APPENDIX A: AIR QUALITY IMPACT ANALYSIS

Waterman Avenue High Cube Warehouse

AIR QUALITY IMPACT ANALYSIS

CITY OF SAN BERNARDINO

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SEPTEMBER 22, 2014

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LIST OF ABBREVIATED TERMS

(1)	Reference
µg/m3	Microgram per Cubic Meter
AADT	Annual Average Daily Trips
AQIA	Air Quality Impact Analysis
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
BMPs	Best Management Practices
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DPM	Diesel Particulate Matter
EPA	Environmental Protection Agency
LST	Localized Significance Threshold
MMs	Mitigation Measures
NAAQS	National Ambient Air Quality Standards
NO2	Nitrogen Dioxide
NOx	Oxides of Nitrogen
Pb	Lead
PM10	Particulate Matter 10 microns in diameter or less
PM2.5	Particulate Matter 2.5 microns in diameter or less
PPM	Parts Per Million
Project	Waterman Avenue High Cube Warehouse
ROG	Reactive Organic Gases
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SIPs	State Implementation Plans
SRA	Source Receptor Area
TAC	Toxic Air Contaminant

TIA	Traffic Impact Analysis
TOG	Total Organic Gases
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds

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1 INTRODUCTION

This report presents the results of the air quality impact analysis (AQIA) prepared by Urban Crossroads, Inc., for the proposed Waterman Avenue High-Cube Warehouse ("Project"). The purpose of this AQIA is to evaluate the potential impacts to air quality associated with construction and operation of the proposed Project, and recommend measures to mitigate impacts considered potentially significant in comparison to established regulatory thresholds.

1.1 SITE LOCATION

The proposed Waterman Avenue High-Cube Warehouse is generally located on the east side of Waterman Avenue, north of E. Mill Street and south of E. Rialto Avenue in the City of San Bernardino as shown on Exhibit 1-A.

1.2 PROJECT DESCRIPTION

The Project is proposed to consist of approximately 430,000 square feet of high-cube distribution warehouse use within a single building as shown on Exhibit 1-B. The Project is proposed to have access to Waterman Avenue via Driveways 1 and 2. Both Project driveways are proposed to be stop controlled and allow for full access. It is assumed that the Project will be constructed and occupied by 2015.

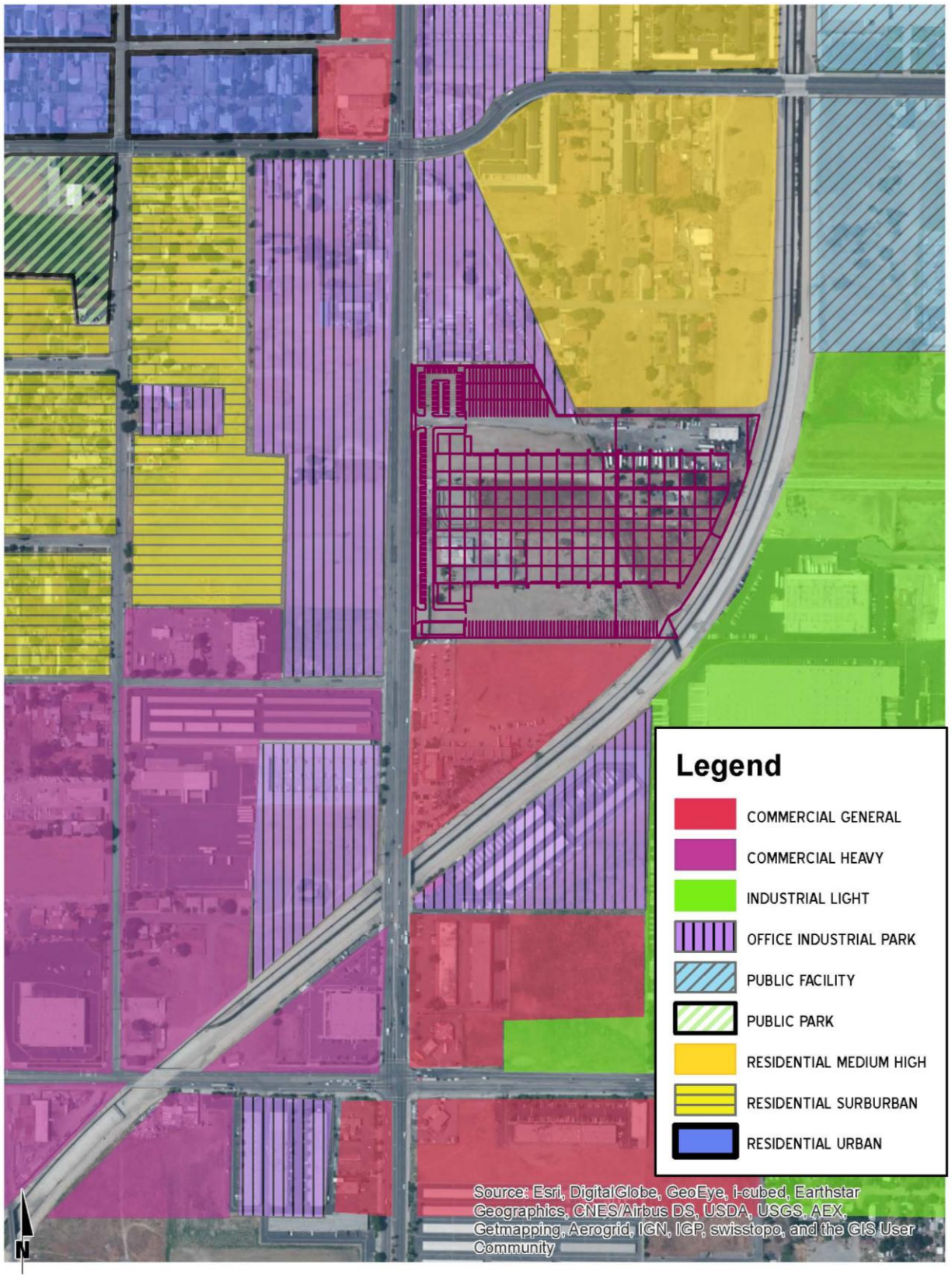
1.3 STUDY AREA

The Project site is located within an area developed mostly with industrial and residential and land uses. Existing surrounding land uses are graphically presented on Exhibit 1-C.

EXHIBIT 1-A: LOCATION MAP

EXHIBIT 1-B: PRELIMINARY SITE PLAN

EXHIBIT 1-C: EXISTING LAND USES



1.4 SUMMARY OF FINDINGS

Short-Term Construction

For regional emissions, the Project will exceed the numerical thresholds of significance established by the South Coast Air Quality Management District (SCAQMD) for emissions of Volatile Organic Compounds (VOCs) and Nitrogen Oxides (NOx) prior to implementation of best mitigation measures (MMs).

The proposed mitigation measures MM AQ-1 and MM AQ-2 are recommended to reduce the impacts to less than significant levels. After implementation of MM AQ-1, and MM AQ-2, construction activity emissions will not exceed the numerical thresholds established by the SCAQMD. Thus a less than significant impact will occur with the implementation MM AQ-1 and MM AQ-2.

Without MMs, emissions during construction activity will exceed the SCAQMD's localized significance threshold for particulate matter emissions (PM10 - particulate matter ≤ 10 microns). After implementation of MM AQ-2, the emissions resulting from short-term construction activity will not exceed the SCAQMD LST thresholds. A less than significant impact would occur with the application of applicable regulatory requirements, and MMs.

As mitigated, Project construction-source emissions would not conflict with the applicable Air Quality Management Plan (AQMP).

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less-than-significant.

Long-Term Operational

For regional emissions, the Project would not exceed the numerical thresholds of significance established by the SCAQMD. Thus a less than significant impact would occur for Project-related operational-source emissions.

Project operational-source emissions would not result in or cause a significant localized air quality impact as discussed in the operational LSTs section of this report. The proposed Project would not result in a significant CO "hotspot" as a result of Project related traffic during ongoing operations, nor would the Project result in a significant adverse health impact as discussed in Section 3.8, thus a less than significant impact to sensitive receptors during operational activity is expected. Lastly, project operational-source emissions would not conflict with the AQMP.

Substantial odor-generating sources include land uses such as agricultural activities, feedlots, wastewater treatment facilities, landfills or various heavy industrial uses. The Project does not propose any such uses or activities that would result in potentially significant operational-

source odor impacts. Potential sources of operational odors generated by the Project would include disposal of miscellaneous refuse. Moreover, SCAQMD Rule 402 acts to prevent occurrences of odor nuisances (1). Consistent with City requirements, all Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with solid waste regulations. Potential operational-source odor impacts are therefore considered less-than-significant.

1.5 CONSTRUCTION-SOURCE MITIGATION MEASURES

MM AQ-1

Only "Zero-Volatile Organic Compounds" paints (no more than 150 gram/liter of VOC) and/or High Pressure Low Volume (HPLV) applications consistent with South Coast Air Quality Management District Rule 1113 shall be used.

MM AQ-2

- During construction activity, all off-road (on-site) construction equipment (≥ 150 horsepower) shall be California Air Resources Board (CARB) Tier 3 Certified or better.
- Additionally, during grading activity, total horsepower-hours per day for all equipment shall not exceed 34,360 horsepower-hours per day and the maximum disturbance (actively graded) area shall not exceed 10 acres per day.

1.6 OPERATIONAL-SOURCE MITIGATION MEASURES

No significant impacts were identified and no mitigation measures are required

2 AIR QUALITY SETTING

This section provides an overview of the existing air quality conditions in the Project area and region.

2.1 SOUTH COAST AIR BASIN

The Project site is located in the South Coast Air Basin (SCAB) within the jurisdiction of SCAQMD (8). The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. As discussed above, the Project site is located within the South Coast Air Basin, a 6,745-square mile subregion of the SCAQMD, which includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County. The larger South Coast district boundary includes 10,743 square miles.

The SCAB is bound by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Los Angeles County portion of the Mojave Desert Air Basin is bound by the San Gabriel Mountains to the south and west, the Los Angeles / Kern County border to the north, and the Los Angeles / San Bernardino County border to the east. The Riverside County portion of the Salton Sea Air Basin is bound by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley.

2.2 REGIONAL CLIMATE

The regional climate has a substantial influence on air quality in the SCAB. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality.

The annual average temperatures throughout the SCAB vary from the low to middle 60s (degrees Fahrenheit). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Although the climate of the SCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SCAB climate. Humidity restricts visibility in the SCAB, and the conversion of sulfur dioxide to sulfates is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SCAB is 71 percent along the coast and 59 percent inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90 percent of the SCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SCAB with frequency being higher near the coast.

Due to its generally clear weather, about three-quarters of available sunshine is received in the SCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year there are approximately 10 hours of possible sunshine, and on the longest day of the year there are approximately 14 1/2 hours of possible sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the SCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas" each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the SCAB is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

In the SCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire SCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter, when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as NOX and CO from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

2.3 WIND PATTERNS AND PROJECT LOCATION

The distinctive climate of the Project area and the SCAB is determined by its terrain and geographical location. The Basin is located in a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter.

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

2.4 EXISTING AIR QUALITY

Existing air quality is measured at established SCAQMD air quality monitoring stations. Monitored air quality is evaluated and in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) currently in effect, as well health effects of each pollutant regulated under these standards are shown in Table 2-1 (9) (10).

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards presented in Table 2-1. The air quality in a region is considered to be in attainment by the state if the measured ambient air pollutant levels for O3, CO, SO2, NO2, PM10, and PM2.5 are not equaled or exceeded at any time in any consecutive three-year period; and the federal standards (other than O3, PM10, PM2.5, and those based on annual averages or arithmetic mean) are not exceeded more than once per year. The O3 standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

TABLE 2-1: AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM10)[8]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[8]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[9]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[10]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[10]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[10]	—	
Lead[11,12]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[13]	8 Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[11]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes at: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf

For more information please call ARB-PIO at (916) 322-2990 **California Air Resources Board (6/4/13)**

2.5 REGIONAL AIR QUALITY

The SCAQMD monitors levels of various criteria pollutants at 30 monitoring stations throughout the air district. In 2012, the federal and state ambient air quality standards (NAAQS and CAAQS) were exceeded on one or more days for ozone, PM10, and PM2.5 at most monitoring locations (11). No areas of the SCAB exceeded federal or state standards for NO2, SO2, CO, sulfates or lead. See Table 2-2 for attainment designations for the SCAB (12) (13). Appendix 3.2 provides geographic representation of the state and federal attainment status for applicable criteria pollutants within the SCAB.

2.6 LOCAL AIR QUALITY

Relative to the Project site, the nearest long-term air quality monitoring site for Ozone (O_3), Carbon Monoxide (CO), Nitrogen Dioxide (NO_2), Inhalable Particulates (PM_{10}) and Ultra-Fine Particulates ($PM_{2.5}$) is the South Coast Air Quality Management District Central San Bernardino Valley 2 monitoring station, located approximately 0.50 miles north of the Project site in San Bernardino (SRA 34) (14).

The most recent three (3) years of data available is shown on Table 2-3 and identifies the number of days ambient air quality standards were exceeded for the study area, which is was considered to be representative of the local air quality at the Project site (11) (15). Additionally, data for SO2 has been omitted as attainment is regularly met in the South Coast Air Basin and few monitoring stations measure SO2 concentrations.

Criteria pollutants are pollutants that are regulated through the development of human health based and/or environmentally based criteria for setting permissible levels. Criteria pollutants, their typical sources, and effects are identified below:

- Carbon Monoxide (CO): Is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike ozone, motor vehicles operating at slow speeds are the primary source of CO in the Basin. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.
- Sulfur Dioxide (SO2): Is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When SO2 oxidizes in the atmosphere, it forms sulfates (SO4). Collectively, these pollutants are referred to as sulfur oxides (SOX).

  Nitrogen Oxides (Oxides of Nitrogen, or NOx): Nitrogen oxides (NOx) consist of nitric oxide (NO), nitrogen dioxide (NO2) and nitrous oxide (N2O) and are formed when nitrogen (N2) combines with oxygen (O2). Their lifespan in the atmosphere ranges from one to seven days for nitric oxide and nitrogen dioxide, to 170 years for nitrous oxide. Nitrogen oxides are typically created during combustion processes, and are major contributors to smog formation and acid deposition. NO2 is a criteria air pollutant, and may result in numerous adverse health effects; it absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility. Of the seven types of nitrogen oxide compounds, NO2 is the most abundant in the atmosphere. As

TABLE 2-2: ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SOUTH COAST AIR BASIN (SCAB)

Criteria Pollutant	State Designation	Federal Designation
Ozone - 1hour standard	Nonattainment	No Standard
Ozone - 8 hour standard	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Attainment
Lead[1]	Attainment	Attainment

Source: State/Federal designations were taken from http://www.arb.ca.gov/desig/adm/adm.htm
Note: See Appendix 3.2 for a detailed map of State/National Area Designations within the South Coast Air Basin

[1] The Federal nonattainment designation for lead is only applicable towards the Los Angeles County portion of the SCAB.

TABLE 2-3: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2011-2013

POLLUTANT	STANDARD	YEAR		
		2011	2012	2013
Ozone (O_3)				
Maximum 1-Hour Concentration (ppm)		0.135	0.124	0.139
Maximum 8-Hour Concentration (ppm)		0.121	0.109	0.112
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	40	41	--
Number of Days Exceeding State 8-Hour Standard	> 0.07 ppm	66	77	--
Number of Days Exceeding Federal 1-Hour Standard	> 0.12 ppm	2	0	2
Number of Days Exceeding Federal 8-Hour Standard	> 0.075 ppm	39	54	36
Number of Days Exceeding Health Advisory	≥ 0.15 ppm	0	0	0
Carbon Monoxide (CO)				
Maximum 1-Hour Concentration (ppm)		2.3	3.1	4.8
Maximum 8-Hour Concentration (ppm)		1.7	1.7	1.7
Number of Days Exceeding State 1-Hour Standard	> 20 ppm	0	0	0
Number of Days Exceeding Federal / State 8-Hour Standard	> 9.0 ppm	0	0	0
Number of Days Exceeding Federal 1-Hour Standard	> 35 ppm	0	0	0
Nitrogen Dioxide (NO_2)				
Maximum 1-Hour Concentration (ppm)		0.0619	0.067	0.072
Annual Arithmetic Mean Concentration (ppm)		0.0169	--	--
Number of Days Exceeding State 1-Hour Standard	> 0.18 ppm	0	0	0
Particulate Matter ≤ 10 Microns (PM_{10})				
Maximum 24-Hour Concentration (µg/m^3)		56	53	102
Number of Samples		58	55	60
Number of Samples Exceeding State Standard	> 50 µg/m^3	3	--	--
Number of Samples Exceeding Federal Standard	> 150 µg/m^3	0	0	0
Particulate Matter ≤ 2.5 Microns ($PM_{2.5}$)				
Maximum 24-Hour Concentration (µg/m^3)		65.0	34.8	55.3
Annual Arithmetic Mean (µg/m^3)		12.2	11.8	11.4
Number of Samples Exceeding Federal 24-Hour Standard	> 35 µg/m^3	2	0	--

-- = data not available from either SCAQMD or EPA

ambient concentrations of NO2 are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO2 than those indicated by regional monitors.

- Ozone (O3): Is a highly reactive and unstable gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NOX), both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.
- PM10 (Particulate Matter less than 10 microns): A major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. The size of the particles (10 microns or smaller, about 0.0004 inches or less) allows them to easily enter the lungs where they may be deposited, resulting in adverse health effects. PM10 also causes visibility reduction and is a criteria air pollutant.
- PM2.5 (Particulate Matter less than 2.5 microns): A similar air pollutant consisting of tiny solid or liquid particles which are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include sulfates formed from SO2 release from power plants and industrial facilities and nitrates that are formed from NOX release from power plants, automobiles and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions. PM2.5 is a criteria air pollutant.
- Volatile Organic Compounds (VOC): Volatile organic compounds are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form ozone to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include: carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O3, which is a criteria pollutant. The SCAQMD uses the terms VOC and ROG (see below) interchangeably.
- Reactive Organic Gases (ROG): Similar to VOC, Reactive Organic Gases (ROG) are also precursors in forming ozone and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and nitrogen oxides react in the presence of sunlight. ROGs are a criteria pollutant since they are a precursor to O3, which is a criteria pollutant. The SCAQMD uses the terms ROG and VOC (see previous) interchangeably.
- Lead (Pb): Lead is a heavy metal that is highly persistent in the environment. In the past, the primary source of lead in the air was emissions from vehicles burning leaded gasoline. As a result of the removal of lead from gasoline, there have been no violations at any of the SCAQMD's regular air monitoring stations since 1982. Currently, emissions of lead are largely limited to stationary sources such as lead smelters. It should be noted that the Project is not anticipated to generate a quantifiable amount of lead emissions. Lead is a criteria air pollutant.

Health Effects of Air Pollutants

Ozone

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

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

Carbon Monoxide

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport and competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (oxygen deficiency) as seen at high altitudes.

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

Particulate Matter

A consistent correlation between elevated ambient fine particulate matter (PM10 and PM2.5) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in life-span, and an increased mortality from lung cancer.

Daily fluctuations in PM2.5 concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with longterm exposure to particulate matter.

The elderly, people with pre-existing respiratory or cardiovascular disease, and children appear to be more susceptible to the effects of high levels of PM10 and PM2.5.

Nitrogen Dioxide

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to NO2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups.

In animals, exposure to levels of NO2 considerably higher than ambient concentrations results in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO2.

Sulfur Dioxide

A few minutes of exposure to low levels of SO2 can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO2.

Animal studies suggest that despite SO2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO2 levels. In these studies, efforts to separate the effects of SO2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.

Lead

Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of

the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased Pb levels are associated with increased blood pressure.

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

Odors

The science of odor as a health concern is still new. Merely identifying the hundreds of VOCs that cause odors poses a big challenge. Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, studies have shown that the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

2.7 REGULATORY BACKGROUND

2.7.1 FEDERAL REGULATIONS

The U.S. EPA is responsible for setting and enforcing the NAAQS for O3, CO, NOx, SO2, PM10, and lead (9). The U.S. EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The U.S. EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of the CARB.

The Federal Clean Air Act (CAA) was first enacted in 1955, and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance (16). The CAA also mandates that states submit and implement State Implementation Plans (SIPs) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O3, NO2, SO2, PM10, CO, PM2.5, and lead. The NAAQS were amended in July 1997 to include an

additional standard for O3 and to adopt a NAAQS for PM2.5. Table 2-1 (previously presented) provides the NAAQS within the basin.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and nitrogen oxides (NOx). NOx is a collective term that includes all forms of nitrogen oxides (NO, NO2, NO3) which are emitted as byproducts of the combustion process.

2.7.2 CALIFORNIA REGULATIONS

The CARB, which became part of the California EPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. The California CAA mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. The CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for sulfates, visibility, hydrogen sulfide, and vinyl chloride. However at this time, hydrogen sulfide and vinyl chloride are not measured at any monitoring stations in the SCAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS (10) (9).

Local air quality management districts, such as the SCAQMD, regulate air emissions from commercial and light industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Serious non-attainment areas are required to prepare air quality management plans that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g. motor vehicle use generated by residential and commercial development);
- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a five percent or more annual reduction in emissions or 15 percent or more in a period of three years for ROGs, NOx, CO and PM10. However, air basins may use alternative emission reduction strategy that achieves a reduction of less than five percent per year under certain circumstances.

2.7.3 AIR QUALITY MANAGEMENT PLANNING

Currently, the NAAQS and CAAQS are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards (17). AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy. A detailed discussion on the AQMP and Project consistency with the AQMP is provided in Section 3.9.

2.8 REGIONAL AIR QUALITY IMPROVEMENT

The Project is within the jurisdiction of the SCAQMD. In 1976, California adopted the Lewis Air Quality Management Act which created SCAQMD from a voluntary association of air pollution control districts in Los Angeles, Orange, Riverside, and San Bernardino counties. The geographic area of which SCAQMD consists is known as the Basin. SCAQMD develops comprehensive plans and regulatory programs for the region to attain federal standards by dates specified in federal law. The agency is also responsible for meeting state standards by the earliest date achievable, using reasonably available control measures.

SCAQMD rule development through the 1970sand 1980s resulted in dramatic improvement in Basin air quality. Nearly all control programs developed through the early 1990s relied on (i) the development and application of cleaner technology; (ii) add-on emission controls, and (iii) uniform CEQA review throughout the Basin. Industrial emission sources have been significantly reduced by this approach and vehicular emissions have been reduced by technologies implemented at the state level by CARB.

As discussed above, the SCAQMD is the lead agency charged with regulating air quality emission reductions for the entire Basin. SCAQMD created AQMPs which represent a regional blueprint for achieving healthful air on behalf of the 16 million residents of the South Coast Basin. The remarkable historical improvement in air quality since the 1970's is the direct result of Southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its Air Quality Management Plans (AQMPs) and by utilizing uniform CEQA review throughout the Basin.

The 2012 AQMP states, " the remarkable historical improvement in air quality since the 1970's is the direct result of Southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs," (18). Ozone, NOx, VOC, and CO have been decreasing in the Basin since 1975 and are projected to continue to decrease through 2020 (19). These decreases result primarily from motor vehicle controls and reductions in evaporative emissions. Although vehicle miles traveled in the Basin continue to increase, NOx and VOC levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NOx emissions from electric utilities have also decreased due to use of cleaner fuels and renewable energy. Ozone contour maps, show that the number of days exceeding the national 8-hour standard has decreased between 1997 and 2007. In the 2007 period, there was an overall decrease in exceedance days compared with the 1997 period. The overall trends of PM10 and PM2.5 in the

air (not emissions) show an overall improvement since 1975. Direct emissions of PM10 have remained somewhat constant in the Basin and direct emissions of PM2.5 have decreased slightly since 1975. Area wide sources (fugitive dust from roads, dust from construction and demolition, and other sources) contribute the greatest amount of direct particulate matter emissions.

Ozone air quality in the SCAB has improved substantially over the last 30 years as shown in Table 2-4. During the 1960s, maximum 1-hour concentrations were above 0.60 ppm. Today, the maximum measured concentrations are less than one-third of that. The 2007 ozone season in the SCAB was on a par with 2006. The 2007 peak 8-hour indicator value was 42 percent lower than the 1988 value. The 2008 three-year average of the maximum 8-hour concentration was over 41 percent lower than 1990. The number of days above the standards has also declined dramatically, and the trend for 1-hour ozone is similar to that for 8-hour.

As with other pollutants, the PM10 statistics also show overall improvement as illustrated in Table 2-5. During the period for which data are available, the three-year average of the annual average (State) decreased by 35 percent. Although the values in the late 1990's show some variability, this is probably due to meteorology rather than a change in emissions. Despite the overall decrease, ambient concentrations still exceed the State annual and 24-hour PM10 standards. Similar to the ambient concentrations, the calculated number of days above the 24-hour PM10 standards has also shown an overall drop. During 1989, there were 305 calculated days above the State standard and 34 calculated days above the national standard. By 2007, there were 273 calculated State standard exceedance days and 13 national standard exceedance days. The high 24-hour concentration in 2007 was due to a national windblown dust event.

