.74
Equipment Installation	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Equipment Installation	Welders	0	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Landscaping	Cranes	0	8.00	226	0.29
Landscaping	Forklifts	0	7.00	89	0.20

Landscaping	Generator Sets	0	8.00	84	0.74
Landscaping	Skid Steer Loaders	1	8.00	64	0.37
Landscaping	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Landscaping	Welders	0	8.00	46	0.45
Gas and Electrical Piping Connection	Cranes	0	8.00	226	0.29
Gas and Electrical Piping Connection	Forklifts	1	7.00	89	0.20
Gas and Electrical Piping Connection	Generator Sets	1	8.00	84	0.74
Gas and Electrical Piping Connection	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Gas and Electrical Piping Connection	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	3	8.00	4.00	2.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Equipment Installation	2	9.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Landscaping	1	9.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Gas and Electrical Piping Connection	2	9.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

3.2 Demolition - 2016

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	lb/day										lb/day					
Fugitive Dust					0.0594	0.0000	0.0594	9.0000e-003	0.0000	9.0000e-003			0.0000			0.0000
Off-Road	2.2254	21.7478	16.6728	0.0183		1.2433	1.2433		1.1716	1.1716		1,839.7750	1,839.7750	0.4335		1,848.8792
Total	2.2254	21.7478	16.6728	0.0183	0.0594	1.2433	1.3027	9.0000e-003	1.1716	1.1806		1,839.7750	1,839.7750	0.4335		1,848.8792

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	lb/day										lb/day					
Hauling	4.0600e-003	0.0612	0.0444	1.6000e-004	3.8700e-003	9.2000e-004	4.7900e-003	1.0600e-003	8.5000e-004	1.9100e-003		16.4742	16.4742	1.2000e-004		16.4767
Vendor	0.0350	0.3460	0.4089	8.7000e-004	0.0250	5.4800e-003	0.0305	7.1200e-003	5.0400e-003	0.0122		86.7436	86.7436	6.2000e-004		86.7565
Worker	0.0278	0.0359	0.4392	1.0900e-003	0.0894	6.2000e-004	0.0901	0.0237	5.8000e-004	0.0243		90.7681	90.7681	4.2700e-003		90.8578
Total	0.0668	0.4431	0.8925	2.1200e-003	0.1183	7.0200e-003	0.1253	0.0319	6.4700e-003	0.0384		193.9859	193.9859	5.0100e-003		194.0909

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	lb/day										lb/day					
Fugitive Dust					0.0254	0.0000	0.0254	3.8500e-003	0.0000	3.8500e-003			0.0000			0.0000
Off-Road	2.2254	21.7478	16.6728	0.0183		1.2433	1.2433		1.1716	1.1716	0.0000	1,839.7750	1,839.7750	0.4335		1,848.8792
Total	2.2254	21.7478	16.6728	0.0183	0.0254	1.2433	1.2687	3.8500e-003	1.1716	1.1755	0.0000	1,839.7750	1,839.7750	0.4335		1,848.8792

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	lb/day										lb/day					
Hauling	4.0600e-003	0.0612	0.0444	1.6000e-004	3.6100e-003	9.2000e-004	4.5300e-003	1.0000e-003	8.5000e-004	1.8400e-003		16.4742	16.4742	1.2000e-004		16.4767
Vendor	0.0350	0.3460	0.4089	8.7000e-004	0.0234	5.4800e-003	0.0288	6.7200e-003	5.0400e-003	0.0118		86.7436	86.7436	6.2000e-004		86.7565
Worker	0.0278	0.0359	0.4392	1.0900e-003	0.0824	6.2000e-004	0.0831	0.0220	5.8000e-004	0.0226		90.7681	90.7681	4.2700e-003		90.8578
Total	0.0668	0.4431	0.8925	2.1200e-003	0.1094	7.0200e-003	0.1164	0.0297	6.4700e-003	0.0362		193.9859	193.9859	5.0100e-003		194.0909

3.3 Trenching - 2016

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	lb/day										lb/day					
Off-Road	0.3406	3.2551	2.4126	3.1100e-003		0.2506	0.2506		0.2306	0.2306		323.6773	323.6773	0.0976		325.7276
Total	0.3406	3.2551	2.4126	3.1100e-003		0.2506	0.2506		0.2306	0.2306		323.6773	323.6773	0.0976		325.7276

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0104	0.0135	0.1647	4.1000e-004	0.0335	2.3000e-004	0.0338	8.8900e-003	2.2000e-004	9.1100e-003		34.0381	34.0381	1.6000e-003		34.0717
Total	0.0104	0.0135	0.1647	4.1000e-004	0.0335	2.3000e-004	0.0338	8.8900e-003	2.2000e-004	9.1100e-003		34.0381	34.0381	1.6000e-003		34.0717

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	lb/day										lb/day					
Off-Road	0.3406	3.2551	2.4126	3.1100e-003		0.2506	0.2506		0.2306	0.2306	0.0000	323.6773	323.6773	0.0976		325.7276
Total	0.3406	3.2551	2.4126	3.1100e-003		0.2506	0.2506		0.2306	0.2306	0.0000	323.6773	323.6773	0.0976		325.7276

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0104	0.0135	0.1647	4.1000e-004	0.0309	2.3000e-004	0.0311	8.2500e-003	2.2000e-004	8.4600e-003		34.0381	34.0381	1.6000e-003		34.0717
Total	0.0104	0.0135	0.1647	4.1000e-004	0.0309	2.3000e-004	0.0311	8.2500e-003	2.2000e-004	8.4600e-003		34.0381	34.0381	1.6000e-003		34.0717

3.4 Grading - 2016

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	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.8530	29.9470	19.6345	0.0206		1.6671	1.6671		1.5337	1.5337		2,139.274 2	2,139.274 2	0.6453		2,152.825 1
Total	2.8530	29.9470	19.6345	0.0206	6.5523	1.6671	8.2195	3.3675	1.5337	4.9012		2,139.274 2	2,139.274 2	0.6453		2,152.825 1

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0350	0.3460	0.4089	8.7000e-004	0.0250	5.4800e-003	0.0305	7.1200e-003	5.0400e-003	0.0122		86.7436	86.7436	6.2000e-004		86.7565
Worker	0.0347	0.0448	0.5490	1.3600e-003	0.1118	7.8000e-004	0.1126	0.0296	7.2000e-004	0.0304		113.4602	113.4602	5.3400e-003		113.5722
Total	0.0697	0.3908	0.9578	2.2300e-003	0.1368	6.2600e-003	0.1430	0.0368	5.7600e-003	0.0425		200.2037	200.2037	5.9600e-003		200.3287

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	lb/day										lb/day					
Fugitive Dust					2.8011	0.0000	2.8011	1.4396	0.0000	1.4396			0.0000			0.0000
Off-Road	2.8530	29.9470	19.6345	0.0206		1.6671	1.6671		1.5337	1.5337	0.0000	2,139.274 2	2,139.274 2	0.6453		2,152.825 1
Total	2.8530	29.9470	19.6345	0.0206	2.8011	1.6671	4.4682	1.4396	1.5337	2.9733	0.0000	2,139.274 2	2,139.274 2	0.6453		2,152.825 1

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0350	0.3460	0.4089	8.7000e-004	0.0234	5.4800e-003	0.0288	6.7200e-003	5.0400e-003	0.0118		86.7436	86.7436	6.2000e-004		86.7565
Worker	0.0347	0.0448	0.5490	1.3600e-003	0.1030	7.8000e-004	0.1038	0.0275	7.2000e-004	0.0282		113.4602	113.4602	5.3400e-003		113.5722
Total	0.0697	0.3908	0.9578	2.2300e-003	0.1264	6.2600e-003	0.1327	0.0342	5.7600e-003	0.0400		200.2037	200.2037	5.9600e-003		200.3287

3.5 Equipment Installation - 2016

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	lb/day										lb/day					
Off-Road	0.8377	6.5439	4.9083	7.9100e-003		0.4817	0.4817		0.4702	0.4702		761.9163	761.9163	0.0989		763.9932
Total	0.8377	6.5439	4.9083	7.9100e-003		0.4817	0.4817		0.4702	0.4702		761.9163	761.9163	0.0989		763.9932

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0262	0.2595	0.3066	6.5000e-004	0.0188	4.1100e-003	0.0229	5.3400e-003	3.7800e-003	9.1200e-003		65.0577	65.0577	4.6000e-004		65.0674
Worker	0.0312	0.0403	0.4941	1.2200e-003	0.1006	7.0000e-004	0.1013	0.0267	6.5000e-004	0.0273		102.1141	102.1141	4.8000e-003		102.2150
Total	0.0575	0.2999	0.8007	1.8700e-003	0.1194	4.8100e-003	0.1242	0.0320	4.4300e-003	0.0365		167.1718	167.1718	5.2600e-003		167.2823

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	lb/day										lb/day					
Off-Road	0.8377	6.5439	4.9083	7.9100e-003		0.4817	0.4817		0.4702	0.4702	0.0000	761.9163	761.9163	0.0989		763.9932
Total	0.8377	6.5439	4.9083	7.9100e-003		0.4817	0.4817		0.4702	0.4702	0.0000	761.9163	761.9163	0.0989		763.9932