Table 2-6 shows the annual average $PM_{2.5}$ concentrations (national) in the SCAB from 1999 through 2007. Overall, the annual average concentrations have decreased over 37 percent. The State annual average concentrations also show a declining trend, although the trend looks less pronounced, due to differences in State and national monitoring methods. The 98th percentile of 24 hour $PM_{2.5}$ concentrations has also declined within the last nine years. The SCAB is currently designated as nonattainment for the State and national $PM_{2.5}$ standards. Measures adopted as part of the upcoming $PM_{2.5}$ SIP, as well as programs to reduce ozone and diesel PM will help in reducing public exposure to $PM_{2.5}$ in this region.

Carbon monoxide concentrations in the SCAB have decreased markedly — a total decrease of more than 72 percent in the peak 8-hour indicator since 1988 as shown in Table 2-7. The number of exceedance days has also declined. During 1988 there were 73 days above the State standard and 65 days above the national standard. However, since 2003, there were no exceedance days for either standard. The entire SCAB is now designated as attainment for both the state and national CO standards. Ongoing reductions from motor vehicle control programs should continue the downward trend in ambient CO concentrations.

TABLE 2-4: SOUTH COAST AIR BASIN OZONE TREND

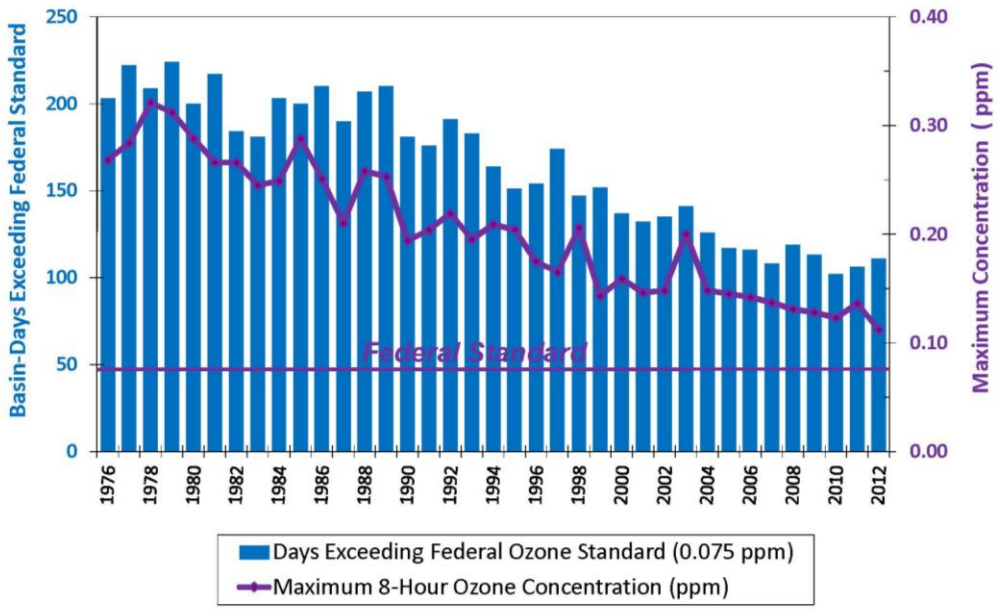


TABLE 2-5: SOUTH COAST AIR BASIN PM_{10} TREND

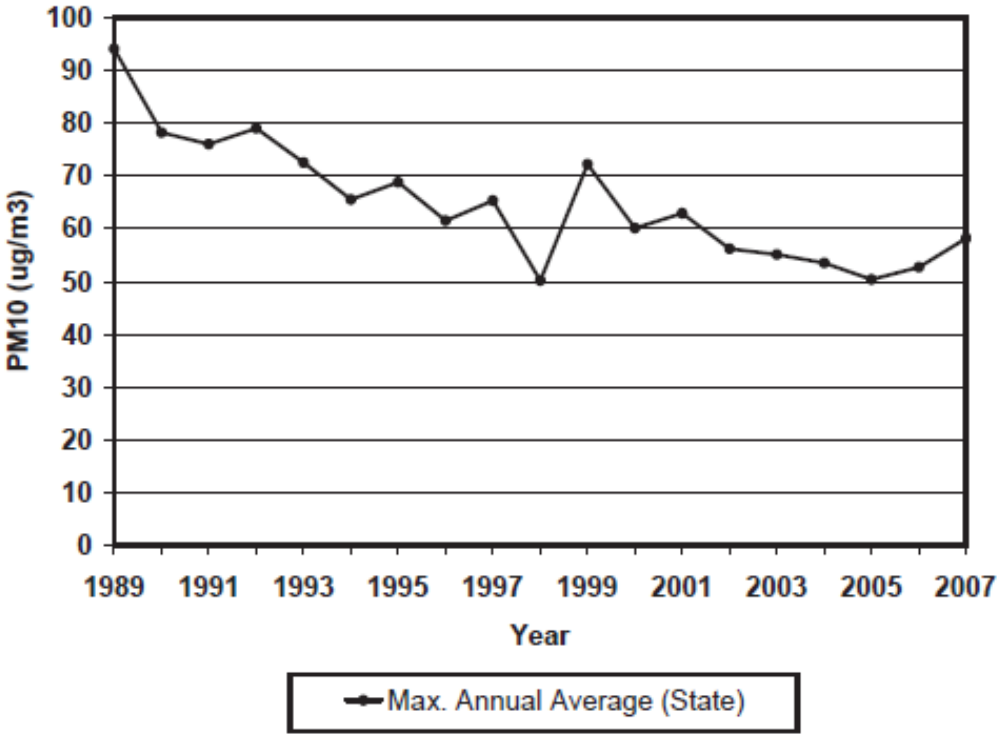


TABLE 2-6: SOUTH COAST AIR BASIN $PM_{2.5}$ TREND

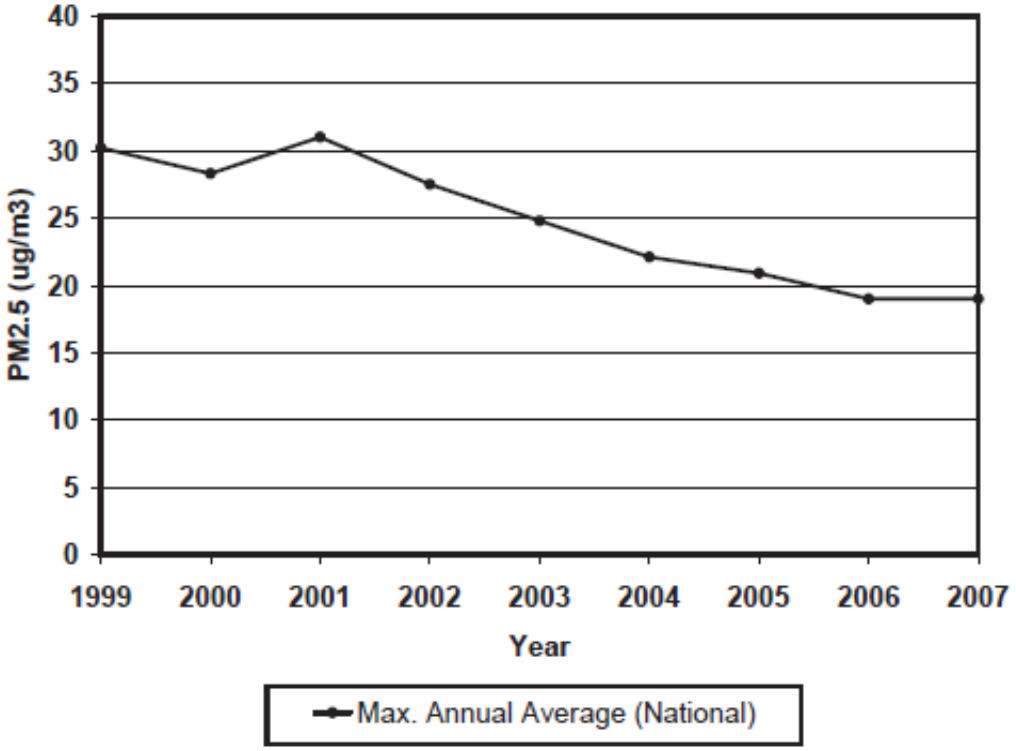
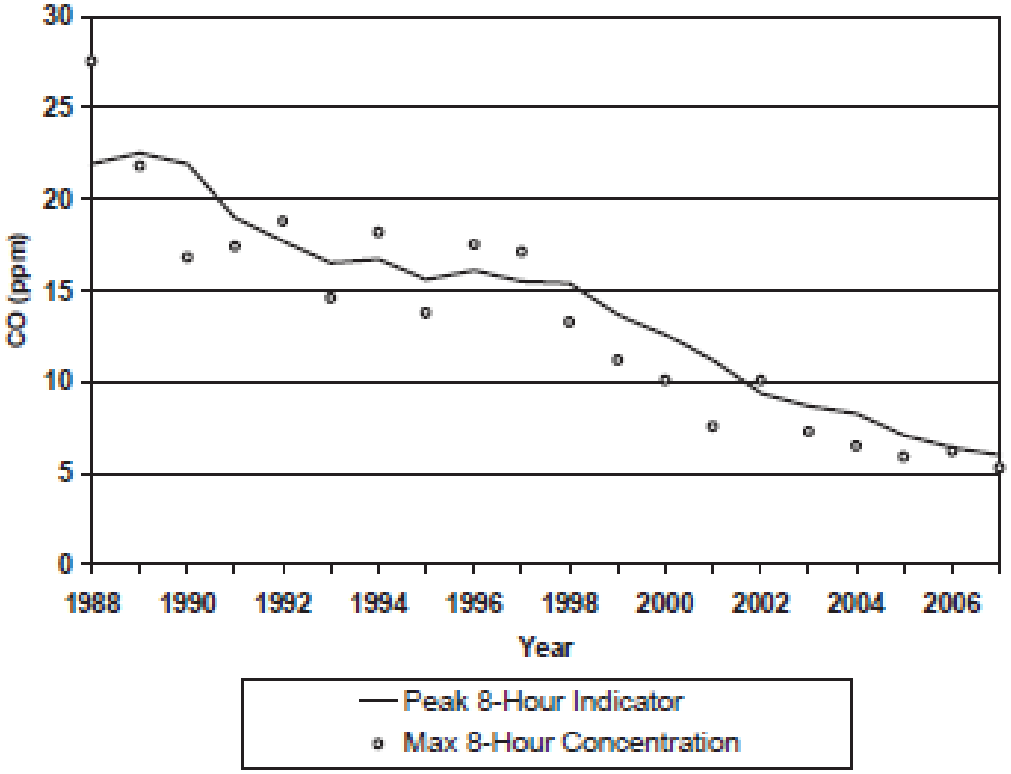


TABLE 2-7: SOUTH COAST AIR BASIN CARBON MONOXIDE TREND

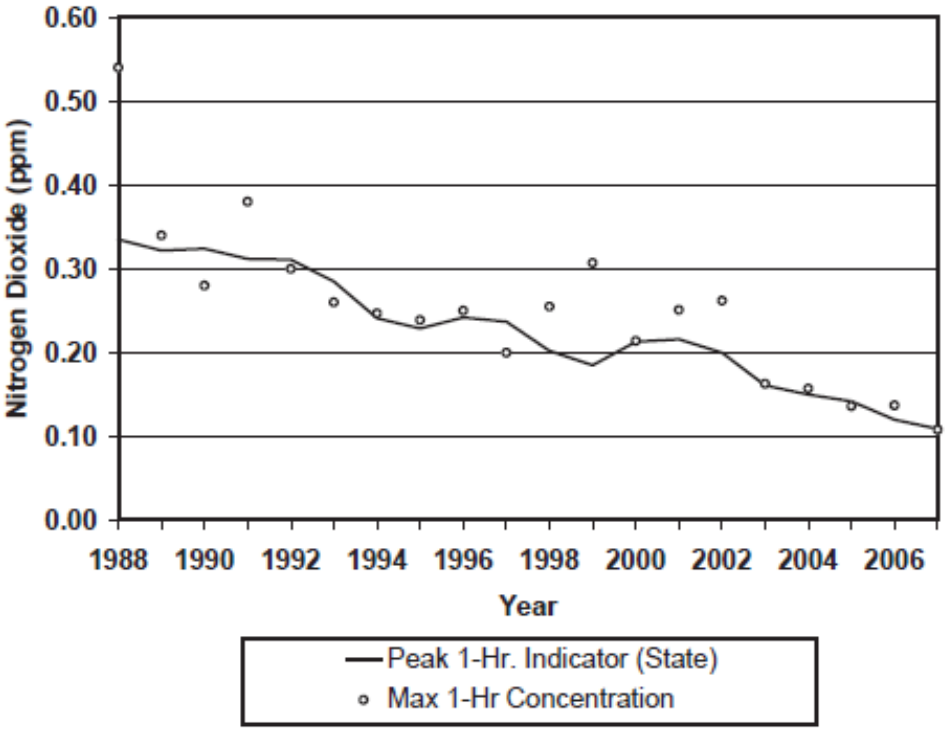


Part of the control process of the SCAQMD's duty to greatly improve the air quality in the Basin is the uniform CEQA review procedures required by SCAQMD's CEQA Handbook (20). The single threshold of significance used to assess Project direct and cumulative impacts has in fact "worked" as evidenced by the track record of the air quality in the Basin dramatically improving over the course of the past decades. As stated by the SCAQMD the District's thresholds of significance are based on factual and scientific data and are therefore appropriate thresholds of significance to use for this Project.

Over the last 20 years, NO_2 values have decreased significantly in the SCAB as shown in Table 2-8. The peak 1-hour indicator for 2007 was over 67 percent lower than what it was during 1988. The SCAB attained the State 1-hour NO_2 standard in 1994, bringing the entire State into attainment. The national annual average standard has not been exceeded since 1991. A new state annual average standard was adopted by the ARB in February 2007. The new standard is just barely exceeded in the South Coast. NO_2 is formed from NO_x emissions, which also contribute to ozone. As a result, the majority of the future emission control measures will be implemented as part of the overall ozone control strategy. Many of these control measures will target mobile sources, which account for more than three-quarters of California's NO_x emissions. These measures are expected to bring the South Coast into attainment of the State annual average standard.

The American Lung Association website includes data collected from State air quality monitors that are used to compile an annual State of the Air report. These reports have been published over the last 13 years. The latest State of the Air Report compiled for the Basin was in 2010 (21). As noted in this report, air quality in the Basin has significantly improved in terms of both pollution levels and high pollution days over the past three decades. The area's average number of high ozone days dropped from 189.5 day per year in the initial 2000 State of the Air report (1996–1998) to 141.8 in the 2006–2008 report. The region has seen dramatic reduction in particle pollution since the initial State of the Air report (21).

TABLE 2-8: SOUTH COAST AIR BASIN NITROGEN DIOXIDE TREND



DIESEL REGULATIONS

The CARB and the Ports of Los Angeles and Long Beach have adopted several iterations of regulations for diesel trucks that are aimed at reducing DPM. More specifically, the CARB Drayage Truck Regulation (22), the CARB statewide On-road Truck and Bus Regulation (23), and the Ports of Los Angeles and Long Beach "Clean Truck Program" (CTP) require accelerated implementation of "clean trucks" into the statewide truck fleet (24). In other words, older more polluting trucks will be replaced with newer, cleaner trucks as a function of these regulatory requirements.

Moreover, the average statewide DPM emissions for Heavy Duty Trucks (HHDT), in terms of grams of DPM generated per mile traveled, will dramatically be reduced due to the aforementioned regulatory requirements. Table 2-9 provides a comparison of the estimated DPM emissions from that would occur under the statewide programs, reflected in EMFAC 2011, and what would occur under the Ports CTP (25).

Diesel emissions identified in this analysis would therefore overstate future DPM emissions since not all the regulatory requirements are reflected in the modeling.

CANCER RISK TRENDS

Based on information available from CARB, overall cancer risk throughout the basin has had a declining trend since 1990. In 1998, following an exhaustive 10-year scientific assessment process, the State of California Air Resources Board (ARB) identified particulate matter from diesel-fueled engines as a toxic air contaminant. Subsequent to this determination, the SCAQMD initiated a comprehensive urban toxic air pollution study, called MATES-II (for Multiple Air Toxics Exposure Study). MATES-II showed that average cancer risk in the SCAB ranges from 1,100 in a million to 1,750 in a million, with an average regional risk of about 1,400 in a million. Moreover, diesel particulate matter (DPM) accounts for more than 70 percent of the cancer risk.

In 2008 the SCAQMD prepared an update to the MATES-II study, referred to as MATES-III. MATES-III is the most comprehensive dataset documenting the ambient air toxic levels and health risks associated with the South Coast Air Basin emissions. Therefore, MATES-III study represents the baseline health risk for a cumulative analysis. MATES-III estimates the average excess cancer risk level from exposure to TACs is approximately 1,200 in one million basin-wide. These model estimates were based on monitoring data collected at ten fixed sites within the South Coast Air Basin. None of the fixed monitoring sites are within the local area of the Project site. However, MATES-III has extrapolated the excess cancer risk levels throughout the basin by modeling the specific grids. MATES-III modeling predicted an excess cancer risk of 566 in one million for the Project area. DPM is included in this cancer risk along with all other TAC sources. DPM accounts for 83.6% of the total risk shown in MATES-III. Cumulative Project generated TACs are limited to DPM. MATES-III data shows that the region around the Project site has an ambient cancer risk of 566 in one million (26).

As Shown on Table 2-10 Annual DPM concentration have been steadily declining since 1990 (19). Additional reductions in diesel risk exposure are anticipated to result from ARB's Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. The annual average basin-wide cancer risk has also been steadily declining since 1990 as shown on Table 2-11.

The key elements of the Plan are to clean up existing engines through engine retrofit emission control devices, to adopt stringent standards for new diesel engines, and to lower the sulfur content of diesel fuel to protect new, and very effective, advanced technology emission control devices on diesel engines. When fully implemented, the Diesel Risk Reduction Plan will significantly reduce emissions from both old and new diesel-fueled motor vehicles and from stationary sources that burn diesel fuel. The goal of the Diesel Risk Reduction Plan is to reduce concentrations by 75 percent by 2010 and 85 percent by 2020.

3 PROJECT AIR QUALITY IMPACT

3.1 INTRODUCTION

The Project has been evaluated to determine if it will violate an air quality standard or contribute to an existing or projected air quality violation. Additionally, the Project has been evaluated to determine if it will result in a cumulatively considerable net increase of a criteria pollutant for which the SCAB is non-attainment under an applicable federal or state ambient air quality standard. The significance of these potential impacts is described in the following section.

3.2 STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related air quality impacts are taken from the Initial Study Checklist in Appendix G of the State CEQA Guidelines (14 California Code of Regulations §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to air quality if it would (27):

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

Within the context of the above threshold considerations, and based on the SCAQMD's CEQA Air Quality Handbook (1993), a project's localized CO emissions impacts would be significant if they exceed the following California standards for localized CO concentrations (20):

- 1-hour CO standard of 20.0 parts per million (ppm)
- 8-hour CO standard of 9.0 ppm.

The SCAQMD has also developed regional and localized significance thresholds for other regulated pollutants, as summarized at Table 3-1 (28). These thresholds apply to both construction and operation of a proposed project. The regional thresholds are based on mass emission rates, while the localized thresholds are based on concentrations of pollutants at specific receptor locations. Additional discussion on the applicability and development of localized thresholds is summarized in Section 3.6 of this report. The SCAQMD's CEQA Air Quality Significance Thresholds (March 2011) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

TABLE 3-1: MAXIMUM DAILY EMISSIONS THRESHOLDS

Pollutant	Construction	Operations
Regional Thresholds		
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
Sox	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Localized Thresholds		
NOx	0.18 ppm	270 lbs/day
PM10	10.4 µg/m3	4 lbs/day
PM2.5	10.4 µg/m3	2 lbs/day
CO	20 ppm (1-hour), 9 ppm (8-hour)	1,746 lbs/day

3.3 PROJECT-RELATED SOURCES OF POTENTIAL IMPACT

Land uses such as the Project affect air quality through construction-source and operational-source emissions.

On October 2, 2013, the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) released the latest version of the California Emissions Estimator Model™ (CalEEMod™) v2013.2.2. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (NO_x, VOC, PM_{10}, $PM_{2.5}$, SO_x, and CO) and greenhouse gas (GHG) emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (29). Accordingly, the latest version of CalEEMod™ has been used for this Project to determine construction and operational air quality emissions. Output from the model runs for both construction and operational activity are provided in Appendix 3.1.

3.4 CONSTRUCTION EMISSIONS

Construction activities associated with the Project will result in emissions of CO, VOCs, NOx, SOx, PM10, and PM2.5. Construction related emissions are expected from the following construction activities:

- Demolition
- Site Preparation
- Grading

- Building Construction
- Painting (Architectural Coatings)
- Paving (curb, gutter, flatwork, and parking lot)
- Construction Workers Commuting

Construction is expected to commence in January 2015 and will last through September 2015. Construction duration by phase is shown on Table 3-2. The construction schedule utilized in the analysis represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as the analysis year increases. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per CEQA guidelines. Site specific construction fleet may vary due to specific project needs at the time of construction. The duration of construction activity was estimated based on consultation with the applicant and a 2015 opening year. Associated equipment was estimated based on consultation with the applicant and past project experience. Please refer to specific detailed modeling inputs/outputs contained in Appendix 3.1 of this analysis. A detailed summary of construction equipment assumptions by phase is provided at Table 3-3. It should be noted that the construction equipment estimates provided at Table 3-3 represent a "worst-case" (i.e. overestimation) of actual construction equipment that will likely be used during construction activities.

Dust is typically a major concern during rough grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions". Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). The CalEEMod model was utilized to calculate fugitive dust emissions resulting from this phase of activity.

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

TABLE 3-2: CONSTRUCTION DURATION

Phase	Duration (working days)
Demolition	15
Site Preparation	5
Grading	20
Building Construction	90
Architectural Coatings	30
Paving	15

TABLE 3-3: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Activity	Equipment	Number	Hours Per Day
Demolition	Concrete/Industrial Saws	1	8
	Crushing/Proc. Equipment	1	8
	Excavators	2	8
	Rubber Tired Dozers	2	8
Site Preparation	Water Trucks	2	8
	Rubber Tired Dozers	4	8
	Tractors/Loaders/Backhoes	2	8
	Excavators	4	8
Grading	Water Trucks	3	8
	Scrapers	6	8
	Graders	4	8
	Rubber Tired Dozers	2	8
	Tractors/Loaders/Backhoes	2	8
	Excavator	1	8
Building Construction	Tractors/Loaders/Backhoes	4	8
	Forklifts	3	8
	Generator Sets	2	8
	Cranes	1	8
	Welders	2	8
Architectural Coatings	Air Compressors	4	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8

3.4.1 CONSTRUCTION EMISSIONS SUMMARY

Impacts Without Mitigation

Impacts without mitigation assume compliance with applicable SCAQMD Rules. The SCAQMD Rules that are currently applicable during construction activity for this Project include but are not limited to: Rule 1113 (Architectural Coatings) (3); Rule 431.2 (Low Sulfur Fuel) (4); Rule 403 (Fugitive Dust) (5); and Rule 1186 / 1186.1 (Street Sweepers) (6).

The estimated maximum daily construction emissions without mitigation are summarized on Table 3-4. Detailed construction model outputs are presented in Appendix 3.1. Under the assumed scenarios, emissions resulting from the Project construction will exceed criteria pollutant thresholds established by the SCAQMD for emissions of VOCs and NOx (before mitigation).

TABLE 3-4: EMISSIONS SUMMARY OF OVERALL CONSTRUCTION (WITHOUT MITIGATION)

Year	Emissions (pounds per day)					
	VOC	NOx	CO	SOx	PM10	PM2.5
2015	105.41	222.06	132.57	0.17	17.06	12.29
Maximum Daily Emissions	**105.41**	**222.06**	**132.57**	**0.17**	**17.06**	**12.29**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**NO**	**NO**	**NO**	**NO**

Impacts With Mitigation

The estimated maximum daily construction emissions with mitigation are summarized on Table 3-5. Detailed construction model outputs are presented in Appendix 3.1. After implementation of MM AQ-1, and MM AQ-2, construction activity emissions will not exceed the numerical thresholds established by the SCAQMD for criteria pollutants. Thus a less than significant impact would occur with implementation of applicable regulatory requirements, MM AQ-1, and MM AQ-2.

TABLE 3-5: EMISSIONS SUMMARY OF OVERALL CONSTRUCTION (WITH MITIGATION)

Year	Emissions (pounds per day)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
2015	64.25	98.44	97.47	0.17	12.15	7.56
Maximum Daily Emissions	**64.25**	**98.44**	**97.47**	**0.17**	**12.15**	**7.56**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

3.5 OPERATIONAL EMISSIONS

Operational activities associated with the proposed Project will result in emissions of ROG, NOX, CO, SOX, PM10, and PM2.5. Operational emissions would be expected from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- On-Site Equipment Emissions

3.5.1 AREA SOURCE EMISSIONS

Architectural Coatings

Over a period of time the buildings that are part of this Project will be subject to emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings as part of Project maintenance. The emissions associated with architectural coatings were calculated using the CalEEMod model.