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0262	0.2595	0.3066	6.5000e-004	0.0175	4.1100e-003	0.0216	5.0400e-003	3.7800e-003	8.8200e-003		65.0577	65.0577	4.6000e-004		65.0674
Worker	0.0312	0.0403	0.4941	1.2200e-003	0.0927	7.0000e-004	0.0934	0.0248	6.5000e-004	0.0254		102.1141	102.1141	4.8000e-003		102.2150
Total	0.0575	0.2999	0.8007	1.8700e-003	0.1103	4.8100e-003	0.1151	0.0298	4.4300e-003	0.0342		167.1718	167.1718	5.2600e-003		167.2823

3.6 Paving - 2016

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	lb/day										lb/day					
Off-Road	1.4443	14.8172	10.1298	0.0150		0.8960	0.8960		0.8255	0.8255		1,532.3821	1,532.3821	0.4522		1,541.8788
Paving	1.2314					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.6757	14.8172	10.1298	0.0150		0.8960	0.8960		0.8255	0.8255		1,532.3821	1,532.3821	0.4522		1,541.8788

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0451	0.0583	0.7137	1.7600e-003	0.1453	1.0200e-003	0.1463	0.0385	9.4000e-004	0.0395		147.4982	147.4982	6.9400e-003		147.6439
Total	0.0451	0.0583	0.7137	1.7600e-003	0.1453	1.0200e-003	0.1463	0.0385	9.4000e-004	0.0395		147.4982	147.4982	6.9400e-003		147.6439

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	lb/day										lb/day					
Off-Road	1.4443	14.8172	10.1298	0.0150		0.8960	0.8960		0.8255	0.8255	0.0000	1,532.3821	1,532.3821	0.4522		1,541.8788
Paving	1.2314					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.6757	14.8172	10.1298	0.0150		0.8960	0.8960		0.8255	0.8255	0.0000	1,532.3821	1,532.3821	0.4522		1,541.8788

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0451	0.0583	0.7137	1.7600e-003	0.1339	1.0200e-003	0.1350	0.0358	9.4000e-004	0.0367		147.4982	147.4982	6.9400e-003		147.6439
Total	0.0451	0.0583	0.7137	1.7600e-003	0.1339	1.0200e-003	0.1350	0.0358	9.4000e-004	0.0367		147.4982	147.4982	6.9400e-003		147.6439

3.7 Architectural Coating - 2016

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	lb/day										lb/day					
Archit. Coating	1.1523					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449
Total	1.5207	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	6.9400e-003	8.9600e-003	0.1098	2.7000e-004	0.0224	1.6000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		22.6920	22.6920	1.0700e-003		22.7144
Total	6.9400e-003	8.9600e-003	0.1098	2.7000e-004	0.0224	1.6000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		22.6920	22.6920	1.0700e-003		22.7144

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	lb/day										lb/day					
Archit. Coating	1.1523					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332		282.1449
Total	1.5207	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332		282.1449

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	6.9400e-003	8.9600e-003	0.1098	2.7000e-004	0.0206	1.6000e-004	0.0208	5.5000e-003	1.4000e-004	5.6400e-003		22.6920	22.6920	1.0700e-003		22.7144
Total	6.9400e-003	8.9600e-003	0.1098	2.7000e-004	0.0206	1.6000e-004	0.0208	5.5000e-003	1.4000e-004	5.6400e-003		22.6920	22.6920	1.0700e-003		22.7144

3.8 Landscaping - 2016

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	lb/day										lb/day					
Off-Road	0.1141	1.4761	1.3898	2.0400e-003		0.0824	0.0824		0.0759	0.0759		211.4518	211.4518	0.0638		212.7912
Total	0.1141	1.4761	1.3898	2.0400e-003		0.0824	0.0824		0.0759	0.0759		211.4518	211.4518	0.0638		212.7912

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0262	0.2595	0.3066	6.5000e-004	0.0188	4.1100e-003	0.0229	5.3400e-003	3.7800e-003	9.1200e-003		65.0577	65.0577	4.6000e-004		65.0674
Worker	0.0312	0.0403	0.4941	1.2200e-003	0.1006	7.0000e-004	0.1013	0.0267	6.5000e-004	0.0273		102.1141	102.1141	4.8000e-003		102.2150
Total	0.0575	0.2999	0.8007	1.8700e-003	0.1194	4.8100e-003	0.1242	0.0320	4.4300e-003	0.0365		167.1718	167.1718	5.2600e-003		167.2823

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	lb/day										lb/day					
Off-Road	0.1141	1.4761	1.3898	2.0400e-003		0.0824	0.0824		0.0759	0.0759	0.0000	211.4518	211.4518	0.0638		212.7912
Total	0.1141	1.4761	1.3898	2.0400e-003		0.0824	0.0824		0.0759	0.0759	0.0000	211.4518	211.4518	0.0638		212.7912

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0262	0.2595	0.3066	6.5000e-004	0.0175	4.1100e-003	0.0216	5.0400e-003	3.7800e-003	8.8200e-003		65.0577	65.0577	4.6000e-004		65.0674
Worker	0.0312	0.0403	0.4941	1.2200e-003	0.0927	7.0000e-004	0.0934	0.0248	6.5000e-004	0.0254		102.1141	102.1141	4.8000e-003		102.2150
Total	0.0575	0.2999	0.8007	1.8700e-003	0.1103	4.8100e-003	0.1151	0.0298	4.4300e-003	0.0342		167.1718	167.1718	5.2600e-003		167.2823

3.9 Gas and Electrical Piping Connection - 2016

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	lb/day										lb/day					
Off-Road	0.8377	6.5439	4.9083	7.9100e-003		0.4817	0.4817		0.4702	0.4702		761.9163	761.9163	0.0989		763.9932
Total	0.8377	6.5439	4.9083	7.9100e-003		0.4817	0.4817		0.4702	0.4702		761.9163	761.9163	0.0989		763.9932

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0262	0.2595	0.3066	6.5000e-004	0.0188	4.1100e-003	0.0229	5.3400e-003	3.7800e-003	9.1200e-003		65.0577	65.0577	4.6000e-004		65.0674
Worker	0.0312	0.0403	0.4941	1.2200e-003	0.1006	7.0000e-004	0.1013	0.0267	6.5000e-004	0.0273		102.1141	102.1141	4.8000e-003		102.2150
Total	0.0575	0.2999	0.8007	1.8700e-003	0.1194	4.8100e-003	0.1242	0.0320	4.4300e-003	0.0365		167.1718	167.1718	5.2600e-003		167.2823

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	lb/day										lb/day					
Off-Road	0.8377	6.5439	4.9083	7.9100e-003		0.4817	0.4817		0.4702	0.4702	0.0000	761.9163	761.9163	0.0989		763.9932
Total	0.8377	6.5439	4.9083	7.9100e-003		0.4817	0.4817		0.4702	0.4702	0.0000	761.9163	761.9163	0.0989		763.9932

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0262	0.2595	0.3066	6.5000e-004	0.0175	4.1100e-003	0.0216	5.0400e-003	3.7800e-003	8.8200e-003		65.0577	65.0577	4.6000e-004		65.0674
Worker	0.0312	0.0403	0.4941	1.2200e-003	0.0927	7.0000e-004	0.0934	0.0248	6.5000e-004	0.0254		102.1141	102.1141	4.8000e-003		102.2150
Total	0.0575	0.2999	0.8007	1.8700e-003	0.1103	4.8100e-003	0.1151	0.0298	4.4300e-003	0.0342		167.1718	167.1718	5.2600e-003		167.2823

4.0 Operational Detail - Mobile

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	lb/day										lb/day					
Mitigated	1.2692	1.3123	7.0558	0.0118	0.7653	0.0149	0.7801	0.2042	0.0137	0.2179		989.5004	989.5004	0.0455		990.4558
Unmitigated	1.2692	1.3123	7.0558	0.0118	0.7653	0.0149	0.7801	0.2042	0.0137	0.2179		989.5004	989.5004	0.0455		990.4558

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Gasoline/Service Station	560.01	560.01	560.01	362,208	362,208
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	560.01	560.01	560.01	362,208	362,208

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Gasoline/Service Station	16.60	8.40	6.90	2.00	79.00	19.00	14	27	59
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510449	0.057012	0.191854	0.151889	0.041459	0.005887	0.015572	0.014818	0.001440	0.002145	0.004716	0.000509	0.002251

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

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	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Gasoline/Service Station	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

	Natural Gas 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/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Gasoline/Service Station	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

	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	lb/day										lb/day					
Mitigated	0.4118	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9400e-003
Unmitigated	0.4142	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9400e-003

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	lb/day										lb/day					
Architectural Coating	3.9500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.4000e-004	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9400e-003
Total	0.4142	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9400e-003

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	lb/day										lb/day					
Architectural Coating	1.5800e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.4000e-004	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9400e-003
Total	0.4118	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9400e-003

7.0 Water Detail

7.1 Mitigation Measures Water

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Vegetation

**CNG Fueling Facility
Orange County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.59	Acre	1.59	0.00	0
Parking Lot	14.70	1000sqft	0.34	14,700.00	0
Parking Lot	15.00	Space	0.13	6,000.00	0
Gasoline/Service Station	3.00	Pump	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Gas station land use is a placeholder only for the trip rate. Other non-asphalt surfaces assumes to not generate emissions.

Construction Phase - Based on information provided by the District.

Off-road Equipment -

Off-road Equipment - Assumes only 1 tractor/loader/backhoe.

Off-road Equipment - Assumes only forklift and generator set for this activity.

Off-road Equipment - Assumes 1 forklift and generator set.

Off-road Equipment -

Off-road Equipment - Assumes skid steer loader.

Off-road Equipment - Assumes 1 roller only.

Off-road Equipment - Based on information provided by the District.