Consumer Products

Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on defaults provided within the CalEEMod model.

Landscape Maintenance Equipment

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. The emissions associated with landscape maintenance equipment were calculated based on assumptions provided in the CalEEMod model.

3.5.2 ENERGY SOURCE EMISSIONS

Combustion Emissions Associated with Natural Gas and Electricity

Electricity and natural gas are used by almost every project. Criteria pollutant emissions are emitted through the generation of electricity and consumption of natural gas. However, because electrical generating facilities for the Project area are located either outside the region (state) or offset through the use of pollution credits (RECLAIM) for generation within the SCAB, criteria pollutant emissions from offsite generation of electricity is generally excluded from the evaluation of significance and only natural gas use is considered. The emissions associated with natural gas use were calculated using the CalEEMod model.

3.5.3 MOBILE SOURCE EMISSIONS

Vehicles

Project operational (vehicular) impacts are dependent on both overall daily vehicle trip generation and the effect of the Project on peak hour traffic volumes and traffic operations in the vicinity of the Project. The Project related operational air quality impacts derive primarily from vehicle trips generated by the Project. Trip characteristics available from the report, Waterman Avenue High-Cube Warehouse Traffic Impact Analysis (Urban Crossroads) 2014 were utilized in this analysis (30).

Project operational (vehicular) impacts are dependent on both overall daily vehicle trip generation and the effect of the Project on peak hour traffic volumes and traffic operations. Project-related operational air quality impacts derive predominantly from mobile sources (vehicles). It should be noted that the Project's traffic study presents the total Project vehicle trips in terms of Passenger Car Equivalents (PCEs) and actual vehicles in an effort to recognize and acknowledge the effects of heavy vehicles at the study area intersections. Notwithstanding, for purposes of the air quality study, the PCE trips were not used. Rather, to more accurately estimate and model vehicular-source emissions, the actual number of vehicles, by vehicle classification (e.g., passenger cars (including light trucks), heavy trucks) were used in the analysis. The vehicle fleet mix, in terms of actual vehicles, as derived from the traffic study for the Project is comprised of approximately 79.57% passenger cars and approximately 20.43% total trucks. For analysis purposes 16.94% of all trucks are assumed to be Light-Heavy-Duty (LHD), 22.71% of all trucks are assumed to be Medium-Heavy-Duty (MHD), and 60.35% of all trucks are assumed to be Heavy-Heavy-Duty (HHD). The Project was input as a single category or type of land-use (Warehouse) in the CalEEMod™ emissions inventory model. The resulting estimated vehicle-source emissions are summarized at Table 3-6.

The vehicle fleet mix utilized in the Traffic Study for the Project is based upon the *City of Fontana Truck Trip Generation Study,* which provides vehicle fleet mix for two, three, and four-axle trucks based on surveyed data. This same methodology is employed in analyses for similar projects in the City and other jurisdictions within the County, and is considered by the Lead Agency to be appropriate and accurate.

3.5.3.1 Trip Length

Background

A technical deficiency inherent in calculating the projected vehicle emissions associated with any project is related to the estimation of trip length and vehicle miles traveled (VMT). VMT for a given project is calculated by the total number of vehicle trips to/from the Project x average trip length. This method of estimating VMT for use in calculating vehicle emissions likely results in the over-estimation and double-counting of emissions because, for a distribution warehouse center such as the Project, the land use is likely to attract (divert) existing vehicle trips that are already on the circulation system as opposed to generating new trips. In this regard, the Project would, to a large extent, redistribute existing mobile-source emissions rather than generate additional emissions within the Basin. As such, the estimation of the Waterman Avenue High-

Cube Warehouse Project's vehicular-source emissions is likely overstated in that no credit for, or reduction in, emissions is assumed based on diversion of existing trips.

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

SCAQMD Recommendation

In the last five years, the SCAQMD has provided numerous comments on the trip length for warehouse/distribution and industrial land use projects (31). The SCAQMD asserts that the model-default trip length in CalEEMod™ and the URBan EMISsions (URBEMIS) 2007 model (version 9.2.4) would underestimate emissions. The SCAQMD asserts that for warehouse, distribution center, and industrial land use projects, most of the heavy-duty trucks would be hauling consumer goods, often from the Ports of Long Beach and Los Angeles (POLA and POLB) and/or to destinations outside of California. The SCAQMD states that for this reason, the CalEEMod™ and the URBan EMISsions model default trip length (approximately 12.6 miles) would not be representative of activities at like facilities. The SCAQMD generally recommends the use of a 40-mile one-way trip length.

Southern California Association of Government (SCAG) Heavy Duty Truck Model

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

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

Approach for Analysis of the Project

The SCAG approach identified above is deemed to be the most applicable for the Project. This same methodology is employed in analyses for similar projects in the City and other jurisdictions within the County, and is considered by the Lead Agency to be appropriate and accurate.

Two separate model runs were utilized in order to more accurately model emissions resulting from vehicle operations. The first run analyzed passenger car emissions, which incorporated a default trip length of 16.6 miles for passenger cars within San Bernardino County and a fleet mix of 100% Light-Duty-Auto vehicles (LDA). The second run analyzed truck emissions, which incorporated a truck trip length of 24.11 miles and a fleet mix of 16.94% LHD, 22.71% MHD, and 60.35% HHD. Detailed emission calculations are provided in Appendix "3.1".

Fugitive Dust Related to Vehicular Travel

Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of tire wear particulates. The emissions estimates for travel on paved roads were calculated using the CalEEMod model.

3.5.4 ON-STE EQUIPMENT EMISSIONS

It is common for an industrial warehouse project to require cargo handling equipment to move empty containers and empty chassis to and from the various pieces of cargo handling equipment that receive and distribute containers. The most common type of cargo handling equipment is the yard truck which is designed for moving cargo containers. Yard trucks are also known as yard goats, utility tractors (UTRs), hustlers, yard hostlers, and yard tractors. Yard trucks have a horsepower (hp) range of approximately 175 hp to 200 hp. Based on the latest available information from SCAQMD (32); high-cube warehouse projects typically have 3.6 yard trucks per million square feet of building space. For this particular Project, on-site modeled operational equipment includes two 200 hp yard tractors operating at 4 hours a day for 260 days of the year, using a non-diesel fuel[2]. The emissions associated with on-site equipment were calculated using the CalEEMod model.

3.5.5 OPERATIONAL EMISSIONS SUMMARY

Impacts Without Mitigation

Operational-source emissions without implementation of mitigation measures are summarized on Table 3-6. Prior to implementation of appropriate mitigation measures, Project operational-source emissions would not exceed applicable SCAQMD regional thresholds of significance. Therefore, a less than significant impact would occur without the application of mitigation measures.

[2] 4 hour daily on-site operation of the yard trucks is based on the Port of Long Beach Air Emissions Inventory document (June 2008)

TABLE 3-6: SUMMARY OF PEAK OPERATIONAL EMISSIONS (WITHOUT MITIGATION)

Operational Activities – Summer Scenario	Emissions (pounds per day)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Area Source	19.44	4.50e-4	0.05	--	1.70e-4	1.70e-4
Energy Source	0.02	0.21	0.17	1.24e-3	0.02	0.02
Mobile (Trucks)	2.48	39.18	24.94	0.10	3.58	1.45
Mobile (Passenger Cars)	1.70	1.72	25.24	0.06	5.18	1.39
On-Site Equipment	0.45	6.58	1.89	6.68e-3	0.21	0.20
Maximum Daily Emissions	**24.09**	**47.69**	**52.29**	**0.17**	**8.99**	**3.06**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Operational Activities – Winter Scenario	Emissions (pounds per day)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Area Source	19.44	4.50e-4	0.05	--	1.70e-4	1.70e-4
Energy Source	0.02	0.21	0.17	1.24e-3	0.02	0.02
Mobile (Trucks)	2.56	40.76	26.96	0.10	3.58	1.45
Mobile (Passenger Cars)	1.58	1.83	21.58	0.05	5.18	1.39
On-Site Equipment	0.45	6.58	1.89	6.68e-3	0.21	0.20
Maximum Daily Emissions	**24.05**	**49.38**	**50.65**	**0.16**	**8.99**	**3.06**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

3.6 LOCALIZED SIGNIFIANCE - CONSTRUCTION ACTIVITY

BACKGROUND ON LOCALIZED SIGNIFICANCE THRESHOLD (LST) DEVELOPMENT

The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (Methodology) (33). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as Localized Significance Thresholds (LSTs).

The significance of localized emissions impacts depends on whether ambient levels in the vicinity of any given project are above or below State standards. In the case of CO and NO2, if ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a state or federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. This would apply to PM10 and PM2.5; both of which are non-attainment pollutants.

The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses.

LSTs were developed in response to environmental justice and health concerns raised by the public regarding exposure of individuals to criteria pollutants in local communities. To address the issue of localized significance, the SCAQMD adopted LSTs that show whether a project would cause or contribute to localized air quality impacts and thereby cause or contribute to potential localized adverse health effects. The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (LST Methodology) (34).

APPLICABILITY OF LSTS FOR THE PROJECT

For this Project, the appropriate Source Receptor Area (SRA) for the LST is the Central San Bernardino Valley 2 monitoring station (SRA 34). LSTs apply to carbon monoxide (CO), nitrogen dioxide (NO2), particulate matter ≤ 10 microns (PM10), and particulate matter ≤ 2.5 microns (PM2.5). The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size.

In order to determine the appropriate methodology for determining localized impacts that could occur as a result of Project-related construction, the following process is undertaken:

- The CalEEMod model is utilized to determine the maximum daily on-site emissions that will occur during construction activity.
- The SCAQMD's Fact Sheet for Applying CalEEMod to Localized Significance Thresholds (35) is used to determine the maximum site acreage that is actively disturbed based on the construction equipment fleet and equipment hours as estimated in CalEEMod.

EMISSIONS CONSIDERED

SCAQMD's Methodology clearly states that "off-site mobile emissions from the Project should NOT be included in the emissions compared to LSTs (36)." Therefore, for purposes of the construction LST analysis only emissions included in the CalEEMod "on-site" emissions outputs were considered.

MAXIMUM DAILY DISTURBED-ACREAGE

Table 3-7 is used to determine the maximum daily disturbed-acreage for purposes of modeling localized emissions. Based on Table 3-7, the proposed Project could actively disturb approximately 3.0 acres per day during site preparation and 10.0 acres per day during the grading phase of construction.

TABLE 3-7 MAXIMUM DAILY DISTURBED-ACREAGE

Construction Phase	Equipment Type	Equipment Quantity	Acres grader per 8 hour day	Operating Hours per Day	Acres graded per day
Site Preparation	Rubber Tired Dozers	4	0.5	8	2.0
	Tractors	2	0.5	8	1.0
Total acres graded per day during Site Preparation					3.0
Grading	Graders	4	0.5	8	2.0
	Rubber Tired Dozers	2	0.5	8	1.0
	Tractors	2	0.5	8	1.0
	Scrapers	6	1	8	6.0
Total acres graded per day during Grading					10.0

Receptors

The nearest sensitive receptor land use (where an individual could remain for 24 hours) is located immediately adjacent to the site to north. Notwithstanding, the *Methodology* explicitly states that "*It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters* (33)." Accordingly, LSTs for receptors at 25 meters are utilized in this analysis and provide for a conservative i.e. "health protective" standard of care.

DISPERSION MODELING

SCREEN3 (37), is a U.S. EPA approved air quality model that contains algorithms associated with the USEPA's *Screening Procedures for Estimating the Air Quality Impact of Stationary Sources* (38). SCREEN3 was used to calculate localized pollutant concentrations for construction and operational activity. SCREEN3 uses dispersion screening techniques to estimate impacts of point, area, and volume stationary sources. It should be noted that the SCREEN3 model was utilized in lieu of the more robust AERMOD (39) and Industrial Source Complex (ISC) (40) model

in order to account for worst-case conditions, and since precise construction phasing information is not available at this time.

For purposes of this analysis, receptors are conservatively assumed to be located at ~82 feet/25 meters for emissions of CO, PM_{10}, and $PM_{2.5}$. For emissions of NO_2, discrete receptors were placed at 20, 50, 70, 100, 200, 500, 1000, 2000, 3000, 4000, and 5000 meters from the fence-line of the Project site to account for the change in NO_X to NO_2 conversion as a function of distance.

It should be noted that for PM_{10} / $PM_{2.5}$, a discrete receptor was placed at the facility fence-line and the SCAQMD—approved downwind distance equation ($C_x = 0.9403\ C_0\ e^{-0.0462\ X}$) was utilized to predict the concentration at the actual location of the nearest receptor.

- C_x is the predicted PM_{10} concentration at X meters from the fence line.
- C_0 is the PM_{10} concentration at the fence line as estimated by SCREEN3.
- e is the natural logarithm.
- X is the distance in meters from the fence line to the nearest sensitive receptor. (For purposes of this analysis, it is estimated that the nearest sensitive receptor is conservatively located ~82 feet/25 meters from the Project boundary).

For construction, an area source encompassing approximately 3.0 and 10.0 acres was modeled. The urban option of the model was selected, and receptor height was conservatively set at 2.0 meters (consistent with the document Final Localized Significance Threshold Methodology, SCAQMD, June 2003). For PM_{10} and $PM_{2.5}$ a source release height of 1.0 meters was utilized consistent with SCAQMD methodology. Additionally, for emissions of NOX and CO released during construction activity, a source release height of 5.0 meters was utilized.

An emissions rate of 1 gram per second was utilized for emissions of CO, PM_{10}, and $PM_{2.5}$ and the output in micrograms per cubic meter ($\mu g/m^3$) was then multiplied by the emissions rate determined from the CalEEMod model outputs (and averaged over the appropriate time period and disturbance area). For emissions of NO_X, the actual emissions rate (in grams/second/m^2) was programmed into the model. A summary of calculations from both the SCREEN3 model output and calculations for the actual concentration for each pollutant are available for review in Appendix 3.3.

LOCALIZED THRESHOLDS FOR CONSTRUCTION ACTIVITY

The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the Federal and/or State Ambient Air Quality Standards (41).

Applicable localized thresholds are as follows:

- California State 1-hour CO standard of 20.0 ppm;
- California State 8-hour CO standard of 9.0 ppm;
- California State 1-hour NO2 standard of 0.18 ppm;
- SCAQMD 24-hour construction PM_{10} LST of 10.4 µg/m3; or

- SCAQMD 24-hour construction $PM_{2.5}$ LST of 10.4 µg/m3

Impacts Without Mitigation

Without mitigation, emissions during site preparation activity will exceed the SCAQMD's localized significance thresholds for emissions of PM 10 only. Table 3-8 identifies the unmitigated localized impacts at the nearest receptor location in the vicinity of the Project during site preparation activity.

Without mitigation, emissions during grading activity will not exceed the SCAQMD's localized significance thresholds for any criteria pollutant. Table 3-9 identifies the unmitigated localized impacts at the nearest receptor location in the vicinity of the Project during grading activity.

TABLE 3-8 LOCALIZED SIGNIFICANCE SUMMARY SITE PREPARATION (WITHOUT MITIGATION)

Site Preparation	**CO**		**NO_2**	**PM_{10}**	**$PM_{2.5}$**
	Averaging Time				
	1-Hour	8-Hour	1-Hour	24-Hours (Construction)	
Peak Day Localized Emissions	0.526	0.381	0.020	10.90	7.39
Background Concentration [A]	4.80	1.70	0.072		
Total Concentration	**5.33**	**2.08**	**0.09**	**10.90**	**7.39**
SCAQMD Localized Significance Threshold	20	9	0.18	10.4	10.4
Threshold Exceeded?	**NO**	**NO**	**NO**	**YES**	**NO**

TABLE 3-9 LOCALIZED SIGNIFICANCE SUMMARY GRADING (WITHOUT MITIGATION)

Grading	**CO**		**NO_2**	**PM_{10}**	**$PM_{2.5}$**
	Averaging Time				
	1-Hour	8-Hour	1-Hour	24-Hours (Construction)	
Peak Day Localized Emissions	0.490	0.355	0.026	5.56	7.10
Background Concentration [A]	4.80	1.70	0.072		
Total Concentration	**5.29**	**2.06**	**0.10**	**5.56**	**7.10**
SCAQMD Localized Significance Threshold	20	9	0.18	10.4	10.4
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**

Impacts With Mitigation

With implementation of the applicable mitigation measures, emissions during site preparation and grading activity will not exceed the SCAQMD's localized significance thresholds for any criteria pollutant. Table 3-10 and Table 3-11 summarize the mitigated localized impacts at the nearest receptor location in the vicinity of the Project.

TABLE 3-10 LOCALIZED SIGNIFICANCE SUMMARY SITE PREPARATION (WITH MITIGATION)

Site Preparation	CO		NO_2	PM_{10}	$PM_{2.5}$
	Averaging Time				
	1-Hour	8-Hour	1-Hour	24-Hours (Construction)	
Peak Day Localized Emissions	0.351	0.255	0.010	9.00	5.70
Background Concentration [A]	4.80	1.70	0.072		
Total Concentration	**5.15**	**1.96**	**0.08**	**9.00**	**5.70**
SCAQMD Localized Significance Threshold	20	9	0.18	10.4	10.4
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**

TABLE 3-11 LOCALIZED SIGNIFICANCE SUMMARY GRADING (WITH MITIGATION)

Grading	CO		NO_2	PM_{10}	$PM_{2.5}$
	Averaging Time				
	1-Hour	8-Hour	1-Hour	24-Hours (Construction)	
Peak Day Localized Emissions	0.357	0.259	0.012	3.57	2.32
Background Concentration [A]	4.80	1.70	0.072		
Total Concentration	**5.16**	**1.96**	**0.08**	**3.57**	**2.32**
SCAQMD Localized Significance Threshold	20	9	0.18	10.4	10.4
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**

[A] Highest concentration from the last three years of available data
Note: PM_{10} and $PM_{2.5}$ concentrations are expressed in $\mu g/m^3$. All others are expressed in ppm

3.7 LOCALIZED SIGNIFICANCE – LONG-TERM OPERATIONAL ACTIVITY

Table 3-12 shows the calculated emissions for the Project's operational activities compared with the applicable LSTs. The LST analysis includes on-site sources only; however, the CalEEMod™ model outputs do not separate on-site and off-site emissions from mobile sources. In an effort to establish a maximum potential impact scenario for analytic purposes, the emissions shown on Table 3-12 represent all on-site Project-related stationary (area) sources and five percent (5%) of the Project-related mobile sources. Considering that the weighted trip length used in CalEEMod™ for the Project is approximately 24.11 miles for passenger cars and 44 miles for trucks, 5% of this total would represent an on-site travel distance of 1 mile or 5,280 feet for each passenger car and 1.25 miles or 6,600 feet for each truck of approximately. Thus the 5% assumption is conservative and would tend to overstate the actual impact. Modeling based on these assumptions demonstrates that even within broad encompassing parameters, Project operational-source emissions would not exceed applicable LSTs.

As noted previously, the nearest sensitive receptor land use (where an individual could remain for 24 hours) is located immediately adjacent to the site to the north. Notwithstanding, the *Methodology* explicitly states that "*It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters* (42)." Accordingly, LSTs for receptors at 25 meters are utilized in this analysis and provide for a conservative i.e. "health protective" standard of care.

LOCALIZED THRESHOLDS FOR OPERATIONAL ACTIVITY

Applicable localized thresholds from the SCAQMD's mass-rate LST lookup tables for a five-acre project site are as follows:

- NOx: 270 pounds per day;
- PM_{10}: 4 pounds per day;
- $PM_{2.5}$: 2 pounds per day; or
- CO: 1,746 pounds per day.

If emissions exceed the LST for a 5-acre site, then additional dispersion modeling needs to be conducted to determine if there is an actual exceedance of the AAQS. Use of the LSTs for a 5-acre site for operational activities is appropriate since this would result in more stringent LSTs because emissions would occur in a more concentrated area and closer to the nearest sensitive receptor than in reality.

TABLE 3-12: LOCALIZED SIGNIFICANCE SUMMARY OF OPERATIONS (WITHOUT MITIGATION)

Operational Activity	Emissions (pounds per day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	**8.92**	**4.62**	**0.67**	**0.36**
SCAQMD Localized Threshold	270	1,746	4	2
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

As shown on Table 3-12, operational emissions would not exceed the LST thresholds for the nearest sensitive receptor. Therefore, the Project will have a less than significant localized impact during operational activity.

3.8 CO "HOT SPOT" ANALYSIS

As discussed below, the Project would not result in potentially adverse CO concentrations or "hot spots." Further, detailed modeling of Project-specific carbon monoxide (CO) "hot spots" is not needed to reach this conclusion.

It has long been recognized that adverse localized CO concentrations ("hot spots") are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentrations in the Project vicinity have steadily declined, as indicated by historical emissions data presented previously at Table 2-3.

A CO "hotspot" would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. At the time of the 1993 Handbook, the SCAB was

designated nonattainment under the California AAQS and National AAQS for CO (4). As identified within SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of congestion at a particular intersection (43). To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO "hot spot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This hot spot analysis did not predict any violation of CO standards. It can therefore be reasonably concluded that projects (such as the proposed Waterman Avenue High-Cube Warehouse) that are not subject to the extremes in vehicle volumes and vehicle congestion that was evidenced in the 2003 Los Angeles hot spot analysis would similarly not create or result in CO hot spots. Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given 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 (44). The proposed Project considered herein would not produce the volume of traffic required to generate a CO hotspot either in the context of the 2003 Los Angeles hot spot study, or based on representative BAAQMD CO threshold considerations (see Table 3-13). Therefore, CO hotspots are not an environmental impact of concern for the proposed Project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant.

TABLE 3-13: PROJECT PEAK HOUR TRAFFIC VOLUMES

Existing + Ambient + Project + Cumulative (EAPC) 2015 Conditions					
Intersection Location	Northbound (AM/PM)	Southbound (AM/PM)	Eastbound (AM/PM)	Westbound (AM/PM)	Total (AM/PM)
Waterman Avenue/Driveway 1	1,392/1,707	1,382/1,696	0/0	32/35	2,805/3,438
Waterman Avenue/Driveway 2	1,403/1,718	1,391/1,707	0/0	32/35	2,825/3,460
Waterman Avenue/Mill Street	1,441/1,725	1,375/1,709	1,217/1,305	1,107/1,181	5,140/5,920
Horizon Year (2035) With Project Conditions					
Intersection Location	Northbound (AM/PM)	Southbound (AM/PM)	Eastbound (AM/PM)	Westbound (AM/PM)	Total (AM/PM)
Waterman Avenue/Driveway 1	1,676/2,027	1,666/2,016	0/0	32/35	3,374/4,078
Waterman Avenue/Driveway 2	1,688/2,038	1,676/2,027	0/0	32/35	3,396/4,100
Waterman Avenue/Mill Street	1,699/1,985	1,685/2,101	1,782/1,869	1,662/1,791	6,828/7,746

Source: Waterman Avenue Hugh-Cube Warehouse Traffic Impact Analysis (Urban Crossroads, Inc., 2014).

3.9 AIR QUALITY MANAGEMENT PLANNING

The Project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743 square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the Southern California Association of Governments (SCAG), county transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the Basin. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

The Final 2012 AQMP was adopted by the AQMD Governing Board on December 7, 2012 (17). The 2012 AQMP incorporates the latest scientific and technological information and planning assumptions, including the 2012 Regional Transportation Plan/Sustainable Communities Strategy and updated emission inventory methodologies for various source categories.

Similar to the 2007 AQMP, the 2012 AQMP was based on assumptions provided by both CARB and SCAG in the latest available EMFAC model for the most recent motor vehicle and demographics information, respectively. The air quality levels projected in the 2012 AQMP are based on several assumptions. For example, the 2012 AQMP has assumed that development associated with general plans, specific plans, residential projects, and wastewater facilities will be constructed in accordance with population growth projections identified by SCAG in its 2012 RTP. The 2012 AQMP also has assumed that such development projects will implement strategies to reduce emissions generated during the construction and operational phases of development. The Project's consistency with the 2012 AQMP is discussed as follows:

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's CEQA Air Quality Handbook (1993) (20). These indicators are discussed below:

- Consistency Criterion No. 1: The proposed Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

Construction Impacts

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if localized significance thresholds (LSTs) were exceeded. As evaluated as part of the Project LST analysis (previously presented), the Project's localized construction-source emissions with mitigation will not exceed applicable LSTs, and a less than

significant impact is expected. Therefore, the Project would not conflict with the AQMP according to this criterion for construction activity.

Operational Impacts

The Project LST analysis demonstrates that Project operational-source emissions would not exceed applicable LSTs, and are therefore less-than-significant.

On the basis of the preceding discussion, the Project is determined to be consistent with the first criterion.

- Consistency Criterion No. 2: The Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

Construction and Operational Impacts

The 2012 Air Quality Management Plan (AQMP) demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the Southern California Association of Governments (SCAG), which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in the City of San Bernardino General Plan is considered to be consistent with the AQMP. The proposed Project's land use designation (Industrial Light, IL) may be more intense than the currently adopted land use of Office Industrial Park (OIP) and Residential Medium High (RMH). Notwithstanding, it should be noted that the proposed Project's emissions would not exceed regional or local thresholds established by the SCAQMD and would therefore be considered to have a less than significant impact.