Trips and VMT - Assumes 4 water truck trip ends per day.

Demolition -

Grading -

Architectural Coating - Per SCAQMD Rule 1113.

Vehicle Trips - Based on information provided by Garland Associates.

Water And Wastewater - Assumes no net increase in water usage over current operations.

Solid Waste - Assumes no net increase in solid waste generation over current operations.

Area Mitigation - Per SCAQMD Rule 1113.

Construction Off-road Equipment Mitigation - SCAQMD Rules 403 and 1186.

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	220.00	3.00
tblConstructionPhase	NumDays	220.00	9.00
tblConstructionPhase	NumDays	220.00	4.00
tblConstructionPhase	NumDays	20.00	9.00

tblConstructionPhase	NumDays	6.00	4.00
tblConstructionPhase	NumDays	10.00	1.00
tblConstructionPhase	PhaseEndDate	3/3/2016	3/24/2016
tblConstructionPhase	PhaseEndDate	5/5/2016	5/26/2016
tblConstructionPhase	PhaseEndDate	6/1/2016	5/26/2016
tblConstructionPhase	PhaseEndDate	4/18/2016	2/29/2016
tblConstructionPhase	PhaseEndDate	3/25/2016	4/15/2016
tblConstructionPhase	PhaseEndDate	4/18/2016	4/12/2016
tblConstructionPhase	PhaseStartDate	3/1/2016	3/22/2016
tblConstructionPhase	PhaseStartDate	4/23/2016	5/16/2016
tblConstructionPhase	PhaseStartDate	5/27/2016	5/23/2016
tblConstructionPhase	PhaseStartDate	4/13/2016	2/24/2016
tblConstructionPhase	PhaseStartDate	3/25/2016	4/15/2016
tblConstructionPhase	PhaseStartDate	2/20/2016	2/16/2016
tblLandUse	LandUseSquareFeet	69,260.40	0.00
tblLandUse	LandUseSquareFeet	423.52	0.00
tblLandUse	LotAcreage	0.01	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblSolidWaste	SolidWasteGenerationRate	1.62	0.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblVehicleTrips	ST_TR	162.78	186.67
tblVehicleTrips	SU_TR	162.78	186.67
tblVehicleTrips	WD_TR	162.78	186.67
tblWater	IndoorWaterUseRate	39,845.67	0.00
tblWater	OutdoorWaterUseRate	24,421.54	0.00

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					
2016	0.0325	0.2732	0.2137	2.8000e-004	0.0159	0.0172	0.0331	7.4500e-003	0.0160	0.0235	0.0000	25.0636	25.0636	5.7200e-003	0.0000	25.1836
Total	0.0325	0.2732	0.2137	2.8000e-004	0.0159	0.0172	0.0331	7.4500e-003	0.0160	0.0235	0.0000	25.0636	25.0636	5.7200e-003	0.0000	25.1836

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					
2016	0.0325	0.2732	0.2137	2.8000e-004	8.0500e-003	0.0172	0.0252	3.5300e-003	0.0160	0.0196	0.0000	25.0636	25.0636	5.7200e-003	0.0000	25.1836
Total	0.0325	0.2732	0.2137	2.8000e-004	8.0500e-003	0.0172	0.0252	3.5300e-003	0.0160	0.0196	0.0000	25.0636	25.0636	5.7200e-003	0.0000	25.1836

	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
Percent Reduction	0.00	0.00	0.00	0.00	49.37	0.00	23.74	52.62	0.00	16.69	0.00	0.00	0.00	0.00	0.00	0.00

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	0.0756	0.0000	4.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.5000e-004	8.5000e-004	0.0000	0.0000	9.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.2128	5.2128	2.4000e-004	5.0000e-005	5.2332
Mobile	0.2317	0.2523	1.4127	2.0800e-003	0.1368	2.7200e-003	0.1395	0.0366	2.5000e-003	0.0391	0.0000	158.3099	158.3099	7.5100e-003	0.0000	158.4676
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.3072	0.2523	1.4132	2.0800e-003	0.1368	2.7200e-003	0.1395	0.0366	2.5000e-003	0.0391	0.0000	163.5236	163.5236	7.7500e-003	5.0000e-005	163.7017

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	0.0751	0.0000	4.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.5000e-004	8.5000e-004	0.0000	0.0000	9.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.2128	5.2128	2.4000e-004	5.0000e-005	5.2332
Mobile	0.2317	0.2523	1.4127	2.0800e-003	0.1368	2.7200e-003	0.1395	0.0366	2.5000e-003	0.0391	0.0000	158.3099	158.3099	7.5100e-003	0.0000	158.4676
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.3068	0.2523	1.4132	2.0800e-003	0.1368	2.7200e-003	0.1395	0.0366	2.5000e-003	0.0391	0.0000	163.5236	163.5236	7.7500e-003	5.0000e-005	163.7017

	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
Percent Reduction	0.14	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/9/2016	2/19/2016	5	9	
2	Trenching	Trenching	2/16/2016	4/12/2016	5	41	
3	Grading	Grading	2/24/2016	2/29/2016	5	4	
4	Equipment Installation	Building Construction	3/22/2016	3/24/2016	5	3	
5	Paving	Paving	4/15/2016	4/15/2016	5	1	
6	Architectural Coating	Architectural Coating	4/16/2016	4/22/2016	5	5	
7	Landscaping	Building Construction	5/16/2016	5/26/2016	5	9	

8	Gas and Electrical Piping Connection	Building Construction	5/23/2016	5/26/2016	5	4
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Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 932; Non-Residential Outdoor: 311 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Equipment Installation	Cranes	0	8.00	226	0.29
Equipment Installation	Forklifts	1	7.00	89	0.20
Equipment Installation	Generator Sets	1	8.00	84	0.74
Equipment Installation	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Equipment Installation	Welders	0	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Landscaping	Cranes	0	8.00	226	0.29
Landscaping	Forklifts	0	7.00	89	0.20
Landscaping	Generator Sets	0	8.00	84	0.74
Landscaping	Skid Steer Loaders	1	8.00	64	0.37
Landscaping	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Landscaping	Welders	0	8.00	46	0.45
Gas and Electrical Piping Connection	Cranes	0	8.00	226	0.29
Gas and Electrical Piping Connection	Forklifts	1	7.00	89	0.20
Gas and Electrical Piping Connection	Generator Sets	1	8.00	84	0.74
Gas and Electrical Piping Connection	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Gas and Electrical Piping Connection	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	3	8.00	4.00	2.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Equipment Installation	2	9.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Landscaping	1	9.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Gas and Electrical Piping Connection	2	9.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2016

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					2.7000e-004	0.0000	2.7000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0100	0.0979	0.0750	8.0000e-005		5.5900e-003	5.5900e-003		5.2700e-003	5.2700e-003	0.0000	7.5106	7.5106	1.7700e-003	0.0000	7.5477
Total	0.0100	0.0979	0.0750	8.0000e-005	2.7000e-004	5.5900e-003	5.8600e-003	4.0000e-005	5.2700e-003	5.3100e-003	0.0000	7.5106	7.5106	1.7700e-003	0.0000	7.5477

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	2.0000e-005	2.9000e-004	2.2000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0672	0.0672	0.0000	0.0000	0.0672
Vendor	1.7000e-004	1.6200e-003	2.1200e-003	0.0000	1.1000e-004	2.0000e-005	1.4000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.3529	0.3529	0.0000	0.0000	0.3529
Worker	1.2000e-004	1.8000e-004	1.9000e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.0000e-004	0.0000	1.1000e-004	0.0000	0.3562	0.3562	2.0000e-005	0.0000	0.3566
Total	3.1000e-004	2.0900e-003	4.2400e-003	0.0000	5.3000e-004	2.0000e-005	5.6000e-004	1.3000e-004	2.0000e-005	1.7000e-004	0.0000	0.7763	0.7763	2.0000e-005	0.0000	0.7767

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					1.1000e-004	0.0000	1.1000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0100	0.0979	0.0750	8.0000e-005		5.5900e-003	5.5900e-003		5.2700e-003	5.2700e-003	0.0000	7.5106	7.5106	1.7700e-003	0.0000	7.5477
Total	0.0100	0.0979	0.0750	8.0000e-005	1.1000e-004	5.5900e-003	5.7000e-003	2.0000e-005	5.2700e-003	5.2900e-003	0.0000	7.5106	7.5106	1.7700e-003	0.0000	7.5477

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	2.0000e-005	2.9000e-004	2.2000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0672	0.0672	0.0000	0.0000	0.0672
Vendor	1.7000e-004	1.6200e-003	2.1200e-003	0.0000	1.0000e-004	2.0000e-005	1.3000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.3529	0.3529	0.0000	0.0000	0.3529
Worker	1.2000e-004	1.8000e-004	1.9000e-003	0.0000	3.6000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3562	0.3562	2.0000e-005	0.0000	0.3566
Total	3.1000e-004	2.0900e-003	4.2400e-003	0.0000	4.8000e-004	2.0000e-005	5.2000e-004	1.3000e-004	2.0000e-005	1.6000e-004	0.0000	0.7763	0.7763	2.0000e-005	0.0000	0.7767

3.3 Trenching - 2016

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	6.9800e-003	0.0667	0.0495	6.0000e-005		5.1400e-003	5.1400e-003		4.7300e-003	4.7300e-003	0.0000	6.0195	6.0195	1.8200e-003	0.0000	6.0577
Total	6.9800e-003	0.0667	0.0495	6.0000e-005		5.1400e-003	5.1400e-003		4.7300e-003	4.7300e-003	0.0000	6.0195	6.0195	1.8200e-003	0.0000	6.0577

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	3.1000e-004	3.2500e-003	1.0000e-005	6.8000e-004	0.0000	6.8000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6086	0.6086	3.0000e-005	0.0000	0.6092
Total	2.1000e-004	3.1000e-004	3.2500e-003	1.0000e-005	6.8000e-004	0.0000	6.8000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6086	0.6086	3.0000e-005	0.0000	0.6092

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	6.9800e-003	0.0667	0.0495	6.0000e-005		5.1400e-003	5.1400e-003		4.7300e-003	4.7300e-003	0.0000	6.0195	6.0195	1.8200e-003	0.0000	6.0576
Total	6.9800e-003	0.0667	0.0495	6.0000e-005		5.1400e-003	5.1400e-003		4.7300e-003	4.7300e-003	0.0000	6.0195	6.0195	1.8200e-003	0.0000	6.0576

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	3.1000e-004	3.2500e-003	1.0000e-005	6.2000e-004	0.0000	6.3000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.6086	0.6086	3.0000e-005	0.0000	0.6092
Total	2.1000e-004	3.1000e-004	3.2500e-003	1.0000e-005	6.2000e-004	0.0000	6.3000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.6086	0.6086	3.0000e-005	0.0000	0.6092

3.4 Grading - 2016

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					0.0131	0.0000	0.0131	6.7300e-003	0.0000	6.7300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7100e-003	0.0599	0.0393	4.0000e-005		3.3300e-003	3.3300e-003		3.0700e-003	3.0700e-003	0.0000	3.8814	3.8814	1.1700e-003	0.0000	3.9060
Total	5.7100e-003	0.0599	0.0393	4.0000e-005	0.0131	3.3300e-003	0.0164	6.7300e-003	3.0700e-003	9.8000e-003	0.0000	3.8814	3.8814	1.1700e-003	0.0000	3.9060

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-005	7.2000e-004	9.4000e-004	0.0000	5.0000e-005	1.0000e-005	6.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1568	0.1568	0.0000	0.0000	0.1569
Worker	7.0000e-005	1.0000e-004	1.0600e-003	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1979	0.1979	1.0000e-005	0.0000	0.1981
Total	1.4000e-004	8.2000e-004	2.0000e-003	0.0000	2.7000e-004	1.0000e-005	2.8000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.3547	0.3547	1.0000e-005	0.0000	0.3550

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					5.6000e-003	0.0000	5.6000e-003	2.8800e-003	0.0000	2.8800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7100e-003	0.0599	0.0393	4.0000e-005		3.3300e-003	3.3300e-003		3.0700e-003	3.0700e-003	0.0000	3.8814	3.8814	1.1700e-003	0.0000	3.9060
Total	5.7100e-003	0.0599	0.0393	4.0000e-005	5.6000e-003	3.3300e-003	8.9300e-003	2.8800e-003	3.0700e-003	5.9500e-003	0.0000	3.8814	3.8814	1.1700e-003	0.0000	3.9060

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-005	7.2000e-004	9.4000e-004	0.0000	5.0000e-005	1.0000e-005	6.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1568	0.1568	0.0000	0.0000	0.1569
Worker	7.0000e-005	1.0000e-004	1.0600e-003	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	6.0000e-005	0.0000	0.1979	0.1979	1.0000e-005	0.0000	0.1981
Total	1.4000e-004	8.2000e-004	2.0000e-003	0.0000	2.5000e-004	1.0000e-005	2.6000e-004	6.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.3547	0.3547	1.0000e-005	0.0000	0.3550

3.5 Equipment Installation - 2016

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	1.2600e-003	9.8200e-003	7.3600e-003	1.0000e-005		7.2000e-004	7.2000e-004		7.1000e-004	7.1000e-004	0.0000	1.0368	1.0368	1.3000e-004	0.0000	1.0396
Total	1.2600e-003	9.8200e-003	7.3600e-003	1.0000e-005		7.2000e-004	7.2000e-004		7.1000e-004	7.1000e-004	0.0000	1.0368	1.0368	1.3000e-004	0.0000	1.0396

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	4.1000e-004	5.3000e-004	0.0000	3.0000e-005	1.0000e-005	3.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.0882	0.0882	0.0000	0.0000	0.0882
Worker	5.0000e-005	7.0000e-005	7.1000e-004	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1336	0.1336	1.0000e-005	0.0000	0.1337
Total	9.0000e-005	4.8000e-004	1.2400e-003	0.0000	1.8000e-004	1.0000e-005	1.8000e-004	5.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.2218	0.2218	1.0000e-005	0.0000	0.2220

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	1.2600e-003	9.8200e-003	7.3600e-003	1.0000e-005		7.2000e-004	7.2000e-004		7.1000e-004	7.1000e-004	0.0000	1.0368	1.0368	1.3000e-004	0.0000	1.0396
Total	1.2600e-003	9.8200e-003	7.3600e-003	1.0000e-005		7.2000e-004	7.2000e-004		7.1000e-004	7.1000e-004	0.0000	1.0368	1.0368	1.3000e-004	0.0000	1.0396

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	4.1000e-004	5.3000e-004	0.0000	3.0000e-005	1.0000e-005	3.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.0882	0.0882	0.0000	0.0000	0.0882
Worker	5.0000e-005	7.0000e-005	7.1000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1336	0.1336	1.0000e-005	0.0000	0.1337
Total	9.0000e-005	4.8000e-004	1.2400e-003	0.0000	1.7000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.2218	0.2218	1.0000e-005	0.0000	0.2220

3.6 Paving - 2016

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	7.2000e-004	7.4100e-003	5.0600e-003	1.0000e-005		4.5000e-004	4.5000e-004		4.1000e-004	4.1000e-004	0.0000	0.6951	0.6951	2.1000e-004	0.0000	0.6994
Paving	6.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.3400e-003	7.4100e-003	5.0600e-003	1.0000e-005		4.5000e-004	4.5000e-004		4.1000e-004	4.1000e-004	0.0000	0.6951	0.6951	2.1000e-004	0.0000	0.6994

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	3.0000e-005	3.4000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0643	0.0643	0.0000	0.0000	0.0644
Total	2.0000e-005	3.0000e-005	3.4000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0643	0.0643	0.0000	0.0000	0.0644

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	7.2000e-004	7.4100e-003	5.0600e-003	1.0000e-005		4.5000e-004	4.5000e-004		4.1000e-004	4.1000e-004	0.0000	0.6951	0.6951	2.1000e-004	0.0000	0.6994
Paving	6.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.3400e-003	7.4100e-003	5.0600e-003	1.0000e-005		4.5000e-004	4.5000e-004		4.1000e-004	4.1000e-004	0.0000	0.6951	0.6951	2.1000e-004	0.0000	0.6994

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	3.0000e-005	3.4000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0643	0.0643	0.0000	0.0000	0.0644
Total	2.0000e-005	3.0000e-005	3.4000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0643	0.0643	0.0000	0.0000	0.0644

3.7 Architectural Coating - 2016

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	2.8800e-003						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	9.2000e-004	5.9300e-003	4.7100e-003	1.0000e-005			4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	0.6383	0.6383	8.0000e-005	0.0000	0.6399
Total	3.8000e-003	5.9300e-003	4.7100e-003	1.0000e-005			4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	0.6383	0.6383	8.0000e-005	0.0000	0.6399

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	3.0000e-005	2.6000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0495	0.0495	0.0000	0.0000	0.0495
Total	2.0000e-005	3.0000e-005	2.6000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0495	0.0495	0.0000	0.0000	0.0495

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	2.8800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2000e-004	5.9300e-003	4.7100e-003	1.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	0.6383	0.6383	8.0000e-005	0.0000	0.6399
Total	3.8000e-003	5.9300e-003	4.7100e-003	1.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	0.6383	0.6383	8.0000e-005	0.0000	0.6399

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	3.0000e-005	2.6000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0495	0.0495	0.0000	0.0000	0.0495
Total	2.0000e-005	3.0000e-005	2.6000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0495	0.0495	0.0000	0.0000	0.0495

3.8 Landscaping - 2016

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	5.1000e-004	6.6400e-003	6.2500e-003	1.0000e-005		3.7000e-004	3.7000e-004		3.4000e-004	3.4000e-004	0.0000	0.8632	0.8632	2.6000e-004	0.0000	0.8687
Total	5.1000e-004	6.6400e-003	6.2500e-003	1.0000e-005		3.7000e-004	3.7000e-004		3.4000e-004	3.4000e-004	0.0000	0.8632	0.8632	2.6000e-004	0.0000	0.8687

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3000e-004	1.2200e-003	1.5900e-003	0.0000	8.0000e-005	2.0000e-005	1.0000e-004	2.0000e-005	2.0000e-005	4.0000e-005	0.0000	0.2647	0.2647	0.0000	0.0000	0.2647
Worker	1.4000e-004	2.0000e-004	2.1400e-003	1.0000e-005	4.4000e-004	0.0000	4.5000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4008	0.4008	2.0000e-005	0.0000	0.4012
Total	2.7000e-004	1.4200e-003	3.7300e-003	1.0000e-005	5.2000e-004	2.0000e-005	5.5000e-004	1.4000e-004	2.0000e-005	1.6000e-004	0.0000	0.6654	0.6654	2.0000e-005	0.0000	0.6659