AQMP Consistency Conclusion

The Project would not result in or cause NAAQS or CAAQS violations. The Project is therefore considered to be consistent with the AQMP.

3.10 POTENTIAL IMPACTS TO SENSITIVE RECEPTORS

The potential impact of Project-generated air pollutant emissions at sensitive receptors has also been considered. Sensitive receptors can include uses such as long term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, child care centers, and athletic facilities can also be considered as sensitive receptors.

Results of the LST analysis indicate that the Project will not exceed the SCAQMD localized significance thresholds during construction (with mitigation). Therefore sensitive receptors would not be subject to a significant air quality impact during Project construction.

Results of the LST analysis indicate that the Project will not exceed the SCAQMD localized significance thresholds during operational activity. The proposed Project would not result in a CO "hotspot" as a result of Project related traffic during ongoing operations, nor would the Project result in a significant adverse health impact as discussed in Section 3.8. Thus a less than significant impact to sensitive receptors during operational activity is expected.

3.11 ODORS

The potential for the Project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants
- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The Project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed Project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations. The proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project construction and operations would be less than significant and no mitigation is required.

3.12 CUMULATIVE IMPACTS

The Project area is designated as an extreme non-attainment area for ozone, and a non-attainment area for PM_{10} and $PM_{2.5}$.

CRITERION 1; REGIONAL ANALYSIS

Construction Impacts

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that after application of applicable MMs, Project construction-source air pollutant emissions will not result in exceedances of regional thresholds. Therefore, project construction-source emission would be considered less than significant

Operational Impacts

Project operational-source emissions will not exceed applicable SCAQMD regional thresholds. Per SCAQMD significance guidance, these impacts at the Project level are also considered cumulatively less than significant impact persisting over the life of the Project.

CRITERION 2; LIST APPROACH

A list approach is used, in accordance with Section 15130(b) of the CEQA Guidelines, which states the following:

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

The SCAQMD has recognized that there is typically insufficient information to quantitatively evaluate the cumulative contributions of multiple projects because each project applicant has no control over nearby projects. Nevertheless, the potential cumulative impacts from the Project and other projects are discussed below. A cumulative project list was developed for this analysis and is shown in Table 3-14. The combined effects of all projects listed in Table 3-14 would almost certainly exceed the emissions thresholds established by the SCAQMD for construction and operational activity.

As noted in Section 2.8, the SCAQMD's rule development through the 1970sand 1980s resulted in dramatic improvement in Basin air quality. Nearly all control programs developed through the early 1990s relied on (i) the development and application of cleaner technology; (ii) add-on emission controls, and (iii) uniform CEQA review throughout the Basin. Industrial emission sources have been significantly reduced by this approach and vehicular emissions have been reduced by technologies implemented at the state level by CARB.

Related projects could contribute to an existing or projected air quality exceedance because the Basin is currently nonattainment for ozone, PM10, and PM2.5. With regard to determining the significance of the contribution from the Project, the SCAQMD recommends that any given project's potential contribution to cumulative impacts should be assessed using the same significance criteria as for project-specific impacts as discussed in the SCAQMD's *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (45). Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a commutatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable. As previously noted, the Project will not exceed the applicable SCAQMD regional threshold for construction and operational-source emissions. As such, the Project will not result in a cumulatively significant impact.

TABLE 3-14: CUMULATIVE DEVELOPMENT LIST

#	Project Name	Land Use	Quantity	Units
1	CUP 12-04	Religious Facility Addition	0.714	TSF
2	CUP 12-06	Commercial Retail	9.180	TSF
		Fast Food w/ Drive Thru	2.400	TSF
3	CUP 12-12	K-6 Charter School	300	STU
4	CUP 12-13	Auditorium, Community Center	20.000	TSF
5	CUP 12-14	Discount Store	9.026	TSF
6	CUP 12-20	Discount Store	10.500	TSF
7	CUP 12-22	Auditorium, Banquet Hall	5.233	TSF
		Restaurant	0.800	TSF
8	CUP 13-01	Discount Store	26.907	TSF
9	CUP 13-07	Discount Store	12.500	TSF
10	CUP 13-14	Gas Station w/ Convenience Market	2.789	TSF
11	DP2 12-02	Warehousing	345.802	TSF
12	DP2 12-03	Automobile Parts and Service Center	24.953	TSF
13	DP2 12-09	Industrial Park	1,789.990	TSF
14	DP2 12-10	General Light Industrial	480.570	TSF
15	DP2 12-14	General Light Industrial	871.900	TSF
16	DP2 12-18	Automobile Dealership	30.300	TSF
17	DP-D13-01	Shipping Container Storage Yard	12	AC
18	DP-D13-02	Discount Store	12.406	TSF
19	DP-D13-05	Commercial Retail	9.180	TSF
20	Spring Trails Specific Plan	SFDR	304	DU
21	Soil Safe Land Improvement Project	Soil Safe Project	19	AC
22	Education/Office Building	General Office	114.071	TSF
23	Pacific Rail - Metal Shredder	Metal Shredder	1	MS
24	Steel Road/Santa Ana Redevelopment	Industrial Park	159.276	TSF
25	National Orange Show Industrial	High-Cube Warehouse	616.000	TSF
		General Light Industrial	57.750	TSF
		Warehousing	78.960	TSF
26	Alliance California Gateway South Building 3	High-Cube Warehouse	1,119.360	TSF

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5 CERTIFICATION

The contents of this air study report represent an accurate depiction of the environmental impacts associated with the proposed Waterman Avenue High Cube Warehouse Project. The information contained in this air quality impact report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 660-1994 ext. 217.

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EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May, 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June, 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Environmental Site Assessment – American Society for Testing and Materials • June, 2013
Planned Communities and Urban Infill – Urban Land Institute • June, 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April, 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August, 2007
AB2588 Regulatory Standards – Trinity Consultants • November, 2006
Air Dispersion Modeling – Lakes Environmental • June, 2006

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APPENDIX 3.1:

CALEEMOD EMISSIONS MODEL OUTPUTS

CALEEMOD EMISSIONS MODEL OUTPUTS

CONSTRUCTION ONLY

Waterman Avenue High Cube Warehouse (Unmitigated Construction Only)

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	430.00	1000sqft	9.87	430,000.00	0
Parking Lot	9.41	Acre	9.41	409,899.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2015
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	551.29	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Source: CPUC GHG Calculator version 3c, worksheet tab “CO2 Allocations,” cells AH/AQ 35-44.

Land Use - Information obtained from the applicant. Parking = gross site area - building area - landscape area... 854,788 sf - 430,000 sf - 14,700 sf = 410,088 sf = 9.41 acres

Construction Phase - based on a 2015 opening year

Off-road Equipment - based on information provided by the applicant

Off-road Equipment - based on information provided by the applicant

Off-road Equipment - based on information provided by the applicant

Off-road Equipment - based on information provided by the applicant

Off-road Equipment -

Off-road Equipment - based on information provided by the applicant

Demolition - 2,000 SF building ; 3,200 SF metal building ; 2,100 SF residence ; 10,000 SF bulding ; 6,000 SF building ; bridge (80' long ans 12' wide) 960 SF. Total = 24,260

Grading -

Architectural Coating - based on information provided by the applicant

Vehicle Trips - no operational emissions

Vechicle Emission Factors - no operational emissions

Vechicle Emission Factors - no operational emissions

Vechicle Emission Factors - no operational emissions

Energy Use - no operational emissions

Water And Wastewater - no operational emissions

Solid Waste - no operational emissions

Construction Off-road Equipment Mitigation -

Area Mitigation - 150 g/L low VOC paint

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	221,148.00	134,400.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	663,445.00	132,000.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	150
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	150

tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	300.00	90.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	30.00	20.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	10.00	5.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	NT24E	0.82	0.00
tblEnergyUse	NT24NG	0.03	0.00
tblEnergyUse	T24E	0.45	0.00
tblEnergyUse	T24NG	2.11	0.00
tblGrading	AcresOfGrading	160.00	80.00
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	LoadFactor	0.38	0.50
tblOffRoadEquipment	LoadFactor	0.38	0.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	630.89	551.29
tblProjectCharacteristics	OperationalYear	2014	2015
tblSolidWaste	SolidWasteGenerationRate	404.20	0.00
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	LDA	0.47	0.00
tblVehicleEF	LDA	0.47	0.00
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tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LHD1	0.06	0.00
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tblVehicleEF	MCY	4.8710e-003	0.00
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tblVehicleEF	MCY	4.8710e-003	0.00
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tblVehicleEF	MDV	0.16	0.00
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tblVehicleTrips	ST_TR	2.59	0.00
tblVehicleTrips	SU_TR	2.59	0.00
tblVehicleTrips	WD_TR	2.59	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00

tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	IndoorWaterUseRate	99,437,500.00	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					
2015	105.4071	222.0426	132.5729	0.1742	24.4237	10.2088	29.3648	13.3298	9.3921	17.8757	0.0000	18,178.2893	18,178.2893	5.2928	0.0000	18,289.4386
Total	**105.4071**	**222.0426**	**132.5729**	**0.1742**	**24.4237**	**10.2088**	**29.3648**	**13.3298**	**9.3921**	**17.8757**	**0.0000**	**18,178.2893**	**18,178.2893**	**5.2928**	**0.0000**	**18,289.4386**

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					
2015	105.4071	222.0426	132.5729	0.1742	9.7298	10.2088	17.0634	5.2529	9.3921	12.2861	0.0000	18,178.2893	18,178.2893	5.2928	0.0000	18,289.4386
Total	**105.4071**	**222.0426**	**132.5729**	**0.1742**	**9.7298**	**10.2088**	**17.0634**	**5.2529**	**9.3921**	**12.2861**	**0.0000**	**18,178.2893**	**18,178.2893**	**5.2928**	**0.0000**	**18,289.4386**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**60.16**	**0.00**	**41.89**	**60.59**	**0.00**	**31.27**	**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	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
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	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	**19.4429**	**4.5000e-004**	**0.0464**	**0.0000**	**0.0000**	**1.7000e-004**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**	**0.0000**	**0.1020**

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	18.3196	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
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	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	**18.3196**	**4.5000e-004**	**0.0464**	**0.0000**	**0.0000**	**1.7000e-004**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**	**0.0000**	**0.1020**

	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	N20	CO2e
Percent Reduction	**5.78**	**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	1/1/2015	1/21/2015	5	15	
2	Site Preparation	Site Preparation	1/22/2015	1/28/2015	5	5	
3	Grading	Grading	1/29/2015	2/25/2015	5	20	
4	Building Construction	Building Construction	2/26/2015	7/1/2015	5	90	
5	Architectural Coating	Architectural Coating	7/2/2015	8/12/2015	5	30	
6	Paving	Paving	8/13/2015	9/2/2015	5	15	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 80

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 132,000; Non-Residential Outdoor: 134,400 (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	Crushing/Proc. Equipment	1	8.00	85	0.78
Demolition	Excavators	2	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Excavators	4	8.00	162	0.38
Site Preparation	Off-Highway Trucks	2	8.00	189	0.50
Site Preparation	Rubber Tired Dozers	4	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	4	8.00	174	0.41
Grading	Off-Highway Trucks	3	8.00	189	0.50
Grading	Rubber Tired Dozers	2	8.00	255	0.40
Grading	Scrapers	6	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Architectural Coating	Air Compressors	4	8.00	78	0.48
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

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	6	15.00	0.00	110.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	12	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	18	45.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	12	353.00	138.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	4	71.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 Demolition - 2015

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					1.5920	0.0000	1.5920	0.2411	0.0000	0.2411			0.0000			0.0000
Off-Road	5.0237	49.3915	37.1471	0.0416		2.7135	2.7135		2.5677	2.5677		4,236.1685	4,236.1685	1.0360		4,257.9242
Total	**5.0237**	**49.3915**	**37.1471**	**0.0416**	**1.5920**	**2.7135**	**4.3055**	**0.2411**	**2.5677**	**2.8087**		**4,236.1685**	**4,236.1685**	**1.0360**		**4,257.9242**

3.2 Demolition - 2015

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	0.1440	2.2919	1.5543	5.3800e-003	0.1277	0.0392	0.1669	0.0350	0.0361	0.0711		548.0532	548.0532	4.3300e-003		548.1441
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	0.0722	0.0876	1.1491	2.1100e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		181.6880	181.6880	9.5200e-003		181.8880
Total	**0.2162**	**2.3795**	**2.7034**	**7.4900e-003**	**0.2954**	**0.0405**	**0.3359**	**0.0794**	**0.0373**	**0.1167**		**729.7412**	**729.7412**	**0.0139**		**730.0321**

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					0.6209	0.0000	0.6209	0.0940	0.0000	0.0940			0.0000			0.0000
Off-Road	5.0237	49.3915	37.1471	0.0416		2.7135	2.7135		2.5677	2.5677	0.0000	4,236.1685	4,236.1685	1.0360		4,257.9242
Total	**5.0237**	**49.3915**	**37.1471**	**0.0416**	**0.6209**	**2.7135**	**3.3344**	**0.0940**	**2.5677**	**2.6617**	**0.0000**	**4,236.1685**	**4,236.1685**	**1.0360**		**4,257.9242**

3.2 Demolition - 2015

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	0.1440	2.2919	1.5543	5.3800e-003	0.1277	0.0392	0.1669	0.0350	0.0361	0.0711		548.0532	548.0532	4.3300e-003		548.1441
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	0.0722	0.0876	1.1491	2.1100e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		181.6880	181.6880	9.5200e-003		181.8880
Total	**0.2162**	**2.3795**	**2.7034**	**7.4900e-003**	**0.2954**	**0.0405**	**0.3359**	**0.0794**	**0.0373**	**0.1167**		**729.7412**	**729.7412**	**0.0139**		**730.0321**

3.3 Site Preparation - 2015

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					24.0883	0.0000	24.0883	13.2409	0.0000	13.2409			0.0000			0.0000
Off-Road	9.0576	101.3464	68.8470	0.0791		4.9385	4.9385		4.5435	4.5435		8,305.6447	8,305.6447	2.4796		8,357.7160
Total	**9.0576**	**101.3464**	**68.8470**	**0.0791**	**24.0883**	**4.9385**	**29.0269**	**13.2409**	**4.5435**	**17.7844**		**8,305.6447**	**8,305.6447**	**2.4796**		**8,357.7160**

3.3 Site Preparation - 2015

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	0.1444	0.1751	2.2982	4.2200e-003	0.3353	2.6200e-003	0.3380	0.0889	2.4000e-003	0.0913		363.3759	363.3759	0.0191		363.7759
Total	**0.1444**	**0.1751**	**2.2982**	**4.2200e-003**	**0.3353**	**2.6200e-003**	**0.3380**	**0.0889**	**2.4000e-003**	**0.0913**		**363.3759**	**363.3759**	**0.0191**		**363.7759**

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					9.3945	0.0000	9.3945	5.1640	0.0000	5.1640			0.0000			0.0000
Off-Road	9.0576	101.3464	68.8470	0.0791		4.9385	4.9385		4.5435	4.5435	0.0000	8,305.6447	8,305.6447	2.4796		8,357.7160
Total	**9.0576**	**101.3464**	**68.8470**	**0.0791**	**9.3945**	**4.9385**	**14.3330**	**5.1640**	**4.5435**	**9.7074**	**0.0000**	**8,305.6447**	**8,305.6447**	**2.4796**		**8,357.7160**

3.3 Site Preparation - 2015

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	0.1444	0.1751	2.2982	4.2200e-003	0.3353	2.6200e-003	0.3380	0.0889	2.4000e-003	0.0913		363.3759	363.3759	0.0191		363.7759
Total	**0.1444**	**0.1751**	**2.2982**	**4.2200e-003**	**0.3353**	**2.6200e-003**	**0.3380**	**0.0889**	**2.4000e-003**	**0.0913**		**363.3759**	**363.3759**	**0.0191**		**363.7759**

3.4 Grading - 2015

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					16.2862	0.0000	16.2862	7.0785	0.0000	7.0785			0.0000			0.0000
Off-Road	18.9567	221.7799	129.1256	0.1679		10.2049	10.2049		9.3885	9.3885		17,633.2254	17,633.2254	5.2643		17,743.7747
Total	**18.9567**	**221.7799**	**129.1256**	**0.1679**	**16.2862**	**10.2049**	**26.4911**	**7.0785**	**9.3885**	**16.4670**		**17,633.2254**	**17,633.2254**	**5.2643**		**17,743.7747**

3.4 Grading - 2015

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	0.2165	0.2627	3.4473	6.3300e-003	0.5030	3.9300e-003	0.5069	0.1334	3.6000e-003	0.1370		545.0639	545.0639	0.0286		545.6639
Total	**0.2165**	**0.2627**	**3.4473**	**6.3300e-003**	**0.5030**	**3.9300e-003**	**0.5069**	**0.1334**	**3.6000e-003**	**0.1370**		**545.0639**	**545.0639**	**0.0286**		**545.6639**

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					6.3516	0.0000	6.3516	2.7606	0.0000	2.7606			0.0000			0.0000
Off-Road	18.9567	221.7799	129.1256	0.1679		10.2049	10.2049		9.3885	9.3885	0.0000	17,633.2254	17,633.2254	5.2643		17,743.7747
Total	**18.9567**	**221.7799**	**129.1256**	**0.1679**	**6.3516**	**10.2049**	**16.5565**	**2.7606**	**9.3885**	**12.1491**	**0.0000**	**17,633.2254**	**17,633.2254**	**5.2643**		**17,743.7747**

3.4 Grading - 2015

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	0.2165	0.2627	3.4473	6.3300e-003	0.5030	3.9300e-003	0.5069	0.1334	3.6000e-003	0.1370		545.0639	545.0639	0.0286		545.6639
Total	**0.2165**	**0.2627**	**3.4473**	**6.3300e-003**	**0.5030**	**3.9300e-003**	**0.5069**	**0.1334**	**3.6000e-003**	**0.1370**		**545.0639**	**545.0639**	**0.0286**		**545.6639**

3.5 Building Construction - 2015

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	5.5872	42.9454	28.3298	0.0410		3.0738	3.0738		2.9139	2.9139		4,044.4295	4,044.4295	0.9512		4,064.4039
Total	**5.5872**	**42.9454**	**28.3298**	**0.0410**		**3.0738**	**3.0738**		**2.9139**	**2.9139**		**4,044.4295**	**4,044.4295**	**0.9512**		**4,064.4039**

3.5 Building Construction - 2015

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	1.3332	13.6551	14.9282	0.0301	0.8670	0.2397	1.1067	0.2475	0.2204	0.4679		3,043.7114	3,043.7114	0.0240		3,044.2154
Worker	1.6985	2.0607	27.0423	0.0496	3.9457	0.0308	3.9765	1.0464	0.0282	1.0747		4,275.7234	4,275.7234	0.2241		4,280.4300
Total	**3.0317**	**15.7157**	**41.9706**	**0.0797**	**4.8127**	**0.2705**	**5.0832**	**1.2939**	**0.2486**	**1.5426**		**7,319.4348**	**7,319.4348**	**0.2481**		**7,324.6454**

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	5.5872	42.9454	28.3298	0.0410		3.0738	3.0738		2.9139	2.9139	0.0000	4,044.4295	4,044.4295	0.9512		4,064.4039
Total	**5.5872**	**42.9454**	**28.3298**	**0.0410**		**3.0738**	**3.0738**		**2.9139**	**2.9139**	**0.0000**	**4,044.4295**	**4,044.4295**	**0.9512**		**4,064.4039**

3.5 Building Construction - 2015

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	1.3332	13.6551	14.9282	0.0301	0.8670	0.2397	1.1067	0.2475	0.2204	0.4679		3,043.7114	3,043.7114	0.0240		3,044.2154
Worker	1.6985	2.0607	27.0423	0.0496	3.9457	0.0308	3.9765	1.0464	0.0282	1.0747		4,275.7234	4,275.7234	0.2241		4,280.4300
Total	**3.0317**	**15.7157**	**41.9706**	**0.0797**	**4.8127**	**0.2705**	**5.0832**	**1.2939**	**0.2486**	**1.5426**		**7,319.4348**	**7,319.4348**	**0.2481**		**7,324.6454**

3.6 Architectural Coating - 2015

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	102.8970					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	2.1685	13.7084	10.1427	0.0159		1.1780	1.1780		1.1780	1.1780		1,501.0563	1,501.0563	0.1955		1,505.1609
Total	**105.0655**	**13.7084**	**10.1427**	**0.0159**		**1.1780**	**1.1780**		**1.1780**	**1.1780**		**1,501.0563**	**1,501.0563**	**0.1955**		**1,505.1609**

3.6 Architectural Coating - 2015

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	0.3416	0.4145	5.4391	9.9800e-003	0.7936	6.2000e-003	0.7998	0.2105	5.6800e-003	0.2162		859.9897	859.9897	0.0451		860.9363
Total	**0.3416**	**0.4145**	**5.4391**	**9.9800e-003**	**0.7936**	**6.2000e-003**	**0.7998**	**0.2105**	**5.6800e-003**	**0.2162**		**859.9897**	**859.9897**	**0.0451**		**860.9363**

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	102.8970					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	2.1685	13.7084	10.1427	0.0159		1.1780	1.1780		1.1780	1.1780	0.0000	1,501.0563	1,501.0563	0.1955		1,505.1609
Total	**105.0655**	**13.7084**	**10.1427**	**0.0159**		**1.1780**	**1.1780**		**1.1780**	**1.1780**	**0.0000**	**1,501.0563**	**1,501.0563**	**0.1955**		**1,505.1609**

3.6 Architectural Coating - 2015

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	0.3416	0.4145	5.4391	9.9800e-003	0.7936	6.2000e-003	0.7998	0.2105	5.6800e-003	0.2162		859.9897	859.9897	0.0451		860.9363
Total	**0.3416**	**0.4145**	**5.4391**	**9.9800e-003**	**0.7936**	**6.2000e-003**	**0.7998**	**0.2105**	**5.6800e-003**	**0.2162**		**859.9897**	**859.9897**	**0.0451**		**860.9363**

3.7 Paving - 2015

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	2.3172	25.1758	14.9781	0.0223		1.4148	1.4148		1.3016	1.3016		2,339.8984	2,339.8984	0.6986		2,354.5681
Paving	1.6436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.9608**	**25.1758**	**14.9781**	**0.0223**		**1.4148**	**1.4148**		**1.3016**	**1.3016**		**2,339.8984**	**2,339.8984**	**0.6986**		**2,354.5681**

3.7 Paving - 2015

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	0.0722	0.0876	1.1491	2.1100e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		181.6880	181.6880	9.5200e-003		181.8880
Total	**0.0722**	**0.0876**	**1.1491**	**2.1100e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2000e-003**	**0.0457**		**181.6880**	**181.6880**	**9.5200e-003**		**181.8880**

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	2.3172	25.1758	14.9781	0.0223		1.4148	1.4148		1.3016	1.3016	0.0000	2,339.8984	2,339.8984	0.6986		2,354.5681
Paving	1.6436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.9608**	**25.1758**	**14.9781**	**0.0223**		**1.4148**	**1.4148**		**1.3016**	**1.3016**	**0.0000**	**2,339.8984**	**2,339.8984**	**0.6986**		**2,354.5681**

3.7 Paving - 2015

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	0.0722	0.0876	1.1491	2.1100e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		181.6880	181.6880	9.5200e-003		181.8880
Total	**0.0722**	**0.0876**	**1.1491**	**2.1100e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2000e-003**	**0.0457**		**181.6880**	**181.6880**	**9.5200e-003**		**181.8880**

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	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
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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	0.00	0.00	0.00	59.00	0.00	41.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

4.4 Fleet Mix

5.0 Energy Detail

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
Unrefrigerated Warehouse-No Rail	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**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/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
Unrefrigerated Warehouse-No Rail	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	18.3196	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Unmitigated	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020

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	2.8083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.6300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5900e-003	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Total	**19.4429**	**4.5000e-004**	**0.0464**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**		**0.1020**

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	1.6850					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.6300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5900e-003	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Total	**18.3196**	**4.5000e-004**	**0.0464**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**		**0.1020**

7.0 Water Detail

7.1 Mitigation Measures Water

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

10.0 Vegetation

Waterman Avenue High Cube Warehouse (Unmitigated Construction Only)

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	430.00	1000sqft	9.87	430,000.00	0
Parking Lot	9.41	Acre	9.41	409,899.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2015
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	551.29	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Source: CPUC GHG Calculator version 3c, worksheet tab “CO2 Allocations,” cells AH/AQ 35-44.