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	5.1000e-004	6.6400e-003	6.2500e-003	1.0000e-005		3.7000e-004	3.7000e-004		3.4000e-004	3.4000e-004	0.0000	0.8632	0.8632	2.6000e-004	0.0000	0.8687
Total	5.1000e-004	6.6400e-003	6.2500e-003	1.0000e-005		3.7000e-004	3.7000e-004		3.4000e-004	3.4000e-004	0.0000	0.8632	0.8632	2.6000e-004	0.0000	0.8687

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3000e-004	1.2200e-003	1.5900e-003	0.0000	8.0000e-005	2.0000e-005	1.0000e-004	2.0000e-005	2.0000e-005	4.0000e-005	0.0000	0.2647	0.2647	0.0000	0.0000	0.2647
Worker	1.4000e-004	2.0000e-004	2.1400e-003	1.0000e-005	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.4008	0.4008	2.0000e-005	0.0000	0.4012
Total	2.7000e-004	1.4200e-003	3.7300e-003	1.0000e-005	4.9000e-004	2.0000e-005	5.1000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	0.6654	0.6654	2.0000e-005	0.0000	0.6659

3.9 Gas and Electrical Piping Connection - 2016

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	1.6800e-003	0.0131	9.8200e-003	2.0000e-005		9.6000e-004	9.6000e-004		9.4000e-004	9.4000e-004	0.0000	1.3824	1.3824	1.8000e-004	0.0000	1.3862
Total	1.6800e-003	0.0131	9.8200e-003	2.0000e-005		9.6000e-004	9.6000e-004		9.4000e-004	9.4000e-004	0.0000	1.3824	1.3824	1.8000e-004	0.0000	1.3862

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	5.4000e-004	7.1000e-004	0.0000	4.0000e-005	1.0000e-005	5.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1176	0.1176	0.0000	0.0000	0.1176
Worker	6.0000e-005	9.0000e-005	9.5000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1781	0.1781	1.0000e-005	0.0000	0.1783
Total	1.2000e-004	6.3000e-004	1.6600e-003	0.0000	2.4000e-004	1.0000e-005	2.5000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.2957	0.2957	1.0000e-005	0.0000	0.2959

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	1.6800e-003	0.0131	9.8200e-003	2.0000e-005		9.6000e-004	9.6000e-004		9.4000e-004	9.4000e-004	0.0000	1.3824	1.3824	1.8000e-004	0.0000	1.3862
Total	1.6800e-003	0.0131	9.8200e-003	2.0000e-005		9.6000e-004	9.6000e-004		9.4000e-004	9.4000e-004	0.0000	1.3824	1.3824	1.8000e-004	0.0000	1.3862

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	5.4000e-004	7.1000e-004	0.0000	3.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1176	0.1176	0.0000	0.0000	0.1176
Worker	6.0000e-005	9.0000e-005	9.5000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1781	0.1781	1.0000e-005	0.0000	0.1783
Total	1.2000e-004	6.3000e-004	1.6600e-003	0.0000	2.1000e-004	1.0000e-005	2.2000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.2957	0.2957	1.0000e-005	0.0000	0.2959

4.0 Operational Detail - Mobile

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	0.2317	0.2523	1.4127	2.0800e-003	0.1368	2.7200e-003	0.1395	0.0366	2.5000e-003	0.0391	0.0000	158.3099	158.3099	7.5100e-003	0.0000	158.4676
Unmitigated	0.2317	0.2523	1.4127	2.0800e-003	0.1368	2.7200e-003	0.1395	0.0366	2.5000e-003	0.0391	0.0000	158.3099	158.3099	7.5100e-003	0.0000	158.4676

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Gasoline/Service Station	560.01	560.01	560.01	362,208	362,208
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	560.01	560.01	560.01	362,208	362,208

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Gasoline/Service Station	16.60	8.40	6.90	2.00	79.00	19.00	14	27	59
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510449	0.057012	0.191854	0.151889	0.041459	0.005887	0.015572	0.014818	0.001440	0.002145	0.004716	0.000509	0.002251

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

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						0.0000	0.0000		0.0000	0.0000	0.0000	5.2128	5.2128	2.4000e-004	5.0000e-005	5.2332
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	5.2128	5.2128	2.4000e-004	5.0000e-005	5.2332
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Gasoline/Service Station	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

	Natural Gas 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/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Gasoline/Service Station	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Gasoline/Service Station	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	12936	3.7019	1.7000e-004	4.0000e-005	3.7163
Parking Lot	5280	1.5110	7.0000e-005	1.0000e-005	1.5169
Total		5.2128	2.4000e-004	5.0000e-005	5.2332

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Gasoline/Service Station	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	12936	3.7019	1.7000e-004	4.0000e-005	3.7163
Parking Lot	5280	1.5110	7.0000e-005	1.0000e-005	1.5169
Total		5.2128	2.4000e-004	5.0000e-005	5.2332

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior
 Use Low VOC Paint - Non-Residential Exterior

	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	0.0751	0.0000	4.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.5000e-004	8.5000e-004	0.0000	0.0000	9.0000e-004
Unmitigated	0.0756	0.0000	4.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.5000e-004	8.5000e-004	0.0000	0.0000	9.0000e-004

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	7.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0748					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.5000e-004	8.5000e-004	0.0000	0.0000	9.0000e-004
Total	0.0756	0.0000	4.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.5000e-004	8.5000e-004	0.0000	0.0000	9.0000e-004

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	2.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0748					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.5000e-004	8.5000e-004	0.0000	0.0000	9.0000e-004

Total	0.0751	0.0000	4.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.5000e-004	8.5000e-004	0.0000	0.0000	9.0000e-004
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7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Gasoline/Service Station	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000

Total		0.0000	0.0000	0.0000	0.0000
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Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Gasoline/Service Station	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000

Unmitigated	0.0000	0.0000	0.0000	0.0000
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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Gasoline/Service Station	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Gasoline/Service Station	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Vegetation

**CNG Fueling Facility
Orange County, Mitigation Report**

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment Installation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gas and Electrical Piping Connection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.00	0.00	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
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trenching	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	1	No Change	0.00
Cement and Mortar Mixers	Diesel	No Change	0	1	No Change	0.00
Concrete/Industrial Saws	Diesel	No Change	0	1	No Change	0.00
Cranes	Diesel	No Change	0	0	No Change	0.00
Forklifts	Diesel	No Change	0	2	No Change	0.00
Generator Sets	Diesel	No Change	0	2	No Change	0.00
Graders	Diesel	No Change	0	1	No Change	0.00

Pavers	Diesel	No Change	0	1	No Change	0.00
Paving Equipment	Diesel	No Change	0	1	No Change	0.00
Rollers	Diesel	No Change	0	1	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	2	No Change	0.00
Skid Steer Loaders	Diesel	No Change	0	1	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	5	No Change	0.00
Welders	Diesel	No Change	0	0	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr							Unmitigated mt/yr					
Air Compressors	9.20000E-004	5.93000E-003	4.71000E-003	1.00000E-005	4.90000E-004	4.90000E-004	0.00000E+000	6.38310E-001	6.38310E-001	8.00000E-005	0.00000E+000	6.39890E-001
Cement and Mortar Mixers	3.00000E-005	1.80000E-004	1.50000E-004	0.00000E+000	1.00000E-005	1.00000E-005	0.00000E+000	2.29100E-002	2.29100E-002	0.00000E+000	0.00000E+000	2.29600E-002
Concrete/Industrial Saws	2.91000E-003	2.08000E-002	1.69900E-002	3.00000E-005	1.56000E-003	1.56000E-003	0.00000E+000	2.41946E+000	2.41946E+000	2.30000E-004	0.00000E+000	2.42437E+000
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Forklifts	6.90000E-004	5.98000E-003	3.87000E-003	0.00000E+000	5.00000E-004	4.60000E-004	0.00000E+000	4.40970E-001	4.40970E-001	1.30000E-004	0.00000E+000	4.43760E-001
Generator Sets	2.24000E-003	1.69200E-002	1.33100E-002	2.00000E-005	1.19000E-003	1.19000E-003	0.00000E+000	1.97823E+000	1.97823E+000	1.80000E-004	0.00000E+000	1.98203E+000
Graders	2.04000E-003	2.07600E-002	9.86000E-003	1.00000E-005	1.17000E-003	1.07000E-003	0.00000E+000	1.17826E+000	1.17826E+000	3.60000E-004	0.00000E+000	1.18573E+000
Pavers	2.00000E-004	2.26000E-003	1.43000E-003	0.00000E+000	1.10000E-004	1.00000E-004	0.00000E+000	2.12750E-001	2.12750E-001	6.00000E-005	0.00000E+000	2.14090E-001
Paving Equipment	1.50000E-004	1.78000E-003	1.27000E-003	0.00000E+000	9.00000E-005	8.00000E-005	0.00000E+000	1.89000E-001	1.89000E-001	6.00000E-005	0.00000E+000	1.90200E-001
Rollers	1.70000E-004	1.56000E-003	1.01000E-003	0.00000E+000	1.10000E-004	1.10000E-004	0.00000E+000	1.23590E-001	1.23590E-001	4.00000E-005	0.00000E+000	1.24380E-001
Rubber Tired Dozers	8.05000E-003	9.01600E-002	6.81500E-002	6.00000E-005	4.20000E-003	3.86000E-003	0.00000E+000	5.44520E+000	5.44520E+000	1.64000E-003	0.00000E+000	5.47969E+000
Skid Steer Loaders	5.10000E-004	6.64000E-003	6.25000E-003	1.00000E-005	3.70000E-004	3.40000E-004	0.00000E+000	8.63220E-001	8.63220E-001	2.60000E-004	0.00000E+000	8.68680E-001
Tractors/Loaders/Backhoes	9.88000E-003	9.44000E-002	6.99700E-002	9.00000E-005	7.27000E-003	6.69000E-003	0.00000E+000	8.51542E+000	8.51542E+000	2.57000E-003	0.00000E+000	8.56936E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr						Mitigated mt/yr						
Air Compressors	9.2000E-004	5.9300E-003	4.7100E-003	1.0000E-005	4.9000E-004	4.9000E-004	0.0000E+000	6.3831E-001	6.3831E-001	8.0000E-005	0.0000E+000	6.3989E-001
Cement and Mortar Mixers	3.0000E-005	1.8000E-004	1.5000E-004	0.0000E+000	1.0000E-005	1.0000E-005	0.0000E+000	2.2910E-002	2.2910E-002	0.0000E+000	0.0000E+000	2.2960E-002
Concrete/Industrial Saws	2.9100E-003	2.0800E-002	1.6990E-002	3.0000E-005	1.5600E-003	1.5600E-003	0.0000E+000	2.4194E+000	2.4194E+000	2.3000E-004	0.0000E+000	2.4243E+000
Cranes	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000
Forklifts	6.9000E-004	5.9800E-003	3.8700E-003	0.0000E+000	5.0000E-004	4.6000E-004	0.0000E+000	4.4097E-001	4.4097E-001	1.3000E-004	0.0000E+000	4.4376E-001
Generator Sets	2.2400E-003	1.6920E-002	1.3310E-002	2.0000E-005	1.1900E-003	1.1900E-003	0.0000E+000	1.9782E+000	1.9782E+000	1.8000E-004	0.0000E+000	1.9820E+000
Graders	2.0400E-003	2.0760E-002	9.8500E-003	1.0000E-005	1.1700E-003	1.0700E-003	0.0000E+000	1.1782E+000	1.1782E+000	3.6000E-004	0.0000E+000	1.1857E+000
Pavers	2.0000E-004	2.2600E-003	1.4300E-003	0.0000E+000	1.1000E-004	1.0000E-004	0.0000E+000	2.1275E-001	2.1275E-001	6.0000E-005	0.0000E+000	2.1409E-001
Paving Equipment	1.5000E-004	1.7800E-003	1.2700E-003	0.0000E+000	9.0000E-005	8.0000E-005	0.0000E+000	1.8900E-001	1.8900E-001	6.0000E-005	0.0000E+000	1.9020E-001
Rollers	1.7000E-004	1.5600E-003	1.0100E-003	0.0000E+000	1.1000E-004	1.1000E-004	0.0000E+000	1.2359E-001	1.2359E-001	4.0000E-005	0.0000E+000	1.2438E-001
Rubber Tired Dozers	8.0500E-003	9.0160E-002	6.8150E-002	6.0000E-005	4.2000E-003	3.8600E-003	0.0000E+000	5.4452E+000	5.4452E+000	1.6400E-003	0.0000E+000	5.4796E+000
Skid Steer Loaders	5.1000E-004	6.6400E-003	6.2500E-003	1.0000E-005	3.7000E-004	3.4000E-004	0.0000E+000	8.6322E-001	8.6322E-001	2.6000E-004	0.0000E+000	8.6868E-001
Tractors/Loaders/Balkhoes	9.8800E-003	9.4400E-002	6.9970E-002	9.0000E-005	7.2700E-003	6.6900E-003	0.0000E+000	8.5154E+000	8.5154E+000	2.5700E-003	0.0000E+000	8.5693E+000
Welders	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000
Cement and Mortar Mixers	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000
Concrete/Industrial Saws	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	4.1331E-006	4.1331E-006	0.0000E+000	0.0000E+000	0.0000E+000
Cranes	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000
Forklifts	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000
Generator Sets	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	5.0550E-006	5.0550E-006	0.0000E+000	0.0000E+000	5.0453E-006
Graders	0.0000E+000	0.0000E+000	1.0142E-003	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000
Pavers	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000
Paving Equipment	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000	0.0000E+000

Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Skid Steer Loaders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Bac khoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.17434E-006	1.17434E-006	0.00000E+000	0.00000E+000	1.16695E-006	
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input	Mitigation Input		
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Replace Ground Cover of Area Disturbed	PM10 Reduction	5.00	PM2.5 Reduction	5.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
Yes	Clean Paved Road	% PM Reduction	9.00				

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	Fugitive Dust	0.00	0.00	0.00	0.00	0.59	0.50
Demolition	Roads	0.00	0.00	0.00	0.00	0.09	0.00
Equipment Installation	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Equipment Installation	Roads	0.00	0.00	0.00	0.00	0.06	0.00
Gas and Electrical Piping Connection	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Gas and Electrical Piping Connection	Roads	0.00	0.00	0.00	0.00	0.13	0.00
Grading	Fugitive Dust	0.01	0.01	0.01	0.00	0.57	0.57
Grading	Roads	0.00	0.00	0.00	0.00	0.07	0.14

Landscaping	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	Roads	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.07
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trenching	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trenching	Roads	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.06

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	59.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	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
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.00	0.15		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			

No	Land Use	Increase Transit Accessibility	0.25		
No	Land Use	Integrate Below Market Rate Housing	0.00		
	Land Use	Land Use SubTotal	0.00		
No	Neighborhood Enhancements	Improve Pedestrian Network			
No	Neighborhood Enhancements	Provide Traffic Calming Measures			
No	Neighborhood Enhancements	Implement NEV Network	0.00		
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00		
No	Parking Policy Pricing	Limit Parking Supply	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00		
No	Transit Improvements	Provide BRT System	0.00		
No	Transit Improvements	Expand Transit Network	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		
	Transit Improvements	Transit Improvements Subtotal	0.00		
		Land Use and Site Enhancement Subtotal	0.00		
No	Commute	Implement Trip Reduction Program			
No	Commute	Transit Subsidy			
No	Commute	Implement Employee Parking "Cash Out"			
No	Commute	Workplace Parking Charge			
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00		
No	Commute	Market Commute Trip Reduction Option	0.00		
No	Commute	Employee Vanpool/Shuttle	0.00		2.00
No	Commute	Provide Ride Sharing Program			
	Commute	Commute Subtotal	0.00		
No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.00		

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	50.00
No	Use Low VOC Paint (Residential Exterior)	100.00
Yes	Use Low VOC Paint (Non-residential Interior)	100.00
Yes	Use Low VOC Paint (Non-residential Exterior)	100.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
No	Use Reclaimed Water	0.00	0.00
No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
Yes	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

Operation Localized Significance Thresholds - Non-Residential

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
16	1.93	25	82

Source Receptor Distance (meters) **North Orange County**
 25
NOx 144
CO 745

	Acres	25	50	100	200	500
NOx	1	103	104	121	159	252
	2	147	143	156	186	269
CO	1	144	140	154	184	268
	2	522	685	1014	1975	6531
PM10	1	762	1010	1395	2444	7121
	2	745	987	1368	2411	7080
PM2.5	1	1	3	6	13	33
	2	2	4	8	15	35
PM2.5	1	2	4	8	15	35
	2	1	1	3	5	18
PM2.5	1	1	2	3	6	19
	2	1	1	3	5	19

North Orange County

1.93 Acres

	25	50	100	200	500
NOx	144	140	154	184	268
CO	745	987	1368	2411	7080
PM10	2	4	8	15	35
PM2.5	1	2	3	6	19

N
9

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
16	1	16	2
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2010 - Table C-1. 2006 – 2008

Operation Localized Significance Thresholds - Residential

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
16	1.93	201	660

Source Receptor **North Orange County**
 Distance (meters) 201

PM10 **14.94**
PM2.5 **5.05**

	Acres	25	50	100	200	500
NOx	1	103	104	121	159	252
	2	147	143	156	186	269
CO	1	144	140	154	184	268
	2	522	685	1014	1975	6531
PM10	1	762	1010	1395	2444	7121
	2	745	987	1368	2411	7080
PM2.5	1	1	3	6	13	33
	2	2	4	8	15	35
PM2.5	1	2	4	8	15	35
	2	1	1	3	5	18
PM2.5	1	1	2	3	6	19
	2	1	1	3	5	19

North Orange County

1.93 Acres

	25	50	100	200	500
NOx	144	140	154	184	268
CO	745	987	1368	2411	7080
PM10	2	4	8	15	35
PM2.5	1	2	3	6	19

N
9

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
16	1	16	2
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2010 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Asphalt Demo - Non-Residential

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
16	1.00	25	82

Source Receptor Distance (meters)	North Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres	
	25	Tractors	0.5	0.0625	8	1	0.5
NOx	103	Graders	0.5	0.0625	0	0	0
CO	522	Dozers	0.5	0.0625	8	1	0.5
		Scrapers	1	0.125	0	0	0
					Acres		1.00

	Acres	25	50	100	200	500
NOx	1	103	104	121	159	252
	1	103	104	121	159	252
	1	103	104	121	159	252
CO	1	522	685	1014	1975	6531
	1	522	685	1014	1975	6531
	1	522	685	1014	1975	6531
PM10	1	4	10	24	53	137
	1	4	10	24	53	137
	1	4	10	24	53	137
PM2.5	1	3	4	9	20	74
	1	3	4	9	20	74
	1	3	4	9	20	74

North Orange County						
1.00 Acres						
	25	50	100	200	500	
NOx	103	104	121	159	252	
CO	522	685	1014	1975	6531	
PM10	4	10	24	53	137	
PM2.5	3	4	9	20	74	