Land Use - Information obtained from the applicant. Parking = gross site area - building area - landscape area... 854,788 sf - 430,000 sf - 14,700 sf = 410,088 sf = 9.41 acres

Construction Phase - based on a 2015 opening year

Off-road Equipment - based on information provided by the applicant

Off-road Equipment - based on information provided by the applicant

Off-road Equipment - based on information provided by the applicant

Off-road Equipment - based on information provided by the applicant

Off-road Equipment -

Off-road Equipment - based on information provided by the applicant

Demolition - 2,000 SF building ; 3,200 SF metal building ; 2,100 SF residence ; 10,000 SF bulding ; 6,000 SF building ; bridge (80' long ans 12' wide) 960 SF. Total = 24,260

Grading -

Architectural Coating - based on information provided by the applicant

Vehicle Trips - no operational emissions

Vechicle Emission Factors - no operational emissions

Vechicle Emission Factors - no operational emissions

Vechicle Emission Factors - no operational emissions

Energy Use - no operational emissions

Water And Wastewater - no operational emissions

Solid Waste - no operational emissions

Construction Off-road Equipment Mitigation -

Area Mitigation - 150 g/L low VOC paint

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	221,148.00	134,400.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	663,445.00	132,000.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	150
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	150

tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	300.00	90.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	30.00	20.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	10.00	5.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	NT24E	0.82	0.00
tblEnergyUse	NT24NG	0.03	0.00
tblEnergyUse	T24E	0.45	0.00
tblEnergyUse	T24NG	2.11	0.00
tblGrading	AcresOfGrading	160.00	80.00
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	LoadFactor	0.38	0.50
tblOffRoadEquipment	LoadFactor	0.38	0.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	630.89	551.29
tblProjectCharacteristics	OperationalYear	2014	2015
tblSolidWaste	SolidWasteGenerationRate	404.20	0.00
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	LDA	0.47	0.00
tblVehicleEF	LDA	0.47	0.00
tblVehicleEF	LDA	0.47	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MDV	0.16	0.00

tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	ST_TR	2.59	0.00
tblVehicleTrips	SU_TR	2.59	0.00
tblVehicleTrips	WD_TR	2.59	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00

tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	IndoorWaterUseRate	99,437,500.00	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					
2015	105.3873	222.0608	132.0819	0.1736	24.4237	10.2088	29.3648	13.3298	9.3921	17.8757	0.0000	18,129.7995	18,129.7995	5.2928	0.0000	18,240.9488
Total	**105.3873**	**222.0608**	**132.0819**	**0.1736**	**24.4237**	**10.2088**	**29.3648**	**13.3298**	**9.3921**	**17.8757**	**0.0000**	**18,129.7995**	**18,129.7995**	**5.2928**	**0.0000**	**18,240.9488**

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					
2015	105.3873	222.0608	132.0819	0.1736	9.7298	10.2088	17.0634	5.2529	9.3921	12.2861	0.0000	18,129.7995	18,129.7995	5.2928	0.0000	18,240.9488
Total	**105.3873**	**222.0608**	**132.0819**	**0.1736**	**9.7298**	**10.2088**	**17.0634**	**5.2529**	**9.3921**	**12.2861**	**0.0000**	**18,129.7995**	**18,129.7995**	**5.2928**	**0.0000**	**18,240.9488**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**60.16**	**0.00**	**41.89**	**60.59**	**0.00**	**31.27**	**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	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
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	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	**19.4429**	**4.5000e-004**	**0.0464**	**0.0000**	**0.0000**	**1.7000e-004**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**	**0.0000**	**0.1020**

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	18.3196	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
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	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	**18.3196**	**4.5000e-004**	**0.0464**	**0.0000**	**0.0000**	**1.7000e-004**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**	**0.0000**	**0.1020**

	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	N20	CO2e
Percent Reduction	**5.78**	**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	1/1/2015	1/21/2015	5	15	
2	Site Preparation	Site Preparation	1/22/2015	1/28/2015	5	5	
3	Grading	Grading	1/29/2015	2/25/2015	5	20	
4	Building Construction	Building Construction	2/26/2015	7/1/2015	5	90	
5	Architectural Coating	Architectural Coating	7/2/2015	8/12/2015	5	30	
6	Paving	Paving	8/13/2015	9/2/2015	5	15	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 80

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 132,000; Non-Residential Outdoor: 134,400 (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	Crushing/Proc. Equipment	1	8.00	85	0.78
Demolition	Excavators	2	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Excavators	4	8.00	162	0.38
Site Preparation	Off-Highway Trucks	2	8.00	189	0.50
Site Preparation	Rubber Tired Dozers	4	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	4	8.00	174	0.41
Grading	Off-Highway Trucks	3	8.00	189	0.50
Grading	Rubber Tired Dozers	2	8.00	255	0.40
Grading	Scrapers	6	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Architectural Coating	Air Compressors	4	8.00	78	0.48
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

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	6	15.00	0.00	110.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	12	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	18	45.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	12	353.00	138.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	4	71.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 Demolition - 2015

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					1.5920	0.0000	1.5920	0.2411	0.0000	0.2411			0.0000			0.0000
Off-Road	5.0237	49.3915	37.1471	0.0416		2.7135	2.7135		2.5677	2.5677		4,236.1685	4,236.1685	1.0360		4,257.9242
Total	**5.0237**	**49.3915**	**37.1471**	**0.0416**	**1.5920**	**2.7135**	**4.3055**	**0.2411**	**2.5677**	**2.8087**		**4,236.1685**	**4,236.1685**	**1.0360**		**4,257.9242**

3.2 Demolition - 2015

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	0.1497	2.3829	1.7031	5.3700e-003	0.1277	0.0394	0.1671	0.0350	0.0362	0.0712		546.7466	546.7466	4.3800e-003		546.8387
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	0.0680	0.0936	0.9855	1.9200e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		165.5247	165.5247	9.5200e-003		165.7247
Total	**0.2176**	**2.4765**	**2.6886**	**7.2900e-003**	**0.2954**	**0.0407**	**0.3360**	**0.0794**	**0.0374**	**0.1168**		**712.2713**	**712.2713**	**0.0139**		**712.5634**

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					0.6209	0.0000	0.6209	0.0940	0.0000	0.0940			0.0000			0.0000
Off-Road	5.0237	49.3915	37.1471	0.0416		2.7135	2.7135		2.5677	2.5677	0.0000	4,236.1685	4,236.1685	1.0360		4,257.9242
Total	**5.0237**	**49.3915**	**37.1471**	**0.0416**	**0.6209**	**2.7135**	**3.3344**	**0.0940**	**2.5677**	**2.6617**	**0.0000**	**4,236.1685**	**4,236.1685**	**1.0360**		**4,257.9242**

3.2 Demolition - 2015

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	0.1497	2.3829	1.7031	5.3700e-003	0.1277	0.0394	0.1671	0.0350	0.0362	0.0712		546.7466	546.7466	4.3800e-003		546.8387
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	0.0680	0.0936	0.9855	1.9200e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		165.5247	165.5247	9.5200e-003		165.7247
Total	**0.2176**	**2.4765**	**2.6886**	**7.2900e-003**	**0.2954**	**0.0407**	**0.3360**	**0.0794**	**0.0374**	**0.1168**		**712.2713**	**712.2713**	**0.0139**		**712.5634**

3.3 Site Preparation - 2015

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					24.0883	0.0000	24.0883	13.2409	0.0000	13.2409			0.0000			0.0000
Off-Road	9.0576	101.3464	68.8470	0.0791		4.9385	4.9385		4.5435	4.5435		8,305.6447	8,305.6447	2.4796		8,357.7160
Total	**9.0576**	**101.3464**	**68.8470**	**0.0791**	**24.0883**	**4.9385**	**29.0269**	**13.2409**	**4.5435**	**17.7844**		**8,305.6447**	**8,305.6447**	**2.4796**		**8,357.7160**

3.3 Site Preparation - 2015

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	0.1360	0.1873	1.9709	3.8400e-003	0.3353	2.6200e-003	0.3380	0.0889	2.4000e-003	0.0913		331.0494	331.0494	0.0191		331.4494
Total	**0.1360**	**0.1873**	**1.9709**	**3.8400e-003**	**0.3353**	**2.6200e-003**	**0.3380**	**0.0889**	**2.4000e-003**	**0.0913**		**331.0494**	**331.0494**	**0.0191**		**331.4494**

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					9.3945	0.0000	9.3945	5.1640	0.0000	5.1640			0.0000			0.0000
Off-Road	9.0576	101.3464	68.8470	0.0791		4.9385	4.9385		4.5435	4.5435	0.0000	8,305.6447	8,305.6447	2.4796		8,357.7160
Total	**9.0576**	**101.3464**	**68.8470**	**0.0791**	**9.3945**	**4.9385**	**14.3330**	**5.1640**	**4.5435**	**9.7074**	**0.0000**	**8,305.6447**	**8,305.6447**	**2.4796**		**8,357.7160**

3.3 Site Preparation - 2015

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	0.1360	0.1873	1.9709	3.8400e-003	0.3353	2.6200e-003	0.3380	0.0889	2.4000e-003	0.0913		331.0494	331.0494	0.0191		331.4494
Total	**0.1360**	**0.1873**	**1.9709**	**3.8400e-003**	**0.3353**	**2.6200e-003**	**0.3380**	**0.0889**	**2.4000e-003**	**0.0913**		**331.0494**	**331.0494**	**0.0191**		**331.4494**

3.4 Grading - 2015

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					16.2862	0.0000	16.2862	7.0785	0.0000	7.0785			0.0000			0.0000
Off-Road	18.9567	221.7799	129.1256	0.1679		10.2049	10.2049		9.3885	9.3885		17,633.2254	17,633.2254	5.2643		17,743.7747
Total	**18.9567**	**221.7799**	**129.1256**	**0.1679**	**16.2862**	**10.2049**	**26.4911**	**7.0785**	**9.3885**	**16.4670**		**17,633.2254**	**17,633.2254**	**5.2643**		**17,743.7747**

3.4 Grading - 2015

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	0.2040	0.2809	2.9564	5.7600e-003	0.5030	3.9300e-003	0.5069	0.1334	3.6000e-003	0.1370		496.5741	496.5741	0.0286		497.1741
Total	**0.2040**	**0.2809**	**2.9564**	**5.7600e-003**	**0.5030**	**3.9300e-003**	**0.5069**	**0.1334**	**3.6000e-003**	**0.1370**		**496.5741**	**496.5741**	**0.0286**		**497.1741**

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					6.3516	0.0000	6.3516	2.7606	0.0000	2.7606			0.0000			0.0000
Off-Road	18.9567	221.7799	129.1256	0.1679		10.2049	10.2049		9.3885	9.3885	0.0000	17,633.2254	17,633.2254	5.2643		17,743.7747
Total	**18.9567**	**221.7799**	**129.1256**	**0.1679**	**6.3516**	**10.2049**	**16.5565**	**2.7606**	**9.3885**	**12.1491**	**0.0000**	**17,633.2254**	**17,633.2254**	**5.2643**		**17,743.7747**

3.4 Grading - 2015

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	0.2040	0.2809	2.9564	5.7600e-003	0.5030	3.9300e-003	0.5069	0.1334	3.6000e-003	0.1370		496.5741	496.5741	0.0286		497.1741
Total	**0.2040**	**0.2809**	**2.9564**	**5.7600e-003**	**0.5030**	**3.9300e-003**	**0.5069**	**0.1334**	**3.6000e-003**	**0.1370**		**496.5741**	**496.5741**	**0.0286**		**497.1741**

3.5 Building Construction - 2015

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	5.5872	42.9454	28.3298	0.0410		3.0738	3.0738		2.9139	2.9139		4,044.4295	4,044.4295	0.9512		4,064.4039
Total	**5.5872**	**42.9454**	**28.3298**	**0.0410**		**3.0738**	**3.0738**		**2.9139**	**2.9139**		**4,044.4295**	**4,044.4295**	**0.9512**		**4,064.4039**

3.5 Building Construction - 2015

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	1.4188	14.0355	16.9203	0.0298	0.8670	0.2426	1.1095	0.2475	0.2230	0.4706		3,018.3147	3,018.3147	0.0247		3,018.8328
Worker	1.5999	2.2035	23.1910	0.0452	3.9457	0.0308	3.9765	1.0464	0.0282	1.0747		3,895.3483	3,895.3483	0.2241		3,900.0548
Total	**3.0187**	**16.2390**	**40.1113**	**0.0750**	**4.8127**	**0.2734**	**5.0860**	**1.2939**	**0.2513**	**1.5452**		**6,913.6629**	**6,913.6629**	**0.2488**		**6,918.8876**

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	5.5872	42.9454	28.3298	0.0410		3.0738	3.0738		2.9139	2.9139	0.0000	4,044.4295	4,044.4295	0.9512		4,064.4039
Total	**5.5872**	**42.9454**	**28.3298**	**0.0410**		**3.0738**	**3.0738**		**2.9139**	**2.9139**	**0.0000**	**4,044.4295**	**4,044.4295**	**0.9512**		**4,064.4039**

3.5 Building Construction - 2015

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	1.4188	14.0355	16.9203	0.0298	0.8670	0.2426	1.1095	0.2475	0.2230	0.4706		3,018.3147	3,018.3147	0.0247		3,018.8328
Worker	1.5999	2.2035	23.1910	0.0452	3.9457	0.0308	3.9765	1.0464	0.0282	1.0747		3,895.3483	3,895.3483	0.2241		3,900.0548
Total	**3.0187**	**16.2390**	**40.1113**	**0.0750**	**4.8127**	**0.2734**	**5.0860**	**1.2939**	**0.2513**	**1.5452**		**6,913.6629**	**6,913.6629**	**0.2488**		**6,918.8876**

3.6 Architectural Coating - 2015

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	102.8970					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	2.1685	13.7084	10.1427	0.0159		1.1780	1.1780		1.1780	1.1780		1,501.0563	1,501.0563	0.1955		1,505.1609
Total	**105.0655**	**13.7084**	**10.1427**	**0.0159**		**1.1780**	**1.1780**		**1.1780**	**1.1780**		**1,501.0563**	**1,501.0563**	**0.1955**		**1,505.1609**

3.6 Architectural Coating - 2015

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	0.3218	0.4432	4.6645	9.0800e-003	0.7936	6.2000e-003	0.7998	0.2105	5.6800e-003	0.2162		783.4836	783.4836	0.0451		784.4303
Total	**0.3218**	**0.4432**	**4.6645**	**9.0800e-003**	**0.7936**	**6.2000e-003**	**0.7998**	**0.2105**	**5.6800e-003**	**0.2162**		**783.4836**	**783.4836**	**0.0451**		**784.4303**

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	102.8970					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	2.1685	13.7084	10.1427	0.0159		1.1780	1.1780		1.1780	1.1780	0.0000	1,501.0563	1,501.0563	0.1955		1,505.1609
Total	**105.0655**	**13.7084**	**10.1427**	**0.0159**		**1.1780**	**1.1780**		**1.1780**	**1.1780**	**0.0000**	**1,501.0563**	**1,501.0563**	**0.1955**		**1,505.1609**

3.6 Architectural Coating - 2015

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	0.3218	0.4432	4.6645	9.0800e-003	0.7936	6.2000e-003	0.7998	0.2105	5.6800e-003	0.2162		783.4836	783.4836	0.0451		784.4303
Total	**0.3218**	**0.4432**	**4.6645**	**9.0800e-003**	**0.7936**	**6.2000e-003**	**0.7998**	**0.2105**	**5.6800e-003**	**0.2162**		**783.4836**	**783.4836**	**0.0451**		**784.4303**

3.7 Paving - 2015

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	2.3172	25.1758	14.9781	0.0223		1.4148	1.4148		1.3016	1.3016		2,339.8984	2,339.8984	0.6986		2,354.5681
Paving	1.6436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.9608**	**25.1758**	**14.9781**	**0.0223**		**1.4148**	**1.4148**		**1.3016**	**1.3016**		**2,339.8984**	**2,339.8984**	**0.6986**		**2,354.5681**

3.7 Paving - 2015

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	0.0680	0.0936	0.9855	1.9200e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		165.5247	165.5247	9.5200e-003		165.7247
Total	**0.0680**	**0.0936**	**0.9855**	**1.9200e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2000e-003**	**0.0457**		**165.5247**	**165.5247**	**9.5200e-003**		**165.7247**

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	2.3172	25.1758	14.9781	0.0223		1.4148	1.4148		1.3016	1.3016	0.0000	2,339.8984	2,339.8984	0.6986		2,354.5681
Paving	1.6436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.9608**	**25.1758**	**14.9781**	**0.0223**		**1.4148**	**1.4148**		**1.3016**	**1.3016**	**0.0000**	**2,339.8984**	**2,339.8984**	**0.6986**		**2,354.5681**

3.7 Paving - 2015

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	0.0680	0.0936	0.9855	1.9200e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		165.5247	165.5247	9.5200e-003		165.7247
Total	**0.0680**	**0.0936**	**0.9855**	**1.9200e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2000e-003**	**0.0457**		**165.5247**	**165.5247**	**9.5200e-003**		**165.7247**

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	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
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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	0.00	0.00	0.00	59.00	0.00	41.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

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
Unrefrigerated Warehouse-No Rail	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**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/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
Unrefrigerated Warehouse-No Rail	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	18.3196	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Unmitigated	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020

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	2.8083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.6300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5900e-003	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Total	**19.4429**	**4.5000e-004**	**0.0464**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**		**0.1020**

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	1.6850					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.6300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5900e-003	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Total	**18.3196**	**4.5000e-004**	**0.0464**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**		**0.1020**

7.0 Water Detail

7.1 Mitigation Measures Water

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

10.0 Vegetation

Waterman Avenue High Cube Warehouse (Mitigated Construction Only)

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	430.00	1000sqft	9.87	430,000.00	0
Parking Lot	9.41	Acre	9.41	409,899.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2015
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	551.29	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Source: CPUC GHG Calculator version 3c, worksheet tab “CO2 Allocations,” cells AH/AQ 35-44.

Land Use - Information obtained from the applicant. Parking = gross site area - building area - landscape area... 854,788 sf - 430,000 sf - 14,700 sf = 410,088 sf = 9.41 acres

Construction Phase - based on a 2015 opening year

Off-road Equipment - based on information provided by the applicant

Off-road Equipment - based on information provided by the applicant

Off-road Equipment - based on information provided by the applicant

Off-road Equipment - based on information provided by the applicant

Off-road Equipment -

Off-road Equipment - based on information provided by the applicant

Demolition - 2,000 SF building ; 3,200 SF metal building ; 2,100 SF residence ; 10,000 SF bulding ; 6,000 SF building ; bridge (80' long ans 12' wide) 960 SF. Total = 24,260

Grading -

Architectural Coating - based on information provided by the applicant

Vehicle Trips - no operational emissions

Vechicle Emission Factors - no operational emissions

Vechicle Emission Factors - no operational emissions

Vechicle Emission Factors - no operational emissions

Energy Use - no operational emissions

Water And Wastewater - no operational emissions

Solid Waste - no operational emissions

Construction Off-road Equipment Mitigation - tier 3 mitigation to all construction equipment greater than 150 HP

Area Mitigation - 150 g/L low VOC paint

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	221,148.00	134,400.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	663,445.00	132,000.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	150
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	150

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	300.00	90.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	30.00	20.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	10.00	5.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	NT24E	0.82	0.00
tblEnergyUse	NT24NG	0.03	0.00
tblEnergyUse	T24E	0.45	0.00
tblEnergyUse	T24NG	2.11	0.00
tblGrading	AcresOfGrading	160.00	80.00
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	LoadFactor	0.38	0.50
tblOffRoadEquipment	LoadFactor	0.38	0.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	630.89	551.29
tblProjectCharacteristics	OperationalYear	2014	2015
tblSolidWaste	SolidWasteGenerationRate	404.20	0.00
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	LDA	0.47	0.00
tblVehicleEF	LDA	0.47	0.00
tblVehicleEF	LDA	0.47	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LDT2	0.17	0.00

tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleTrips	CC_TL	8.40	0.00

tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	ST_TR	2.59	0.00
tblVehicleTrips	SU_TR	2.59	0.00
tblVehicleTrips	WD_TR	2.59	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	IndoorWaterUseRate	99,437,500.00	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					
2015	105.4071	222.0426	132.5729	0.1742	24.4237	10.2088	29.3648	13.3298	9.3921	17.8757	0.0000	18,178.2893	18,178.2893	5.2928	0.0000	18,289.4386
Total	**105.4071**	**222.0426**	**132.5729**	**0.1742**	**24.4237**	**10.2088**	**29.3648**	**13.3298**	**9.3921**	**17.8757**	**0.0000**	**18,178.2893**	**18,178.2893**	**5.2928**	**0.0000**	**18,289.4386**

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					
2015	105.4071	98.4227	97.4677	0.1742	9.7298	4.2905	12.1451	5.2529	4.1564	7.5646	0.0000	18,178.2893	18,178.2893	5.2928	0.0000	18,289.4386
Total	**105.4071**	**98.4227**	**97.4677**	**0.1742**	**9.7298**	**4.2905**	**12.1451**	**5.2529**	**4.1564**	**7.5646**	**0.0000**	**18,178.2893**	**18,178.2893**	**5.2928**	**0.0000**	**18,289.4386**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**55.67**	**26.48**	**0.00**	**60.16**	**57.97**	**58.64**	**60.59**	**55.75**	**57.68**	**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	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
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	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	**19.4429**	**4.5000e-004**	**0.0464**	**0.0000**	**0.0000**	**1.7000e-004**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**	**0.0000**	**0.1020**

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	18.3196	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
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	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	**18.3196**	**4.5000e-004**	**0.0464**	**0.0000**	**0.0000**	**1.7000e-004**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**	**0.0000**	**0.1020**

	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	N20	CO2e
Percent Reduction	**5.78**	**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	1/1/2015	1/21/2015	5	15	
2	Site Preparation	Site Preparation	1/22/2015	1/28/2015	5	5	
3	Grading	Grading	1/29/2015	2/25/2015	5	20	
4	Building Construction	Building Construction	2/26/2015	7/1/2015	5	90	
5	Architectural Coating	Architectural Coating	7/2/2015	8/12/2015	5	30	
6	Paving	Paving	8/13/2015	9/2/2015	5	15	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 80

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 132,000; Non-Residential Outdoor: 134,400 (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	Crushing/Proc. Equipment	1	8.00	85	0.78
Demolition	Excavators	2	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Excavators	4	8.00	162	0.38
Site Preparation	Off-Highway Trucks	2	8.00	189	0.50
Site Preparation	Rubber Tired Dozers	4	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	4	8.00	174	0.41
Grading	Off-Highway Trucks	3	8.00	189	0.50
Grading	Rubber Tired Dozers	2	8.00	255	0.40
Grading	Scrapers	6	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Architectural Coating	Air Compressors	4	8.00	78	0.48
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

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	6	15.00	0.00	110.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	12	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	18	45.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	12	353.00	138.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	4	71.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2015

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					1.5920	0.0000	1.5920	0.2411	0.0000	0.2411			0.0000			0.0000
Off-Road	5.0237	49.3915	37.1471	0.0416		2.7135	2.7135		2.5677	2.5677		4,236.1685	4,236.1685	1.0360		4,257.9242
Total	**5.0237**	**49.3915**	**37.1471**	**0.0416**	**1.5920**	**2.7135**	**4.3055**	**0.2411**	**2.5677**	**2.8087**		**4,236.1685**	**4,236.1685**	**1.0360**		**4,257.9242**

3.2 Demolition - 2015

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	0.1440	2.2919	1.5543	5.3800e-003	0.1277	0.0392	0.1669	0.0350	0.0361	0.0711		548.0532	548.0532	4.3300e-003		548.1441
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	0.0722	0.0876	1.1491	2.1100e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		181.6880	181.6880	9.5200e-003		181.8880
Total	**0.2162**	**2.3795**	**2.7034**	**7.4900e-003**	**0.2954**	**0.0405**	**0.3359**	**0.0794**	**0.0373**	**0.1167**		**729.7412**	**729.7412**	**0.0139**		**730.0321**

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					0.6209	0.0000	0.6209	0.0940	0.0000	0.0940			0.0000			0.0000
Off-Road	2.3366	24.2728	25.7049	0.0416		1.4506	1.4506		1.4506	1.4506	0.0000	4,236.1685	4,236.1685	1.0360		4,257.9242
Total	**2.3366**	**24.2728**	**25.7049**	**0.0416**	**0.6209**	**1.4506**	**2.0715**	**0.0940**	**1.4506**	**1.5446**	**0.0000**	**4,236.1685**	**4,236.1685**	**1.0360**		**4,257.9242**

3.2 Demolition - 2015

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	0.1440	2.2919	1.5543	5.3800e-003	0.1277	0.0392	0.1669	0.0350	0.0361	0.0711		548.0532	548.0532	4.3300e-003		548.1441
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	0.0722	0.0876	1.1491	2.1100e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		181.6880	181.6880	9.5200e-003		181.8880
Total	**0.2162**	**2.3795**	**2.7034**	**7.4900e-003**	**0.2954**	**0.0405**	**0.3359**	**0.0794**	**0.0373**	**0.1167**		**729.7412**	**729.7412**	**0.0139**		**730.0321**

3.3 Site Preparation - 2015

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					24.0883	0.0000	24.0883	13.2409	0.0000	13.2409			0.0000			0.0000
Off-Road	9.0576	101.3464	68.8470	0.0791		4.9385	4.9385		4.5435	4.5435		8,305.6447	8,305.6447	2.4796		8,357.7160
Total	**9.0576**	**101.3464**	**68.8470**	**0.0791**	**24.0883**	**4.9385**	**29.0269**	**13.2409**	**4.5435**	**17.7844**		**8,305.6447**	**8,305.6447**	**2.4796**		**8,357.7160**