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
16	1	16	1
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Asphalt Demo - Residential

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Equipment		Acres/8-hr Day	Daily hours	Equipment Used	Acres
16	1.00	201	660	Tractors	0.5	0.0625	8	1	0.5
				Graders	0.5	0.0625	0	0	0
				Dozers	0.5	0.0625	8	1	0.5
				Scrapers	1	0.125	0	0	0
Source Receptor Distance (meters)	North Orange County	201							
								Acres	1.00
PM10	53.33								
PM2.5	20.21								
	Acres	25	50	100	200	500			
NOx	1	103	104	121	159	252			
	1	103	104	121	159	252			
		103	104	121	159	252			
CO	1	522	685	1014	1975	6531			
	1	522	685	1014	1975	6531			
		522	685	1014	1975	6531			
PM10	1	4	10	24	53	137			
	1	4	10	24	53	137			
		4	10	24	53	137			
PM2.5	1	3	4	9	20	74			
	1	3	4	9	20	74			
		3	4	9	20	74			
North Orange County	1.00 Acres								
	25	50	100	200	500				
NOx	103	104	121	159	252				
CO	522	685	1014	1975	6531				
PM10	4	10	24	53	137				
PM2.5	3	4	9	20	74				

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
16	1	16	1
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Asphalt Demolition and Trenching - Non-Residential

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
16	1.50	25	82

Source Receptor Distance (meters)	North Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres
25		Tractors	0.5	0.0625	8	2
125		Graders	0.5	0.0625	0	0
642		Dozers	0.5	0.0625	8	1
		Scrapers	1	0.125	0	0
					Acres	1.50

	Acres	25	50	100	200	500
NOx	1	103	104	121	159	252
	2	147	143	156	186	269
CO	1	125	124	139	173	261
	2	522	685	1014	1975	6531
PM10	1	762	1010	1395	2444	7121
	2	642	848	1205	2210	6826
PM2.5	1	4	10	24	53	137
	2	6	17	31	60	145
PM2.5	1	5	14	28	57	141
	2	3	4	9	20	74
North Orange County	1	4	6	11	24	79
	2	4	5	10	22	77

1.50 Acres		25	50	100	200	500
NOx	125	124	139	173	261	
CO	642	848	1205	2210	6826	
PM10	5	14	28	57	141	
PM2.5	4	5	10	22	77	

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
16	1	16	2
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Asphalt Demolition and Trenching - Residential

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Equipment		Acres/8-hr Day	Daily hours	Equipment Used	Acres
16	1.50	201	660	Tractors	0.5	0.0625	8	2	1
				Graders	0.5	0.0625	0	0	0
				Dozers	0.5	0.0625	8	1	0.5
				Scrapers	1	0.125	0	0	0
Source Receptor Distance (meters)	North Orange County	201							
								Acres	1.50
	PM10	56.83							
	PM2.5	22.21							
		Acres		25	50	100		200	500
	NOx	1		103	104	121		159	252
		2		147	143	156		186	269
				125	124	139		173	261
	CO	1		522	685	1014		1975	6531
		2		762	1010	1395		2444	7121
				642	848	1205		2210	6826
	PM10	1		4	10	24		53	137
		2		6	17	31		60	145
				5	14	28		57	141
	PM2.5	1		3	4	9		20	74
		2		4	6	11		24	79
				4	5	10		22	77
North Orange County									
	1.50 Acres								
		25		50	100	200		500	
	NOx	125		124	139	173		261	
	CO	642		848	1205	2210		6826	
	PM10	5		14	28	57		141	
	PM2.5	4		5	10	22		77	

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
16	1	16	2
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Trenching and Equipment Install - Non-Residential

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
16	0.50	25	82

Source Receptor Distance (meters)	North Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres
	25	Tractors	0.5	0.0625	8	1
NOx	103	Graders	0.5	0.0625	0	0
CO	522	Dozers	0.5	0.0625	0	0
		Scrapers	1	0.125	0	0
					Acres	0.50

North Orange County	Acres	25	50	100	200	500
NOx	1	103	104	121	159	252
	1	103	104	121	159	252
CO	1	103	104	121	159	252
	1	522	685	1014	1975	6531
	1	522	685	1014	1975	6531
	1	522	685	1014	1975	6531
PM10	1	4	10	24	53	137
	1	4	10	24	53	137
	1	4	10	24	53	137
PM2.5	1	3	4	9	20	74
	1	3	4	9	20	74
	1	3	4	9	20	74

North Orange County	Acres	25	50	100	200	500
0.50 Acres	25	50	100	200	500	
NOx	103	104	121	159	252	
CO	522	685	1014	1975	6531	
PM10	4	10	24	53	137	
PM2.5	3	4	9	20	74	

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
16	1	16	1
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Trenching and Equipment Install- Residential

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Acres/8-hr Day		Daily hours	Equipment Used	Acres	
16	0.50	201	660						
Source Receptor Distance (meters)	North Orange County	201		Equipment	Acres/8-hr Day				
				Tractors	0.5	0.0625	8	1	0.5
				Graders	0.5	0.0625	0	0	0
				Dozers	0.5	0.0625	0	0	0
				Scrapers	1	0.125	0	0	0
								Acres	0.50
	PM10	53.33							
	PM2.5	20.21							
		Acres		25	50	100	200	500	
	NOx	1		103	104	121	159	252	
		1		103	104	121	159	252	
				103	104	121	159	252	
	CO	1		522	685	1014	1975	6531	
		1		522	685	1014	1975	6531	
				522	685	1014	1975	6531	
	PM10	1		4	10	24	53	137	
		1		4	10	24	53	137	
				4	10	24	53	137	
	PM2.5	1		3	4	9	20	74	
		1		3	4	9	20	74	
				3	4	9	20	74	
North Orange County									
	0.50 Acres			25	50	100	200	500	
	NOx	103		104	121	159	252		
	CO	522		685	1014	1975	6531		
	PM10	4		10	24	53	137		
	PM2.5	3		4	9	20	74		

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
16	1	16	1
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Trenching and Grading - Non-Residential

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
16	2.38	25	82

Source Receptor Distance (meters)	North Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres
25		Tractors	0.5	0.0625	7	0.875
156		Tractors	0.5	0.0625	8	0.5
831		Graders	0.5	0.0625	8	0.5
		Dozers	0.5	0.0625	8	0.5
		Scrapers	1	0.125	0	0
					Acres	2.38

	Acres	25	50	100	200	500
NOx	2	147	143	156	186	269
	3	172	166	179	207	285
		156	152	165	194	275
CO	2	762	1010	1395	2444	7121
	3	945	1250	1688	2831	7665
		831	1100	1505	2589	7325
PM10	2	6	17	31	60	145
	3	8	23	37	66	152
		7	19	33	62	148
PM2.5	2	4	6	11	24	79
	3	5	7	12	27	84
		4	6	12	25	81

North Orange County		25	50	100	200	500
2.38 Acres						
NOx	156	152	165	194	275	
CO	831	1100	1505	2589	7325	
PM10	7	19	33	62	148	
PM2.5	4	6	12	25	81	

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
16	2	16	3
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Trenching and Grading - Residential

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
16	2.38	201	660

Source Receptor Distance (meters)	North Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres
201		Tractors	0.5	0.0625	7	0.875
		Tractors	0.5	0.0625	8	0.5
		Graders	0.5	0.0625	8	0.5
		Dozers	0.5	0.0625	8	0.5
		Scrapers	1	0.125	0	0
					Acres	2.38

	Acres	25	50	100	200	500
NOx	2	147	143	156	186	269
	3	172	166	179	207	285
CO	2	762	1010	1395	2444	7121
	3	945	1250	1688	2831	7665
PM10	2	831	1100	1505	2589	7325
	3	6	17	31	60	145
PM2.5	2	7	23	37	66	152
	3	8	19	33	62	148
North Orange County	2	4	6	11	24	79
	3	5	7	12	27	84
		4	6	12	25	81
	2.38 Acres					
	25	50	100	200	500	
NOx	156	152	165	194	275	
CO	831	1100	1505	2589	7325	
PM10	7	19	33	62	148	
PM2.5	4	6	12	25	81	

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
16	2	16	3
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Asphalt Paving - Non-Residential

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Equipment		Acres/8-hr Day	Daily hours	Equipment Used	Acres
16	0.00	25	82						
Source Receptor	North Orange County			Equipment					
Distance (meters)	25			Tractors	0.5	0.0625	0	0	0
NOx	103			Graders	0.5	0.0625	0	0	0
CO	522			Dozers	0.5	0.0625	0	0	0
				Scrapers	1	0.125	0	0	0
								Acres	0.00
	Acres	25	50					200	500
NOx	1	103	104					159	252
	1	103	104					159	252
		103	104					159	252
CO	1	522	685					1975	6531
	1	522	685					1975	6531
		522	685					1975	6531
PM10	1	4	10					53	137
	1	4	10					53	137
		4	10					53	137
PM2.5	1	3	4					20	74
	1	3	4					20	74
		3	4					20	74
North Orange County									
0.00 Acres									
	25	50	100					500	
NOx	103	104	121					159	252
CO	522	685	1014					1975	6531
PM10	4	10	24					53	137
PM2.5	3	4	9					20	74

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
16	1	16	1
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Asphalt Paving - Residential

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Equipment		Daily hours	Equipment Used	Acres	
16	0.00	201	660	Tractors	0.5	0.0625	0	0	
				Graders	0.5	0.0625	0	0	
				Dozers	0.5	0.0625	0	0	
				Scrapers	1	0.125	0	0	
Source Receptor Distance (meters)	North Orange County			Acres/8-hr Day			Daily hours	Equipment Used	Acres
	201								
PM10	53.33								
PM2.5	20.21								
							Acres		0.00
	Acres	25	50	100			200		500
NOx	1	103	104	121			159		252
	1	103	104	121			159		252
		103	104	121			159		252
CO	1	522	685	1014			1975		6531
	1	522	685	1014			1975		6531
		522	685	1014			1975		6531
PM10	1	4	10	24			53		137
	1	4	10	24			53		137
		4	10	24			53		137
PM2.5	1	3	4	9			20		74
	1	3	4	9			20		74
		3	4	9			20		74
North Orange County									
	0.00 Acres								
	25	50	100	200			500		
NOx	103	104	121	159			252		
CO	522	685	1014	1975			6531		
PM10	4	10	24	53			137		
PM2.5	3	4	9	20			74		

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
16	1	16	1
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Parking Restriping - Non-Residential

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Equipment		Acres/8-hr Day	Daily hours	Equipment Used	Acres
16	0.00	25	82						
Source Receptor	North Orange County			Equipment					
Distance (meters)	25			Tractors	0.5	0.0625	0	0	0
NOx	103			Graders	0.5	0.0625	0	0	0
CO	522			Dozers	0.5	0.0625	0	0	0
				Scrapers	1	0.125	0	0	0
								Acres	0.00
	Acres	25	50					200	500
NOx	1	103	104					159	252
	1	103	104					159	252
		103	104					159	252
CO	1	522	685					1975	6531
	1	522	685					1975	6531
		522	685					1975	6531
PM10	1	4	10					53	137
	1	4	10					53	137
		4	10					53	137
PM2.5	1	3	4					20	74
	1	3	4					20	74
		3	4					20	74
North Orange County									
0.00 Acres									
	25	50	100					200	500
NOx	103	104	121					159	252
CO	522	685	1014					1975	6531
PM10	4	10	24					53	137
PM2.5	3	4	9					20	74

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
16	1	16	1
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Parking Restriping - Residential

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
16	0.00	201	660

Source Receptor Distance (meters)	North Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres
201		Tractors	0.5	0.0625	0	0
		Graders	0.5	0.0625	0	0
		Dozers	0.5	0.0625	0	0
		Scrapers	1	0.125	0	0
PM10	53.33					
PM2.5	20.21				Acres	0.00

	Acres	25	50	100	200	500
NOx	1	103	104	121	159	252
	1	103	104	121	159	252
		103	104	121	159	252
CO	1	522	685	1014	1975	6531
	1	522	685	1014	1975	6531
		522	685	1014	1975	6531
PM10	1	4	10	24	53	137
	1	4	10	24	53	137
		4	10	24	53	137
PM2.5	1	3	4	9	20	74
	1	3	4	9	20	74
		3	4	9	20	74

North Orange County		25	50	100	200	500
0.00 Acres						
	25	50	100	200	500	
NOx	103	104	121	159	252	
CO	522	685	1014	1975	6531	
PM10	4	10	24	53	137	
PM2.5	3	4	9	20	74	

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
16	1	16	1
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Finishing/Landscaping - Non-Residential

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)						
16	0.50	25	82						
Source Receptor	North Orange County	Equipment	Acres/8-hr Day		Daily hours	Equipment Used	Acres		
Distance (meters)	25	Tractors	0.5	0.0625	8	1	0.5		
NOx	103	Graders	0.5	0.0625	0	0	0		
CO	522	Dozers	0.5	0.0625	0	0	0		
		Scrapers	1	0.125	0	0	0		
						Acres	0.50		
	Acres	25	50	100	200	500			
NOx	1	103	104	121	159	252			
	1	103	104	121	159	252			
		103	104	121	159	252			
CO	1	522	685	1014	1975	6531			
	1	522	685	1014	1975	6531			
		522	685	1014	1975	6531			
PM10	1	4	10	24	53	137			
	1	4	10	24	53	137			
		4	10	24	53	137			
PM2.5	1	3	4	9	20	74			
	1	3	4	9	20	74			
		3	4	9	20	74			
North Orange County									
	0.50 Acres	25	50	100	200	500			
NOx	103	104	121	159	252				
CO	522	685	1014	1975	6531				
PM10	4	10	24	53	137				
PM2.5	3	4	9	20	74				

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
16	1	16	1
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Finishing/Landscaping - Residential

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
16	0.50	201	660

Source Receptor Distance (meters)	North Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres
201		Tractors	0.5	0.0625	8	0.5
		Graders	0.5	0.0625	0	0
		Dozers	0.5	0.0625	0	0
		Scrapers	1	0.125	0	0
PM10	53.33					
PM2.5	20.21				Acres	0.50

	Acres	25	50	100	200	500
NOx	1	103	104	121	159	252
	1	103	104	121	159	252
	1	103	104	121	159	252
CO	1	522	685	1014	1975	6531
	1	522	685	1014	1975	6531
	1	522	685	1014	1975	6531
PM10	1	4	10	24	53	137
	1	4	10	24	53	137
	1	4	10	24	53	137
PM2.5	1	3	4	9	20	74
	1	3	4	9	20	74
	1	3	4	9	20	74

North Orange County						
0.50 Acres						
	25	50	100	200	500	
NOx	103	104	121	159	252	
CO	522	685	1014	1975	6531	
PM10	4	10	24	53	137	
PM2.5	3	4	9	20	74	

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
16	1	16	1
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Finishing/Landscaping and Gas and Electrical Piping Connection - Non-Residential

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
16	0.50	25	82

Source Receptor Distance (meters)	North Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres
	25	Tractors	0.5	0.0625	8	1
NOx	103	Graders	0.5	0.0625	0	0
CO	522	Dozers	0.5	0.0625	0	0
		Scrapers	1	0.125	0	0
					Acres	0.50

North Orange County	Acres	25	50	100	200	500
NOx	1	103	104	121	159	252
	1	103	104	121	159	252
CO	1	103	104	121	159	252
	1	522	685	1014	1975	6531
	1	522	685	1014	1975	6531
PM10	1	522	685	1014	1975	6531
	1	4	10	24	53	137
	1	4	10	24	53	137
PM2.5	1	4	10	24	53	137
	1	3	4	9	20	74
	1	3	4	9	20	74
	1	3	4	9	20	74

North Orange County	Acres	25	50	100	200	500
0.50 Acres	25	50	100	200	500	
NOx	103	104	121	159	252	
CO	522	685	1014	1975	6531	
PM10	4	10	24	53	137	
PM2.5	3	4	9	20	74	

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
16	1	16	1
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Finishing/Landscaping and Gas and Electrical

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
16	0.50	201	660

Source Receptor Distance (meters)	North Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres
201		Tractors	0.5	0.0625	8	1
		Graders	0.5	0.0625	0	0
		Dozers	0.5	0.0625	0	0
		Scrapers	1	0.125	0	0
PM10	53.33					
PM2.5	20.21					
					Acres	0.50

	Acres	25	50	100	200	500
NOx	1	103	104	121	159	252
	1	103	104	121	159	252
	1	103	104	121	159	252
CO	1	522	685	1014	1975	6531
	1	522	685	1014	1975	6531
	1	522	685	1014	1975	6531
PM10	1	4	10	24	53	137
	1	4	10	24	53	137
	1	4	10	24	53	137
PM2.5	1	3	4	9	20	74
	1	3	4	9	20	74
	1	3	4	9	20	74

North Orange County						
0.50 Acres						
	25	50	100	200	500	
NOx	103	104	121	159	252	
CO	522	685	1014	1975	6531	
PM10	4	10	24	53	137	
PM2.5	3	4	9	20	74	

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
16	1	16	1
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Back to:

**NOTE:**

To print data frame (right side), click on right frame before printing.

1981 - 2010

- [Daily Temp. & Precip.](#)
- [Daily Tabular data \(~23 KB\)](#)
- [Monthly Tabular data \(~1 KB\)](#)
- [NCDC 1981-2010 Normals \(~3 KB\)](#)

1971 - 2000

- [Daily Temp. & Precip.](#)
- [Daily Tabular data \(~23 KB\)](#)
- [Monthly Tabular data \(~1 KB\)](#)
- [NCDC 1971-2000 Normals \(~3 KB\)](#)

1961 - 1990

- [Daily Temp. & Precip.](#)
- [Daily Tabular data \(~23 KB\)](#)
- [Monthly Tabular data \(~1 KB\)](#)
- [NCDC 1961-1990 Normals \(~3 KB\)](#)

Period of Record

• [Station Metadata](#)

ANAHEIM, CALIFORNIA (040192)

Period of Record Monthly Climate Summary**Period of Record : 08/01/1989 to 01/20/2015**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	70.0	70.0	72.4	74.7	77.1	80.1	85.2	87.1	86.5	81.2	75.4	69.7	77.4
Average Min. Temperature (F)	47.5	48.2	50.4	52.8	57.3	60.5	64.2	64.5	62.7	57.7	51.8	46.9	55.4
Average Total Precipitation (in.)	3.34	3.47	1.86	0.83	0.53	0.15	0.07	0.01	0.10	0.72	0.99	2.02	14.09
Average Total SnowFall (in.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record.

Max. Temp.: 99.8% Min. Temp.: 99.7% Precipitation: 100% Snowfall: 100% Snow Depth: 100%

Check [Station Metadata](#) or [Metadata graphics](#) for more detail about data completeness.

Western Regional Climate Center, wrcc@dri.edu