3.3 Site Preparation - 2015

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	0.1444	0.1751	2.2982	4.2200e-003	0.3353	2.6200e-003	0.3380	0.0889	2.4000e-003	0.0913		363.3759	363.3759	0.0191		363.7759
Total	**0.1444**	**0.1751**	**2.2982**	**4.2200e-003**	**0.3353**	**2.6200e-003**	**0.3380**	**0.0889**	**2.4000e-003**	**0.0913**		**363.3759**	**363.3759**	**0.0191**		**363.7759**

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					9.3945	0.0000	9.3945	5.1640	0.0000	5.1640			0.0000			0.0000
Off-Road	3.6834	51.1089	45.9626	0.0791		2.4127	2.4127		2.3093	2.3093	0.0000	8,305.6447	8,305.6447	2.4796		8,357.7160
Total	**3.6834**	**51.1089**	**45.9626**	**0.0791**	**9.3945**	**2.4127**	**11.8072**	**5.1640**	**2.3093**	**7.4732**	**0.0000**	**8,305.6447**	**8,305.6447**	**2.4796**		**8,357.7160**

3.3 Site Preparation - 2015

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	0.1444	0.1751	2.2982	4.2200e-003	0.3353	2.6200e-003	0.3380	0.0889	2.4000e-003	0.0913		363.3759	363.3759	0.0191		363.7759
Total	**0.1444**	**0.1751**	**2.2982**	**4.2200e-003**	**0.3353**	**2.6200e-003**	**0.3380**	**0.0889**	**2.4000e-003**	**0.0913**		**363.3759**	**363.3759**	**0.0191**		**363.7759**

3.4 Grading - 2015

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					16.2862	0.0000	16.2862	7.0785	0.0000	7.0785			0.0000			0.0000
Off-Road	18.9567	221.7799	129.1256	0.1679		10.2049	10.2049		9.3885	9.3885		17,633.2254	17,633.2254	5.2643		17,743.7747
Total	**18.9567**	**221.7799**	**129.1256**	**0.1679**	**16.2862**	**10.2049**	**26.4911**	**7.0785**	**9.3885**	**16.4670**		**17,633.2254**	**17,633.2254**	**5.2643**		**17,743.7747**

3.4 Grading - 2015

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	0.2165	0.2627	3.4473	6.3300e-003	0.5030	3.9300e-003	0.5069	0.1334	3.6000e-003	0.1370		545.0639	545.0639	0.0286		545.6639
Total	**0.2165**	**0.2627**	**3.4473**	**6.3300e-003**	**0.5030**	**3.9300e-003**	**0.5069**	**0.1334**	**3.6000e-003**	**0.1370**		**545.0639**	**545.0639**	**0.0286**		**545.6639**

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					6.3516	0.0000	6.3516	2.7606	0.0000	2.7606			0.0000			0.0000
Off-Road	6.4541	98.1600	94.0204	0.1679		4.2865	4.2865		4.1528	4.1528	0.0000	17,633.2254	17,633.2254	5.2643		17,743.7747
Total	**6.4541**	**98.1600**	**94.0204**	**0.1679**	**6.3516**	**4.2865**	**10.6381**	**2.7606**	**4.1528**	**6.9135**	**0.0000**	**17,633.2254**	**17,633.2254**	**5.2643**		**17,743.7747**

3.4 Grading - 2015

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	0.2165	0.2627	3.4473	6.3300e-003	0.5030	3.9300e-003	0.5069	0.1334	3.6000e-003	0.1370		545.0639	545.0639	0.0286		545.6639
Total	**0.2165**	**0.2627**	**3.4473**	**6.3300e-003**	**0.5030**	**3.9300e-003**	**0.5069**	**0.1334**	**3.6000e-003**	**0.1370**		**545.0639**	**545.0639**	**0.0286**		**545.6639**

3.5 Building Construction - 2015

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	5.5872	42.9454	28.3298	0.0410		3.0738	3.0738		2.9139	2.9139		4,044.4295	4,044.4295	0.9512		4,064.4039
Total	**5.5872**	**42.9454**	**28.3298**	**0.0410**		**3.0738**	**3.0738**		**2.9139**	**2.9139**		**4,044.4295**	**4,044.4295**	**0.9512**		**4,064.4039**

3.5 Building Construction - 2015

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	1.3332	13.6551	14.9282	0.0301	0.8670	0.2397	1.1067	0.2475	0.2204	0.4679		3,043.7114	3,043.7114	0.0240		3,044.2154
Worker	1.6985	2.0607	27.0423	0.0496	3.9457	0.0308	3.9765	1.0464	0.0282	1.0747		4,275.7234	4,275.7234	0.2241		4,280.4300
Total	**3.0317**	**15.7157**	**41.9706**	**0.0797**	**4.8127**	**0.2705**	**5.0832**	**1.2939**	**0.2486**	**1.5426**		**7,319.4348**	**7,319.4348**	**0.2481**		**7,324.6454**

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	4.9836	36.8172	28.2681	0.0410		2.7733	2.7733		2.6456	2.6456	0.0000	4,044.4295	4,044.4295	0.9512		4,064.4039
Total	**4.9836**	**36.8172**	**28.2681**	**0.0410**		**2.7733**	**2.7733**		**2.6456**	**2.6456**	**0.0000**	**4,044.4295**	**4,044.4295**	**0.9512**		**4,064.4039**

3.5 Building Construction - 2015

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	1.3332	13.6551	14.9282	0.0301	0.8670	0.2397	1.1067	0.2475	0.2204	0.4679		3,043.7114	3,043.7114	0.0240		3,044.2154
Worker	1.6985	2.0607	27.0423	0.0496	3.9457	0.0308	3.9765	1.0464	0.0282	1.0747		4,275.7234	4,275.7234	0.2241		4,280.4300
Total	**3.0317**	**15.7157**	**41.9706**	**0.0797**	**4.8127**	**0.2705**	**5.0832**	**1.2939**	**0.2486**	**1.5426**		**7,319.4348**	**7,319.4348**	**0.2481**		**7,324.6454**

3.6 Architectural Coating - 2015

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	102.8970					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	2.1685	13.7084	10.1427	0.0159		1.1780	1.1780		1.1780	1.1780		1,501.0563	1,501.0563	0.1955		1,505.1609
Total	**105.0655**	**13.7084**	**10.1427**	**0.0159**		**1.1780**	**1.1780**		**1.1780**	**1.1780**		**1,501.0563**	**1,501.0563**	**0.1955**		**1,505.1609**

3.6 Architectural Coating - 2015

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	0.3416	0.4145	5.4391	9.9800e-003	0.7936	6.2000e-003	0.7998	0.2105	5.6800e-003	0.2162		859.9897	859.9897	0.0451		860.9363
Total	**0.3416**	**0.4145**	**5.4391**	**9.9800e-003**	**0.7936**	**6.2000e-003**	**0.7998**	**0.2105**	**5.6800e-003**	**0.2162**		**859.9897**	**859.9897**	**0.0451**		**860.9363**

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	102.8970					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	2.1685	13.7084	10.1427	0.0159		1.1780	1.1780		1.1780	1.1780	0.0000	1,501.0563	1,501.0563	0.1955		1,505.1609
Total	**105.0655**	**13.7084**	**10.1427**	**0.0159**		**1.1780**	**1.1780**		**1.1780**	**1.1780**	**0.0000**	**1,501.0563**	**1,501.0563**	**0.1955**		**1,505.1609**

3.6 Architectural Coating - 2015

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	0.3416	0.4145	5.4391	9.9800e-003	0.7936	6.2000e-003	0.7998	0.2105	5.6800e-003	0.2162		859.9897	859.9897	0.0451		860.9363
Total	**0.3416**	**0.4145**	**5.4391**	**9.9800e-003**	**0.7936**	**6.2000e-003**	**0.7998**	**0.2105**	**5.6800e-003**	**0.2162**		**859.9897**	**859.9897**	**0.0451**		**860.9363**

3.7 Paving - 2015

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	2.3172	25.1758	14.9781	0.0223		1.4148	1.4148		1.3016	1.3016		2,339.8984	2,339.8984	0.6986		2,354.5681
Paving	1.6436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.9608**	**25.1758**	**14.9781**	**0.0223**		**1.4148**	**1.4148**		**1.3016**	**1.3016**		**2,339.8984**	**2,339.8984**	**0.6986**		**2,354.5681**

3.7 Paving - 2015

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	0.0722	0.0876	1.1491	2.1100e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		181.6880	181.6880	9.5200e-003		181.8880
Total	**0.0722**	**0.0876**	**1.1491**	**2.1100e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2000e-003**	**0.0457**		**181.6880**	**181.6880**	**9.5200e-003**		**181.8880**

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	2.3172	25.1758	14.9781	0.0223		1.4148	1.4148		1.3016	1.3016	0.0000	2,339.8984	2,339.8984	0.6986		2,354.5681
Paving	1.6436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.9608**	**25.1758**	**14.9781**	**0.0223**		**1.4148**	**1.4148**		**1.3016**	**1.3016**	**0.0000**	**2,339.8984**	**2,339.8984**	**0.6986**		**2,354.5681**

3.7 Paving - 2015

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	0.0722	0.0876	1.1491	2.1100e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		181.6880	181.6880	9.5200e-003		181.8880
Total	**0.0722**	**0.0876**	**1.1491**	**2.1100e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2000e-003**	**0.0457**		**181.6880**	**181.6880**	**9.5200e-003**		**181.8880**

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	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
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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	0.00	0.00	0.00	59.00	0.00	41.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

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
Unrefrigerated Warehouse-No Rail	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**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/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
Unrefrigerated Warehouse-No Rail	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	18.3196	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Unmitigated	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020

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	2.8083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.6300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5900e-003	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Total	**19.4429**	**4.5000e-004**	**0.0464**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**		**0.1020**

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	1.6850					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.6300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5900e-003	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Total	**18.3196**	**4.5000e-004**	**0.0464**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**		**0.1020**

7.0 Water Detail

7.1 Mitigation Measures Water

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

10.0 Vegetation

Waterman Avenue High Cube Warehouse (Mitigated Construction Only)

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	430.00	1000sqft	9.87	430,000.00	0
Parking Lot	9.41	Acre	9.41	409,899.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2015
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	551.29	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Source: CPUC GHG Calculator version 3c, worksheet tab “CO2 Allocations,” cells AH/AQ 35-44.

Land Use - Information obtained from the applicant. Parking = gross site area - building area - landscape area... 854,788 sf - 430,000 sf - 14,700 sf = 410,088 sf = 9.41 acres

Construction Phase - based on a 2015 opening year

Off-road Equipment - based on information provided by the applicant

Off-road Equipment - based on information provided by the applicant

Off-road Equipment - based on information provided by the applicant

Off-road Equipment - based on information provided by the applicant

Off-road Equipment -

Off-road Equipment - based on information provided by the applicant

Demolition - 2,000 SF building ; 3,200 SF metal building ; 2,100 SF residence ; 10,000 SF bulding ; 6,000 SF building ; bridge (80' long ans 12' wide) 960 SF. Total = 24,260

Grading -

Architectural Coating - based on information provided by the applicant

Vehicle Trips - no operational emissions

Vechicle Emission Factors - no operational emissions

Vechicle Emission Factors - no operational emissions

Vechicle Emission Factors - no operational emissions

Energy Use - no operational emissions

Water And Wastewater - no operational emissions

Solid Waste - no operational emissions

Construction Off-road Equipment Mitigation - tier 3 mitigation to all construction equipment greater than 150 HP

Area Mitigation - 150 g/L low VOC paint

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	221,148.00	134,400.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	663,445.00	132,000.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	150
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	150

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	300.00	90.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	30.00	20.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	10.00	5.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	NT24E	0.82	0.00
tblEnergyUse	NT24NG	0.03	0.00
tblEnergyUse	T24E	0.45	0.00
tblEnergyUse	T24NG	2.11	0.00
tblGrading	AcresOfGrading	160.00	80.00
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	LoadFactor	0.38	0.50
tblOffRoadEquipment	LoadFactor	0.38	0.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	630.89	551.29
tblProjectCharacteristics	OperationalYear	2014	2015
tblSolidWaste	SolidWasteGenerationRate	404.20	0.00
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	LDA	0.47	0.00
tblVehicleEF	LDA	0.47	0.00
tblVehicleEF	LDA	0.47	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LDT2	0.17	0.00

tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleTrips	CC_TL	8.40	0.00

tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	ST_TR	2.59	0.00
tblVehicleTrips	SU_TR	2.59	0.00
tblVehicleTrips	WD_TR	2.59	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	IndoorWaterUseRate	99,437,500.00	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					
2015	105.3873	222.0608	132.0819	0.1736	24.4237	10.2088	29.3648	13.3298	9.3921	17.8757	0.0000	18,129.7995	18,129.7995	5.2928	0.0000	18,240.9488
Total	**105.3873**	**222.0608**	**132.0819**	**0.1736**	**24.4237**	**10.2088**	**29.3648**	**13.3298**	**9.3921**	**17.8757**	**0.0000**	**18,129.7995**	**18,129.7995**	**5.2928**	**0.0000**	**18,240.9488**

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					
2015	105.3873	98.4409	96.9767	0.1736	9.7298	4.2905	12.1451	5.2529	4.1564	7.5646	0.0000	18,129.7995	18,129.7995	5.2928	0.0000	18,240.9488
Total	**105.3873**	**98.4409**	**96.9767**	**0.1736**	**9.7298**	**4.2905**	**12.1451**	**5.2529**	**4.1564**	**7.5646**	**0.0000**	**18,129.7995**	**18,129.7995**	**5.2928**	**0.0000**	**18,240.9488**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**55.67**	**26.58**	**0.00**	**60.16**	**57.97**	**58.64**	**60.59**	**55.75**	**57.68**	**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	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
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	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	**19.4429**	**4.5000e-004**	**0.0464**	**0.0000**	**0.0000**	**1.7000e-004**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**	**0.0000**	**0.1020**

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	18.3196	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
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	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	**18.3196**	**4.5000e-004**	**0.0464**	**0.0000**	**0.0000**	**1.7000e-004**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**	**0.0000**	**0.1020**

	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	N20	CO2e
Percent Reduction	**5.78**	**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	1/1/2015	1/21/2015	5	15	
2	Site Preparation	Site Preparation	1/22/2015	1/28/2015	5	5	
3	Grading	Grading	1/29/2015	2/25/2015	5	20	
4	Building Construction	Building Construction	2/26/2015	7/1/2015	5	90	
5	Architectural Coating	Architectural Coating	7/2/2015	8/12/2015	5	30	
6	Paving	Paving	8/13/2015	9/2/2015	5	15	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 80

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 132,000; Non-Residential Outdoor: 134,400 (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	Crushing/Proc. Equipment	1	8.00	85	0.78
Demolition	Excavators	2	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Excavators	4	8.00	162	0.38
Site Preparation	Off-Highway Trucks	2	8.00	189	0.50
Site Preparation	Rubber Tired Dozers	4	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	4	8.00	174	0.41
Grading	Off-Highway Trucks	3	8.00	189	0.50
Grading	Rubber Tired Dozers	2	8.00	255	0.40
Grading	Scrapers	6	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Architectural Coating	Air Compressors	4	8.00	78	0.48
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

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	6	15.00	0.00	110.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	12	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	18	45.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	12	353.00	138.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	4	71.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2015

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					1.5920	0.0000	1.5920	0.2411	0.0000	0.2411			0.0000			0.0000
Off-Road	5.0237	49.3915	37.1471	0.0416		2.7135	2.7135		2.5677	2.5677		4,236.1685	4,236.1685	1.0360		4,257.9242
Total	**5.0237**	**49.3915**	**37.1471**	**0.0416**	**1.5920**	**2.7135**	**4.3055**	**0.2411**	**2.5677**	**2.8087**		**4,236.1685**	**4,236.1685**	**1.0360**		**4,257.9242**

3.2 Demolition - 2015

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	0.1497	2.3829	1.7031	5.3700e-003	0.1277	0.0394	0.1671	0.0350	0.0362	0.0712		546.7466	546.7466	4.3800e-003		546.8387
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	0.0680	0.0936	0.9855	1.9200e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		165.5247	165.5247	9.5200e-003		165.7247
Total	**0.2176**	**2.4765**	**2.6886**	**7.2900e-003**	**0.2954**	**0.0407**	**0.3360**	**0.0794**	**0.0374**	**0.1168**		**712.2713**	**712.2713**	**0.0139**		**712.5634**

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					0.6209	0.0000	0.6209	0.0940	0.0000	0.0940			0.0000			0.0000
Off-Road	2.3366	24.2728	25.7049	0.0416		1.4506	1.4506		1.4506	1.4506	0.0000	4,236.1685	4,236.1685	1.0360		4,257.9242
Total	**2.3366**	**24.2728**	**25.7049**	**0.0416**	**0.6209**	**1.4506**	**2.0715**	**0.0940**	**1.4506**	**1.5446**	**0.0000**	**4,236.1685**	**4,236.1685**	**1.0360**		**4,257.9242**

3.2 Demolition - 2015

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	0.1497	2.3829	1.7031	5.3700e-003	0.1277	0.0394	0.1671	0.0350	0.0362	0.0712		546.7466	546.7466	4.3800e-003		546.8387
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	0.0680	0.0936	0.9855	1.9200e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		165.5247	165.5247	9.5200e-003		165.7247
Total	**0.2176**	**2.4765**	**2.6886**	**7.2900e-003**	**0.2954**	**0.0407**	**0.3360**	**0.0794**	**0.0374**	**0.1168**		**712.2713**	**712.2713**	**0.0139**		**712.5634**

3.3 Site Preparation - 2015

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					24.0883	0.0000	24.0883	13.2409	0.0000	13.2409			0.0000			0.0000
Off-Road	9.0576	101.3464	68.8470	0.0791		4.9385	4.9385		4.5435	4.5435		8,305.6447	8,305.6447	2.4796		8,357.7160
Total	**9.0576**	**101.3464**	**68.8470**	**0.0791**	**24.0883**	**4.9385**	**29.0269**	**13.2409**	**4.5435**	**17.7844**		**8,305.6447**	**8,305.6447**	**2.4796**		**8,357.7160**

3.3 Site Preparation - 2015

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	0.1360	0.1873	1.9709	3.8400e-003	0.3353	2.6200e-003	0.3380	0.0889	2.4000e-003	0.0913		331.0494	331.0494	0.0191		331.4494
Total	**0.1360**	**0.1873**	**1.9709**	**3.8400e-003**	**0.3353**	**2.6200e-003**	**0.3380**	**0.0889**	**2.4000e-003**	**0.0913**		**331.0494**	**331.0494**	**0.0191**		**331.4494**

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					9.3945	0.0000	9.3945	5.1640	0.0000	5.1640			0.0000			0.0000
Off-Road	3.6834	51.1089	45.9626	0.0791		2.4127	2.4127		2.3093	2.3093	0.0000	8,305.6447	8,305.6447	2.4796		8,357.7160
Total	**3.6834**	**51.1089**	**45.9626**	**0.0791**	**9.3945**	**2.4127**	**11.8072**	**5.1640**	**2.3093**	**7.4732**	**0.0000**	**8,305.6447**	**8,305.6447**	**2.4796**		**8,357.7160**

3.3 Site Preparation - 2015

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	0.1360	0.1873	1.9709	3.8400e-003	0.3353	2.6200e-003	0.3380	0.0889	2.4000e-003	0.0913		331.0494	331.0494	0.0191		331.4494
Total	**0.1360**	**0.1873**	**1.9709**	**3.8400e-003**	**0.3353**	**2.6200e-003**	**0.3380**	**0.0889**	**2.4000e-003**	**0.0913**		**331.0494**	**331.0494**	**0.0191**		**331.4494**

3.4 Grading - 2015

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					16.2862	0.0000	16.2862	7.0785	0.0000	7.0785			0.0000			0.0000
Off-Road	18.9567	221.7799	129.1256	0.1679		10.2049	10.2049		9.3885	9.3885		17,633.2254	17,633.2254	5.2643		17,743.7747
Total	**18.9567**	**221.7799**	**129.1256**	**0.1679**	**16.2862**	**10.2049**	**26.4911**	**7.0785**	**9.3885**	**16.4670**		**17,633.2254**	**17,633.2254**	**5.2643**		**17,743.7747**

3.4 Grading - 2015

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	0.2040	0.2809	2.9564	5.7600e-003	0.5030	3.9300e-003	0.5069	0.1334	3.6000e-003	0.1370		496.5741	496.5741	0.0286		497.1741
Total	**0.2040**	**0.2809**	**2.9564**	**5.7600e-003**	**0.5030**	**3.9300e-003**	**0.5069**	**0.1334**	**3.6000e-003**	**0.1370**		**496.5741**	**496.5741**	**0.0286**		**497.1741**

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					6.3516	0.0000	6.3516	2.7606	0.0000	2.7606			0.0000			0.0000
Off-Road	6.4541	98.1600	94.0204	0.1679		4.2865	4.2865		4.1528	4.1528	0.0000	17,633.2254	17,633.2254	5.2643		17,743.7747
Total	**6.4541**	**98.1600**	**94.0204**	**0.1679**	**6.3516**	**4.2865**	**10.6381**	**2.7606**	**4.1528**	**6.9135**	**0.0000**	**17,633.2254**	**17,633.2254**	**5.2643**		**17,743.7747**

3.4 Grading - 2015

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	0.2040	0.2809	2.9564	5.7600e-003	0.5030	3.9300e-003	0.5069	0.1334	3.6000e-003	0.1370		496.5741	496.5741	0.0286		497.1741
Total	**0.2040**	**0.2809**	**2.9564**	**5.7600e-003**	**0.5030**	**3.9300e-003**	**0.5069**	**0.1334**	**3.6000e-003**	**0.1370**		**496.5741**	**496.5741**	**0.0286**		**497.1741**

3.5 Building Construction - 2015

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	5.5872	42.9454	28.3298	0.0410		3.0738	3.0738		2.9139	2.9139		4,044.4295	4,044.4295	0.9512		4,064.4039
Total	**5.5872**	**42.9454**	**28.3298**	**0.0410**		**3.0738**	**3.0738**		**2.9139**	**2.9139**		**4,044.4295**	**4,044.4295**	**0.9512**		**4,064.4039**

3.5 Building Construction - 2015

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	1.4188	14.0355	16.9203	0.0298	0.8670	0.2426	1.1095	0.2475	0.2230	0.4706		3,018.3147	3,018.3147	0.0247		3,018.8328
Worker	1.5999	2.2035	23.1910	0.0452	3.9457	0.0308	3.9765	1.0464	0.0282	1.0747		3,895.3483	3,895.3483	0.2241		3,900.0548
Total	**3.0187**	**16.2390**	**40.1113**	**0.0750**	**4.8127**	**0.2734**	**5.0860**	**1.2939**	**0.2513**	**1.5452**		**6,913.6629**	**6,913.6629**	**0.2488**		**6,918.8876**

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	4.9836	36.8172	28.2681	0.0410		2.7733	2.7733		2.6456	2.6456	0.0000	4,044.4295	4,044.4295	0.9512		4,064.4039
Total	**4.9836**	**36.8172**	**28.2681**	**0.0410**		**2.7733**	**2.7733**		**2.6456**	**2.6456**	**0.0000**	**4,044.4295**	**4,044.4295**	**0.9512**		**4,064.4039**

3.5 Building Construction - 2015

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	1.4188	14.0355	16.9203	0.0298	0.8670	0.2426	1.1095	0.2475	0.2230	0.4706		3,018.3147	3,018.3147	0.0247		3,018.8328
Worker	1.5999	2.2035	23.1910	0.0452	3.9457	0.0308	3.9765	1.0464	0.0282	1.0747		3,895.3483	3,895.3483	0.2241		3,900.0548
Total	**3.0187**	**16.2390**	**40.1113**	**0.0750**	**4.8127**	**0.2734**	**5.0860**	**1.2939**	**0.2513**	**1.5452**		**6,913.6629**	**6,913.6629**	**0.2488**		**6,918.8876**

3.6 Architectural Coating - 2015

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	102.8970					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	2.1685	13.7084	10.1427	0.0159		1.1780	1.1780		1.1780	1.1780		1,501.0563	1,501.0563	0.1955		1,505.1609
Total	**105.0655**	**13.7084**	**10.1427**	**0.0159**		**1.1780**	**1.1780**		**1.1780**	**1.1780**		**1,501.0563**	**1,501.0563**	**0.1955**		**1,505.1609**

3.6 Architectural Coating - 2015

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	0.3218	0.4432	4.6645	9.0800e-003	0.7936	6.2000e-003	0.7998	0.2105	5.6800e-003	0.2162		783.4836	783.4836	0.0451		784.4303
Total	**0.3218**	**0.4432**	**4.6645**	**9.0800e-003**	**0.7936**	**6.2000e-003**	**0.7998**	**0.2105**	**5.6800e-003**	**0.2162**		**783.4836**	**783.4836**	**0.0451**		**784.4303**

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	102.8970					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	2.1685	13.7084	10.1427	0.0159		1.1780	1.1780		1.1780	1.1780	0.0000	1,501.0563	1,501.0563	0.1955		1,505.1609
Total	**105.0655**	**13.7084**	**10.1427**	**0.0159**		**1.1780**	**1.1780**		**1.1780**	**1.1780**	**0.0000**	**1,501.0563**	**1,501.0563**	**0.1955**		**1,505.1609**

3.6 Architectural Coating - 2015

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	0.3218	0.4432	4.6645	9.0800e-003	0.7936	6.2000e-003	0.7998	0.2105	5.6800e-003	0.2162		783.4836	783.4836	0.0451		784.4303
Total	**0.3218**	**0.4432**	**4.6645**	**9.0800e-003**	**0.7936**	**6.2000e-003**	**0.7998**	**0.2105**	**5.6800e-003**	**0.2162**		**783.4836**	**783.4836**	**0.0451**		**784.4303**

3.7 Paving - 2015

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	2.3172	25.1758	14.9781	0.0223		1.4148	1.4148		1.3016	1.3016		2,339.8984	2,339.8984	0.6986		2,354.5681
Paving	1.6436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.9608**	**25.1758**	**14.9781**	**0.0223**		**1.4148**	**1.4148**		**1.3016**	**1.3016**		**2,339.8984**	**2,339.8984**	**0.6986**		**2,354.5681**

3.7 Paving - 2015

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	0.0680	0.0936	0.9855	1.9200e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		165.5247	165.5247	9.5200e-003		165.7247
Total	**0.0680**	**0.0936**	**0.9855**	**1.9200e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2000e-003**	**0.0457**		**165.5247**	**165.5247**	**9.5200e-003**		**165.7247**

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	2.3172	25.1758	14.9781	0.0223		1.4148	1.4148		1.3016	1.3016	0.0000	2,339.8984	2,339.8984	0.6986		2,354.5681
Paving	1.6436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.9608**	**25.1758**	**14.9781**	**0.0223**		**1.4148**	**1.4148**		**1.3016**	**1.3016**	**0.0000**	**2,339.8984**	**2,339.8984**	**0.6986**		**2,354.5681**

3.7 Paving - 2015

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	0.0680	0.0936	0.9855	1.9200e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		165.5247	165.5247	9.5200e-003		165.7247
Total	**0.0680**	**0.0936**	**0.9855**	**1.9200e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2000e-003**	**0.0457**		**165.5247**	**165.5247**	**9.5200e-003**		**165.7247**

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	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
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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	0.00	0.00	0.00	59.00	0.00	41.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

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
Unrefrigerated Warehouse-No Rail	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**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/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
Unrefrigerated Warehouse-No Rail	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	18.3196	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Unmitigated	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020

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	2.8083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.6300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5900e-003	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Total	**19.4429**	**4.5000e-004**	**0.0464**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**		**0.1020**

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	1.6850					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.6300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5900e-003	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Total	**18.3196**	**4.5000e-004**	**0.0464**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**		**0.1020**

7.0 Water Detail

7.1 Mitigation Measures Water

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

10.0 Vegetation

CALEEMOD EMISSIONS MODEL OUTPUTS

OPERATIONS ONLY (TRUCKS)

Waterman Avenue (Trucks Only @ 24.11 miles)

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-Rail	430.00	1000sqft	9.87	430,000.00	0
Parking Lot	9.41	Acre	9.41	409,899.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2015
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	551.29	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Source: CPUC GHG Calculator version 3c, worksheet tab “CO2 Allocations,” cells AH/AQ 35-44.

Land Use - Information obtained from the applicant. Parking = gross site area - building area - landscape area... 854,788 sf - 430,000 sf - 14,700 sf = 410,088 sf = 9.41 acres

Construction Phase - no construction emissions modeled

Off-road Equipment - no construction emissions modeled

Vehicle Trips - passenger cars only. TR based on the Waterman TIA

Vechicle Emission Factors - trucks only

Vechicle Emission Factors - trucks only

Vechicle Emission Factors - trucks only

Energy Use - Title-24 Electricity Energy Intensity and Title-24 Natural Gas Energy Intensity were adjusted by 21.8% and 16.8% respectively, to reflect 2013 Title 24 requirements. Source: Impact Analysis California's 2013 Building Energy Efficiency Standards (CEC 2013)

Energy Mitigation -

Water Mitigation -

Operational Off-Road Equipment - based on CARB Cargo Handling Equipment Yard Truck Emission Testing Report. hours per day based on the Port of Long Beach Air Emissions Inventory (June 2008)

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblEnergyUse	T24E	0.45	0.35
tblEnergyUse	T24NG	2.11	1.76
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOperationalOffRoadEquipment	OperHorsePower	97.00	200.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperLoadFactor	0.37	0.39
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblProjectCharacteristics	CO2IntensityFactor	630.89	551.29
tblProjectCharacteristics	OperationalYear	2014	2015
tblVehicleEF	HHD	0.04	0.60

tblVehicleEF	HHD	0.04	0.60
tblVehicleEF	HHD	0.04	0.60
tblVehicleEF	LDA	0.47	0.00
tblVehicleEF	LDA	0.47	0.00
tblVehicleEF	LDA	0.47	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LHD1	0.06	0.17
tblVehicleEF	LHD1	0.06	0.17
tblVehicleEF	LHD1	0.06	0.17
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MHD	0.02	0.23
tblVehicleEF	MHD	0.02	0.23

tblVehicleEF	MHD	0.02	0.23
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleTrips	CC_TL	8.40	24.11
tblVehicleTrips	CNW_TL	6.90	24.11
tblVehicleTrips	CW_TL	16.60	24.11
tblVehicleTrips	ST_TR	1.63	0.34
tblVehicleTrips	SU_TR	1.63	0.34
tblVehicleTrips	WD_TR	1.63	0.34

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					
2015	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
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**	**0.0000**	**0.0000**

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					
2015	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
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**	**0.0000**	**0.0000**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Energy	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
Mobile	2.4790	39.1818	24.9335	0.0961	2.8705	0.7046	3.5751	0.7998	0.6482	1.4480		9,760.3986	9,760.3986	0.0871		9,762.2284
Offroad	0.4483	6.5800	1.8897	6.6800e-003		0.2138	0.2138		0.1967	0.1967		701.0858	701.0858	0.2093		705.4812
Total	**22.3929**	**45.9690**	**27.0433**	**0.1040**	**2.8705**	**0.9343**	**3.8048**	**0.7998**	**0.8607**	**1.6605**		**10,709.6709**	**10,709.6709**	**0.3015**	**4.5500e-003**	**10,717.4118**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Energy	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
Mobile	2.4790	39.1818	24.9335	0.0961	2.8705	0.7046	3.5751	0.7998	0.6482	1.4480		9,760.3986	9,760.3986	0.0871		9,762.2284
Offroad	0.4483	6.5800	1.8897	6.6800e-003		0.2138	0.2138		0.1967	0.1967		701.0858	701.0858	0.2093		705.4812
Total	**22.3929**	**45.9690**	**27.0433**	**0.1040**	**2.8705**	**0.9343**	**3.8048**	**0.7998**	**0.8607**	**1.6605**		**10,709.6709**	**10,709.6709**	**0.3015**	**4.5500e-003**	**10,717.4118**

	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	N20	CO2e
Percent Reduction	**2.00**	**14.31**	**6.99**	**6.42**	**0.00**	**22.88**	**5.62**	**0.00**	**22.85**	**11.84**	**0.00**	**6.55**	**6.55**	**69.42**	**0.00**	**6.58**

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	1/1/2015	1/1/2015	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	162	0.38
Demolition	Rubber Tired Dozers	0	8.00	255	0.40

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	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2015

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	0.0000	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**

3.2 Demolition - 2015

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	0.0000	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 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	0.0000	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**

3.2 Demolition - 2015

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	0.0000	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**

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					
Unmitigated	2.4790	39.1818	24.9335	0.0961	2.8705	0.7046	3.5751	0.7998	0.6482	1.4480		9,760.3986	9,760.3986	0.0871		9,762.2284
Mitigated	2.4790	39.1818	24.9335	0.0961	2.8705	0.7046	3.5751	0.7998	0.6482	1.4480		9,760.3986	9,760.3986	0.0871		9,762.2284

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-Rail	146.20	146.20	146.20	1,196,610	1,196,610
Total	146.20	146.20	146.20	1,196,610	1,196,610

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-Rail	24.11	24.11	24.11	59.00	0.00	41.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.000000	0.000000	0.000000	0.000000	0.169400	0.000000	0.227100	0.603500	0.000000	0.000000	0.000000	0.000000	0.000000

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 Unmitigated	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
NaturalGas Mitigated	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001

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					
Unrefrigerated Warehouse-Rail	2108.77	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
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
Total		**0.0227**	**0.2067**	**0.1737**	**1.2400e-003**		**0.0157**	**0.0157**		**0.0157**	**0.0157**		**248.0903**	**248.0903**	**4.7600e-003**	**4.5500e-003**	**249.6001**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/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
Unrefrigerated Warehouse-Rail	2.10877	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
Total		**0.0227**	**0.2067**	**0.1737**	**1.2400e-003**		**0.0157**	**0.0157**		**0.0157**	**0.0157**		**248.0903**	**248.0903**	**4.7600e-003**	**4.5500e-003**	**249.6001**

6.0 Area Detail

6.1 Mitigation Measures Area

	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					
Unmitigated	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Mitigated	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020

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	2.8083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.6300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5900e-003	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Total	**19.4429**	**4.5000e-004**	**0.0464**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**		**0.1020**

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	2.8083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.6300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5900e-003	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Total	**19.4429**	**4.5000e-004**	**0.0464**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**		**0.1020**

7.0 Water Detail

7.1 Mitigation Measures Water

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
Tractors/Loaders/Backhoes	2	4.00	260	200	0.39	Diesel

UnMitigated/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
Equipment Type	lb/day										lb/day					
Tractors/Loaders/Backhoes	0.4483	6.5800	1.8897	6.6800e-003		0.2138	0.2138		0.1967	0.1967		701.0858	701.0858	0.2093		705.4812
Total	**0.4483**	**6.5800**	**1.8897**	**6.6800e-003**		**0.2138**	**0.2138**		**0.1967**	**0.1967**		**701.0858**	**701.0858**	**0.2093**		**705.4812**

10.0 Vegetation

Waterman Avenue (Trucks Only @ 24.11 miles)

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-Rail	430.00	1000sqft	9.87	430,000.00	0
Parking Lot	9.41	Acre	9.41	409,899.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2015
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	551.29	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Source: CPUC GHG Calculator version 3c, worksheet tab “CO2 Allocations,” cells AH/AQ 35-44.

Land Use - Information obtained from the applicant. Parking = gross site area - building area - landscape area... 854,788 sf - 430,000 sf - 14,700 sf = 410,088 sf = 9.41 acres

Construction Phase - no construction emissions modeled

Off-road Equipment - no construction emissions modeled

Vehicle Trips - passenger cars only. TR based on the Waterman TIA

Vechicle Emission Factors - trucks only

Vechicle Emission Factors - trucks only

Vechicle Emission Factors - trucks only

Energy Use - Title-24 Electricity Energy Intensity and Title-24 Natural Gas Energy Intensity were adjusted by 21.8% and 16.8% respectively, to reflect 2013 Title 24 requirements. Source: Impact Analysis California's 2013 Building Energy Efficiency Standards (CEC 2013)

Energy Mitigation -

Water Mitigation -

Operational Off-Road Equipment - based on CARB Cargo Handling Equipment Yard Truck Emission Testing Report. hours per day based on the Port of Long Beach Air Emissions Inventory (June 2008)

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblEnergyUse	T24E	0.45	0.35
tblEnergyUse	T24NG	2.11	1.76
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOperationalOffRoadEquipment	OperHorsePower	97.00	200.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperLoadFactor	0.37	0.39
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblProjectCharacteristics	CO2IntensityFactor	630.89	551.29
tblProjectCharacteristics	OperationalYear	2014	2015
tblVehicleEF	HHD	0.04	0.60

tblVehicleEF	HHD	0.04	0.60
tblVehicleEF	HHD	0.04	0.60
tblVehicleEF	LDA	0.47	0.00
tblVehicleEF	LDA	0.47	0.00
tblVehicleEF	LDA	0.47	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LHD1	0.06	0.17
tblVehicleEF	LHD1	0.06	0.17
tblVehicleEF	LHD1	0.06	0.17
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MHD	0.02	0.23
tblVehicleEF	MHD	0.02	0.23

tblVehicleEF	MHD	0.02	0.23
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleTrips	CC_TL	8.40	24.11
tblVehicleTrips	CNW_TL	6.90	24.11
tblVehicleTrips	CW_TL	16.60	24.11
tblVehicleTrips	ST_TR	1.63	0.34
tblVehicleTrips	SU_TR	1.63	0.34
tblVehicleTrips	WD_TR	1.63	0.34

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					
2015	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
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**	**0.0000**	**0.0000**

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					
2015	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
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**	**0.0000**	**0.0000**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Energy	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
Mobile	2.5617	40.7606	26.9633	0.0959	2.8705	0.7070	3.5775	0.7998	0.6504	1.4502		9,738.3732	9,738.3732	0.0879		9,740.2184
Offroad	0.4483	6.5800	1.8897	6.6800e-003		0.2138	0.2138		0.1967	0.1967		701.0858	701.0858	0.2093		705.4812
Total	**22.4756**	**47.5478**	**29.0731**	**0.1039**	**2.8705**	**0.9367**	**3.8072**	**0.7998**	**0.8629**	**1.6627**		**10,687.6455**	**10,687.6455**	**0.3022**	**4.5500e-003**	**10,695.4018**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Energy	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
Mobile	2.5617	40.7606	26.9633	0.0959	2.8705	0.7070	3.5775	0.7998	0.6504	1.4502		9,738.3732	9,738.3732	0.0879		9,740.2184
Offroad	0.4483	6.5800	1.8897	6.6800e-003		0.2138	0.2138		0.1967	0.1967		701.0858	701.0858	0.2093		705.4812
Total	**22.4756**	**47.5478**	**29.0731**	**0.1039**	**2.8705**	**0.9367**	**3.8072**	**0.7998**	**0.8629**	**1.6627**		**10,687.6455**	**10,687.6455**	**0.3022**	**4.5500e-003**	**10,695.4018**

	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	N20	CO2e
Percent Reduction	**1.99**	**13.84**	**6.50**	**6.43**	**0.00**	**22.82**	**5.61**	**0.00**	**22.79**	**11.83**	**0.00**	**6.56**	**6.56**	**69.26**	**0.00**	**6.60**

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	1/1/2015	1/1/2015	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	162	0.38
Demolition	Rubber Tired Dozers	0	8.00	255	0.40

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	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2015

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	0.0000	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**

3.2 Demolition - 2015

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	0.0000	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 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	0.0000	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**

3.2 Demolition - 2015

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	0.0000	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**

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					
Unmitigated	2.5617	40.7606	26.9633	0.0959	2.8705	0.7070	3.5775	0.7998	0.6504	1.4502		9,738.3732	9,738.3732	0.0879		9,740.2184
Mitigated	2.5617	40.7606	26.9633	0.0959	2.8705	0.7070	3.5775	0.7998	0.6504	1.4502		9,738.3732	9,738.3732	0.0879		9,740.2184

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-Rail	146.20	146.20	146.20	1,196,610	1,196,610
Total	146.20	146.20	146.20	1,196,610	1,196,610

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-Rail	24.11	24.11	24.11	59.00	0.00	41.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.000000	0.000000	0.000000	0.000000	0.169400	0.000000	0.227100	0.603500	0.000000	0.000000	0.000000	0.000000	0.000000

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 Unmitigated	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
NaturalGas Mitigated	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001

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					
Unrefrigerated Warehouse-Rail	2108.77	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
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
Total		**0.0227**	**0.2067**	**0.1737**	**1.2400e-003**		**0.0157**	**0.0157**		**0.0157**	**0.0157**		**248.0903**	**248.0903**	**4.7600e-003**	**4.5500e-003**	**249.6001**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Unrefrigerated Warehouse-Rail	2.10877	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
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
Total		**0.0227**	**0.2067**	**0.1737**	**1.2400e-003**		**0.0157**	**0.0157**		**0.0157**	**0.0157**		**248.0903**	**248.0903**	**4.7600e-003**	**4.5500e-003**	**249.6001**

6.0 Area Detail

6.1 Mitigation Measures Area

	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					
Unmitigated	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Mitigated	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020

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	2.8083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.6300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5900e-003	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Total	**19.4429**	**4.5000e-004**	**0.0464**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**		**0.1020**

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	2.8083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.6300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5900e-003	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Total	**19.4429**	**4.5000e-004**	**0.0464**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**		**0.1020**

7.0 Water Detail

7.1 Mitigation Measures Water

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
Tractors/Loaders/Backhoes	2	4.00	260	200	0.39	Diesel

UnMitigated/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
Equipment Type	lb/day										lb/day					
Tractors/Loaders/Backhoes	0.4483	6.5800	1.8897	6.6800e-003		0.2138	0.2138		0.1967	0.1967		701.0858	701.0858	0.2093		705.4812
Total	**0.4483**	**6.5800**	**1.8897**	**6.6800e-003**		**0.2138**	**0.2138**		**0.1967**	**0.1967**		**701.0858**	**701.0858**	**0.2093**		**705.4812**

10.0 Vegetation

CALEEMOD EMISSIONS MODEL OUTPUTS

OPERATIONS ONLY (PASSENGER CARS)

Waterman Avenue (Passenger Cars Only)

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-Rail	430.00	1000sqft	9.87	430,000.00	0
Parking Lot	9.41	Acre	9.41	409,899.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2015
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	551.29	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Source: CPUC GHG Calculator version 3c, worksheet tab “CO2 Allocations,” cells AH/AQ 35-44.

Land Use - Information obtained from the applicant. Parking = gross site area - building area - landscape area... 854,788 sf - 430,000 sf - 14,700 sf = 410,088 sf = 9.41 acres

Construction Phase - no construction emissions modeled

Off-road Equipment - no construction emissions modeled

Vehicle Trips - passenger cars only. TR based on the Waterman TIA

Vechicle Emission Factors - passenger cars only

Vechicle Emission Factors - passenger cars only

Vechicle Emission Factors - passenger cars only

Energy Use - Title-24 Electricity Energy Intensity and Title-24 Natural Gas Energy Intensity were adjusted by 21.8% and 16.8% respectively, to reflect 2013 Title 24 requirements. Source: Impact Analysis California's 2013 Building Energy Efficiency Standards (CEC 2013)

Energy Mitigation -

Water Mitigation -

Operational Off-Road Equipment - based on CARB Cargo Handling Equipment Yard Truck Emission Testing Report. hours per day based on the Port of Long Beach Air Emissions Inventory (June 2008)

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblEnergyUse	T24E	0.45	0.35
tblEnergyUse	T24NG	2.11	1.76
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOperationalOffRoadEquipment	OperHorsePower	97.00	200.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperLoadFactor	0.37	0.39
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblProjectCharacteristics	CO2IntensityFactor	630.89	551.29
tblProjectCharacteristics	OperationalYear	2014	2015
tblVehicleEF	HHD	0.04	0.00

tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	LDA	0.47	1.00
tblVehicleEF	LDA	0.47	1.00
tblVehicleEF	LDA	0.47	1.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00

tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleTrips	ST_TR	1.63	1.34
tblVehicleTrips	SU_TR	1.63	1.34
tblVehicleTrips	WD_TR	1.63	1.34

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					
2015	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
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**	**0.0000**	**0.0000**

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					
2015	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
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**	**0.0000**	**0.0000**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Energy	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
Mobile	1.7007	1.7204	25.2377	0.0573	5.1540	0.0306	5.1847	1.3663	0.0280	1.3943		4,871.8401	4,871.8401	0.2182		4,876.4224
Offroad	0.4483	6.5800	1.8897	6.6800e-003		0.2138	0.2138		0.1967	0.1967		701.0858	701.0858	0.2093		705.4812
Total	**21.6146**	**8.5076**	**27.3475**	**0.0652**	**5.1540**	**0.2603**	**5.4143**	**1.3663**	**0.2405**	**1.6068**		**5,821.1123**	**5,821.1123**	**0.4326**	**4.5500e-003**	**5,831.6057**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Energy	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
Mobile	1.7007	1.7204	25.2377	0.0573	5.1540	0.0306	5.1847	1.3663	0.0280	1.3943		4,871.8401	4,871.8401	0.2182		4,876.4224
Offroad	0.4483	6.5800	1.8897	6.6800e-003		0.2138	0.2138		0.1967	0.1967		701.0858	701.0858	0.2093		705.4812
Total	**21.6146**	**8.5076**	**27.3475**	**0.0652**	**5.1540**	**0.2603**	**5.4143**	**1.3663**	**0.2405**	**1.6068**		**5,821.1123**	**5,821.1123**	**0.4326**	**4.5500e-003**	**5,831.6057**

	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	N20	CO2e
Percent Reduction	**2.07**	**77.34**	**6.91**	**10.24**	**0.00**	**82.13**	**3.95**	**0.00**	**81.76**	**12.24**	**0.00**	**12.04**	**12.04**	**48.39**	**0.00**	**12.10**

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	1/1/2015	1/1/2015	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	162	0.38
Demolition	Rubber Tired Dozers	0	8.00	255	0.40

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	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2015

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	0.0000	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**

3.2 Demolition - 2015

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	0.0000	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 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	0.0000	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**

3.2 Demolition - 2015

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	0.0000	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**

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					
Unmitigated	1.7007	1.7204	25.2377	0.0573	5.1540	0.0306	5.1847	1.3663	0.0280	1.3943		4,871.8401	4,871.8401	0.2182		4,876.4224
Mitigated	1.7007	1.7204	25.2377	0.0573	5.1540	0.0306	5.1847	1.3663	0.0280	1.3943		4,871.8401	4,871.8401	0.2182		4,876.4224

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-Rail	576.20	576.20	576.20	2,469,430	2,469,430
Total	576.20	576.20	576.20	2,469,430	2,469,430

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

4.4 Fleet Mix

5.0 Energy Detail

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 Unmitigated	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
NaturalGas Mitigated	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001

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					
Unrefrigerated Warehouse-Rail	2108.77	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
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
Total		**0.0227**	**0.2067**	**0.1737**	**1.2400e-003**		**0.0157**	**0.0157**		**0.0157**	**0.0157**		**248.0903**	**248.0903**	**4.7600e-003**	**4.5500e-003**	**249.6001**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/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
Unrefrigerated Warehouse-Rail	2.10877	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
Total		**0.0227**	**0.2067**	**0.1737**	**1.2400e-003**		**0.0157**	**0.0157**		**0.0157**	**0.0157**		**248.0903**	**248.0903**	**4.7600e-003**	**4.5500e-003**	**249.6001**

6.0 Area Detail

6.1 Mitigation Measures Area

	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					
Unmitigated	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Mitigated	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020

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	2.8083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.6300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5900e-003	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Total	**19.4429**	**4.5000e-004**	**0.0464**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**		**0.1020**

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	2.8083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.6300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5900e-003	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Total	**19.4429**	**4.5000e-004**	**0.0464**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**		**0.1020**

7.0 Water Detail

7.1 Mitigation Measures Water

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
Tractors/Loaders/Backhoes	2	4.00	260	200	0.39	Diesel

UnMitigated/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
Equipment Type	lb/day										lb/day					
Tractors/Loaders/Backhoes	0.4483	6.5800	1.8897	6.6800e-003		0.2138	0.2138		0.1967	0.1967		701.0858	701.0858	0.2093		705.4812
Total	**0.4483**	**6.5800**	**1.8897**	**6.6800e-003**		**0.2138**	**0.2138**		**0.1967**	**0.1967**		**701.0858**	**701.0858**	**0.2093**		**705.4812**

10.0 Vegetation

Waterman Avenue (Passenger Cars Only)

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-Rail	430.00	1000sqft	9.87	430,000.00	0
Parking Lot	9.41	Acre	9.41	409,899.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2015
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	551.29	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Source: CPUC GHG Calculator version 3c, worksheet tab “CO2 Allocations,” cells AH/AQ 35-44.

Land Use - Information obtained from the applicant. Parking = gross site area - building area - landscape area... 854,788 sf - 430,000 sf - 14,700 sf = 410,088 sf = 9.41 acres

Construction Phase - no construction emissions modeled

Off-road Equipment - no construction emissions modeled

Vehicle Trips - passenger cars only. TR based on the Waterman TIA

Vechicle Emission Factors - passenger cars only

Vechicle Emission Factors - passenger cars only

Vechicle Emission Factors - passenger cars only

Energy Use - Title-24 Electricity Energy Intensity and Title-24 Natural Gas Energy Intensity were adjusted by 21.8% and 16.8% respectively, to reflect 2013 Title 24 requirements. Source: Impact Analysis California's 2013 Building Energy Efficiency Standards (CEC 2013)

Energy Mitigation -

Water Mitigation -

Operational Off-Road Equipment - based on CARB Cargo Handling Equipment Yard Truck Emission Testing Report. hours per day based on the Port of Long Beach Air Emissions Inventory (June 2008)

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblEnergyUse	T24E	0.45	0.35
tblEnergyUse	T24NG	2.11	1.76
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOperationalOffRoadEquipment	OperHorsePower	97.00	200.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperLoadFactor	0.37	0.39
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblProjectCharacteristics	CO2IntensityFactor	630.89	551.29
tblProjectCharacteristics	OperationalYear	2014	2015
tblVehicleEF	HHD	0.04	0.00

tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	LDA	0.47	1.00
tblVehicleEF	LDA	0.47	1.00
tblVehicleEF	LDA	0.47	1.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LDT2	0.17	0.00
tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	LHD2	9.1200e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MCY	4.8710e-003	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MH	2.9140e-003	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00

tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	OBUS	1.1190e-003	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	SBUS	7.2300e-004	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleEF	UBUS	1.3380e-003	0.00
tblVehicleTrips	ST_TR	1.63	1.34
tblVehicleTrips	SU_TR	1.63	1.34
tblVehicleTrips	WD_TR	1.63	1.34

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					
2015	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
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**	**0.0000**	**0.0000**

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					
2015	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
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**	**0.0000**	**0.0000**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Energy	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
Mobile	1.5818	1.8300	21.5836	0.0521	5.1540	0.0306	5.1847	1.3663	0.0280	1.3943		4,428.8274	4,428.8274	0.2182		4,433.4097
Offroad	0.4483	6.5800	1.8897	6.6800e-003		0.2138	0.2138		0.1967	0.1967		701.0858	701.0858	0.2093		705.4812
Total	**21.4957**	**8.6173**	**23.6934**	**0.0600**	**5.1540**	**0.2603**	**5.4143**	**1.3663**	**0.2405**	**1.6068**		**5,378.0996**	**5,378.0996**	**0.4326**	**4.5500e-003**	**5,388.5930**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Energy	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
Mobile	1.5818	1.8300	21.5836	0.0521	5.1540	0.0306	5.1847	1.3663	0.0280	1.3943		4,428.8274	4,428.8274	0.2182		4,433.4097
Offroad	0.4483	6.5800	1.8897	6.6800e-003		0.2138	0.2138		0.1967	0.1967		701.0858	701.0858	0.2093		705.4812
Total	**21.4957**	**8.6173**	**23.6934**	**0.0600**	**5.1540**	**0.2603**	**5.4143**	**1.3663**	**0.2405**	**1.6068**		**5,378.0996**	**5,378.0996**	**0.4326**	**4.5500e-003**	**5,388.5930**

	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	N20	CO2e
Percent Reduction	**2.09**	**76.36**	**7.98**	**11.14**	**0.00**	**82.13**	**3.95**	**0.00**	**81.76**	**12.24**	**0.00**	**13.04**	**13.04**	**48.39**	**0.00**	**13.09**

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	1/1/2015	1/1/2015	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	162	0.38
Demolition	Rubber Tired Dozers	0	8.00	255	0.40

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	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2015

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	0.0000	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**

3.2 Demolition - 2015

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	0.0000	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 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	0.0000	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**

3.2 Demolition - 2015

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	0.0000	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**

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					
Unmitigated	1.5818	1.8300	21.5836	0.0521	5.1540	0.0306	5.1847	1.3663	0.0280	1.3943		4,428.8274	4,428.8274	0.2182		4,433.4097
Mitigated	1.5818	1.8300	21.5836	0.0521	5.1540	0.0306	5.1847	1.3663	0.0280	1.3943		4,428.8274	4,428.8274	0.2182		4,433.4097

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-Rail	576.20	576.20	576.20	2,469,430	2,469,430
Total	576.20	576.20	576.20	2,469,430	2,469,430

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

4.4 Fleet Mix

5.0 Energy Detail

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 Unmitigated	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
NaturalGas Mitigated	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001

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					
Unrefrigerated Warehouse-Rail	2108.77	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
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
Total		**0.0227**	**0.2067**	**0.1737**	**1.2400e-003**		**0.0157**	**0.0157**		**0.0157**	**0.0157**		**248.0903**	**248.0903**	**4.7600e-003**	**4.5500e-003**	**249.6001**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Unrefrigerated Warehouse-Rail	2.10877	0.0227	0.2067	0.1737	1.2400e-003		0.0157	0.0157		0.0157	0.0157		248.0903	248.0903	4.7600e-003	4.5500e-003	249.6001
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
Total		**0.0227**	**0.2067**	**0.1737**	**1.2400e-003**		**0.0157**	**0.0157**		**0.0157**	**0.0157**		**248.0903**	**248.0903**	**4.7600e-003**	**4.5500e-003**	**249.6001**

6.0 Area Detail

6.1 Mitigation Measures Area

	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					
Unmitigated	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Mitigated	19.4429	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020

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	2.8083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.6300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5900e-003	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Total	**19.4429**	**4.5000e-004**	**0.0464**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**		**0.1020**

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	2.8083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.6300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5900e-003	4.5000e-004	0.0464	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0962	0.0962	2.8000e-004		0.1020
Total	**19.4429**	**4.5000e-004**	**0.0464**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.0962**	**0.0962**	**2.8000e-004**		**0.1020**

7.0 Water Detail

7.1 Mitigation Measures Water

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
Tractors/Loaders/Backhoes	2	4.00	260	200	0.39	Diesel

UnMitigated/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
Equipment Type	lb/day										lb/day					
Tractors/Loaders/Backhoes	0.4483	6.5800	1.8897	6.6800e-003		0.2138	0.2138		0.1967	0.1967		701.0858	701.0858	0.2093		705.4812
Total	**0.4483**	**6.5800**	**1.8897**	**6.6800e-003**		**0.2138**	**0.2138**		**0.1967**	**0.1967**		**701.0858**	**701.0858**	**0.2093**		**705.4812**

10.0 Vegetation

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APPENDIX 3.2:

STATE/FEDERAL ATTAINMENT STATUS OF CRITERIA POLLUTANTS

2013
Area Designations for State Ambient Air Quality Standards
OZONE

Source Date:
June 2013
Air Quality Planning Branch, AQPSD

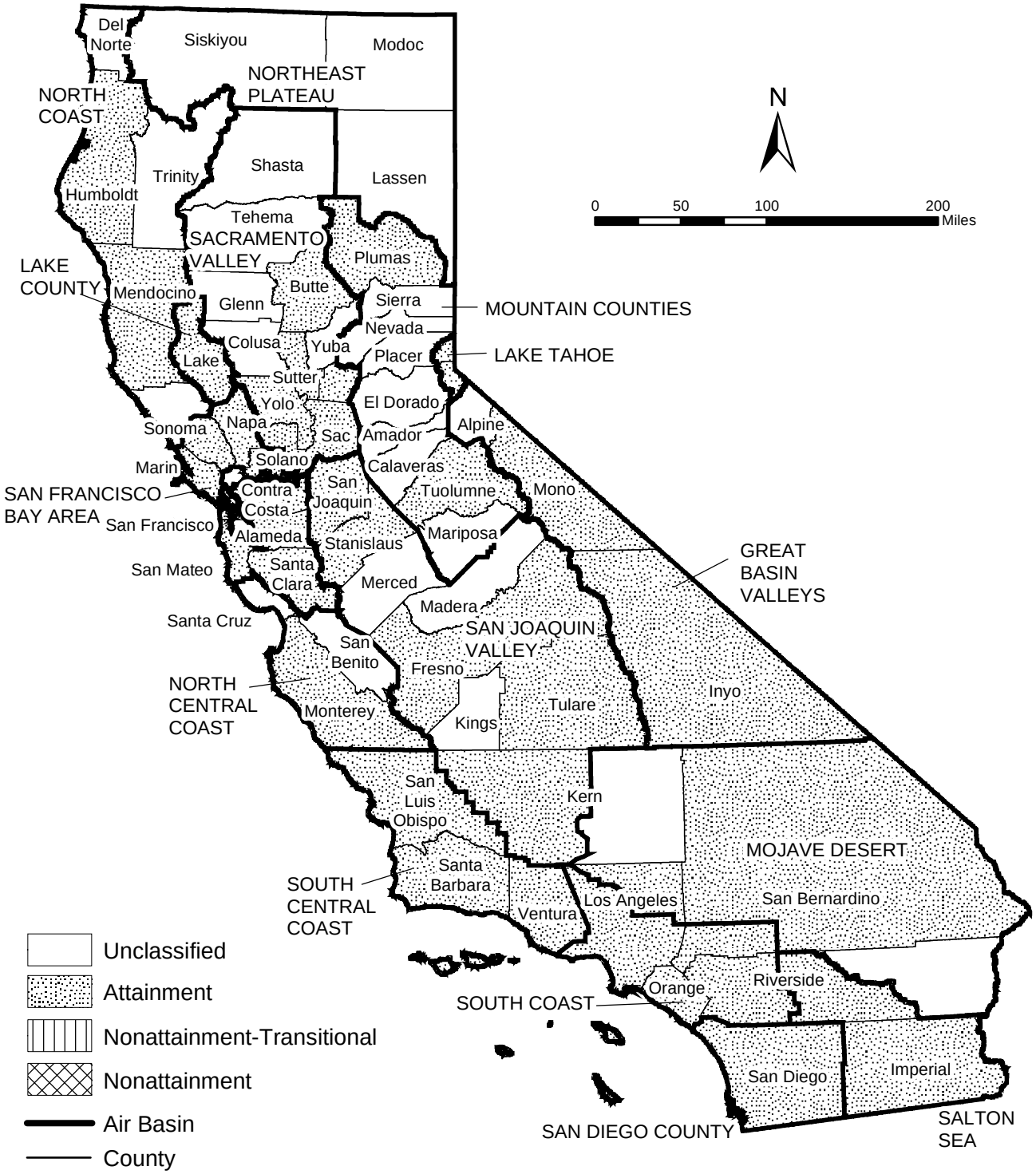
2013
Area Designations for State Ambient Air Quality Standards
PM10

Source Date:
June 2013
Air Quality Planning Branch, AQPSD

2013
Area Designations for State Ambient Air Quality Standards
PM2.5

Source Date:
June 2013
Air Quality Planning Branch, AQPSD

2013
Area Designations for State Ambient Air Quality Standards
CARBON MONOXIDE



Source Date:
June 2013
Air Quality Planning Branch, AQPSD

2013
Area Designations for State Ambient Air Quality Standards
NITROGEN DIOXIDE

Source Date:
June 2013
Air Quality Planning Branch, AQPSD

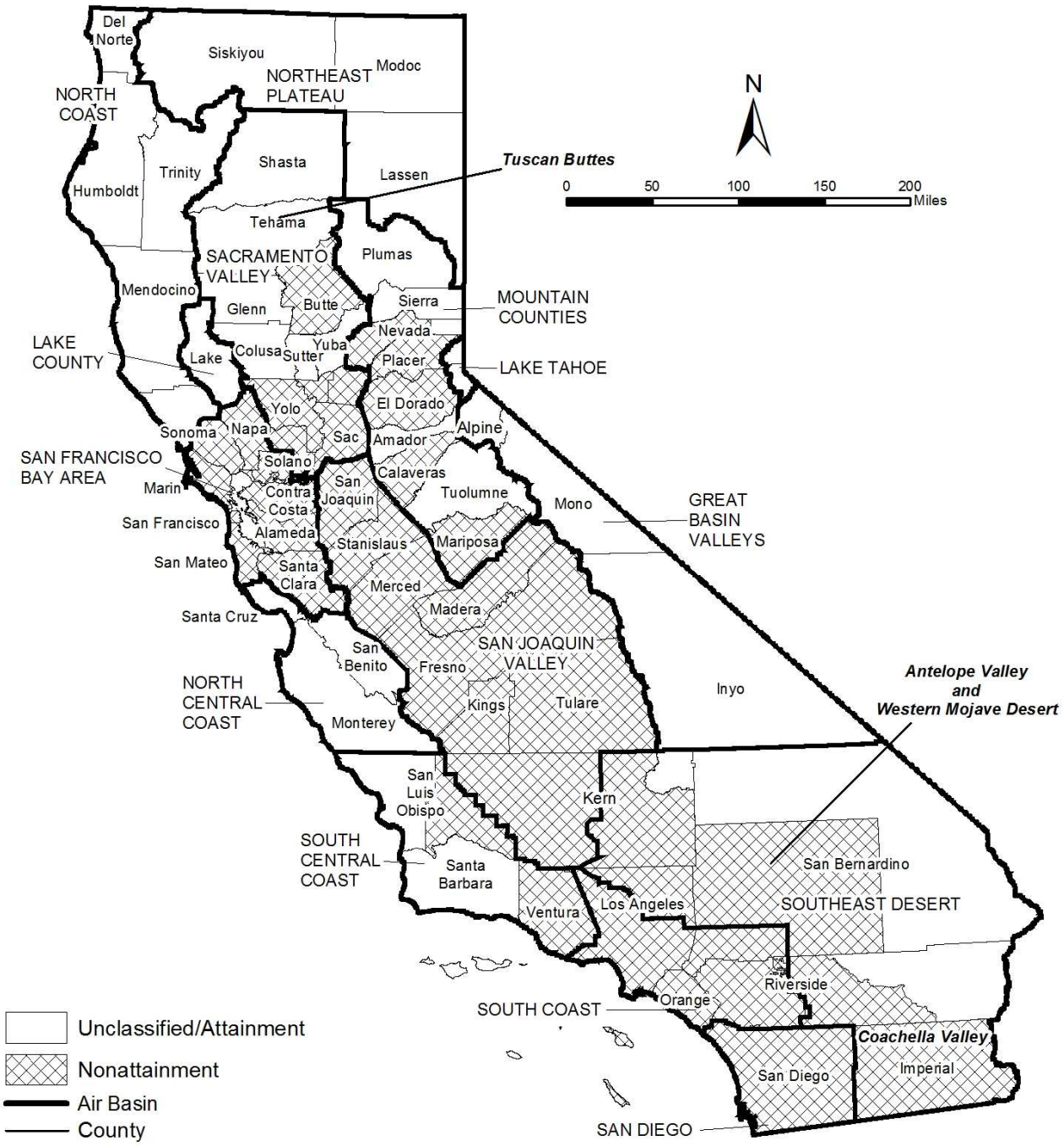
2013
Area Designations for State Ambient Air Quality Standards
SULFUR DIOXIDE

Source Date:
June 2013
Air Quality Planning Branch, AQPSD

2013
Area Designations for State Ambient Air Quality Standards
LEAD

Source Date:
June 2013
Air Quality Planning Branch, AQPSD

Area Designations for National Ambient Air Quality Standards 8-HOUR OZONE



Source Date:
June 2013
Air Quality Planning Branch, AQPSD

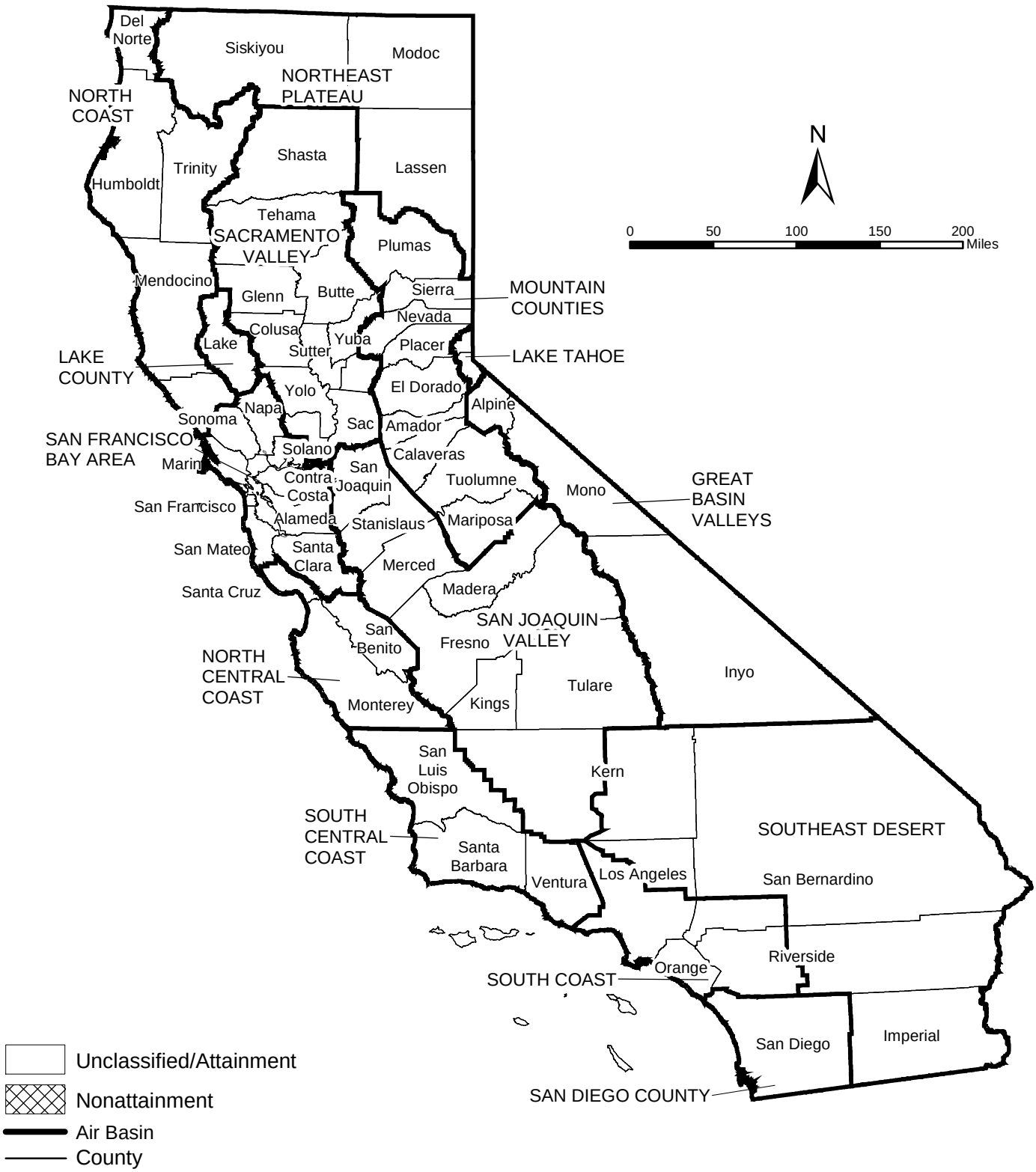
Area Designations for National Ambient Air Quality Standards PM10

Source Date:
September 2013
Air Quality Planning Branch, AQPSD

Area Designations for National Ambient Air Quality Standards PM2.5

Source Date:
June 2013
Air Quality Planning Branch, AQPSD

Area Designations for National Ambient Air Quality Standards CARBON MONOXIDE

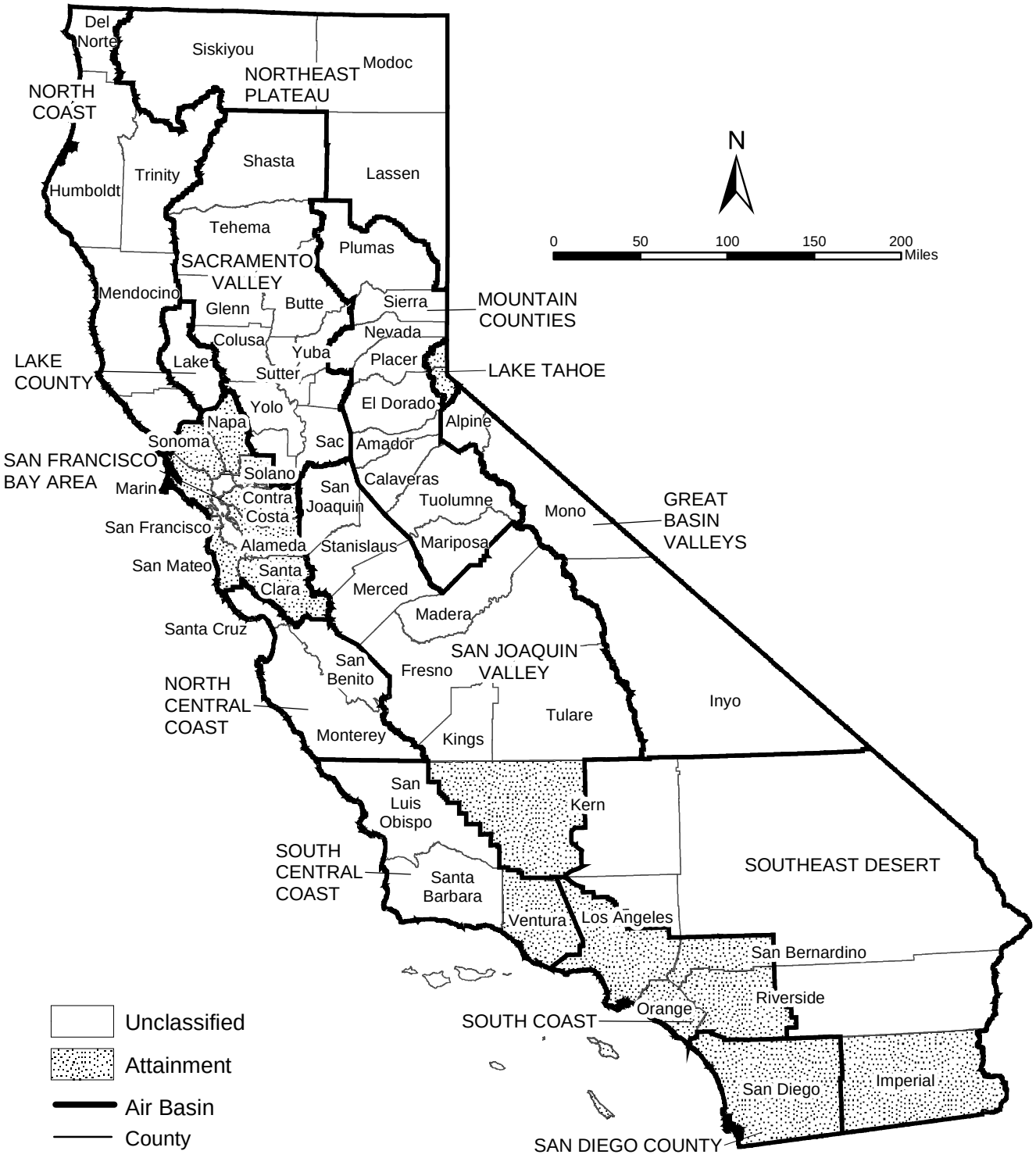


Source Date:
June 2013
Air Quality Planning Branch, AQPSD

Area Designations for National Ambient Air Quality Standards
NITROGEN DIOXIDE

Source Date:
June 2013
Air Quality Planning Branch, AQPSD

Area Designations for National Ambient Air Quality Standards
SULFUR DIOXIDE



Source Date:
June 2013
Air Quality Planning Branch, AQPSD

Area Designations for National Ambient Air Quality Standards LEAD

Source Date:
June 2013
Air Quality Planning Branch, AQPSD

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APPENDIX 3.3

SCREEN3 INPUTS/OUTPUTS

SCREEN3 INPUTS/OUTPUTS

(SITE PREPARATION)

Site Preparation Unmitigated

NO_2[1]

Downwind Distance	NO_2/NO_X Ratio	SCREEN3 OP	NO_2 Concentration (ug/m3)	NO_2 Concentration (ppm)
20	0.05	279.700	14.82	0.0079
50	0.06	379.800	22.41	0.0119
70	0.06	439.200	28.11	0.0150
100	0.07	500.400	37.03	0.0197
200	0.11	295.800	33.72	0.0180
500	0.26	92.880	23.96	0.0128
1000	0.47	33.890	15.83	0.0084
2000	0.75	12.640	9.48	0.0050
3000	0.90	7.350	6.62	0.0035
4000	0.98	5.094	4.98	0.0027
5000	1.00	3.863	3.86	0.0021

CO

Pounds Per day	Grams Per day	Grams Per Second	Meters squared (area)
68.85	31228.474	1.08432201	12,140.569

Screen 3 Output
6.78E+06

FINAL Concentration
6.05E+02

0.526 ppm (1-hour)
0.381 ppm (8-hour)

PM_{10}

Pounds Per day	Grams Per day	Grams Per Second	Meters squared (area)
14.33	6499.9787	0.2257	12,140.569

Screen 3 Output
1.32E+07

FINAL Concentration
2.46E+02

PM10 Calculation

$Cx = 0.9403\ C_o\ e^{-0.0462\ x}$

C_o[2]	3.69E+01
e	0.3150575
x (meters)	25
C_x	10.92

Total PM_{10}: 1.09E+01

$PM_{2.5}$

Pounds Per day	Grams Per day	Grams Per Second	Meters squared (area)
9.7	4399.846	0.1528	12,140.569

Screen 3 Output
1.32E+07

FINAL Concentration
1.66E+02

PM2.5 Calculation

$Cx = 0.9403\ C_o\ e^{-0.0462\ x}$

C_o[2]	2.50E+01
e	0.3150575
x (meters)	25
C_x	7.39

Total $PM_{2.5}$: 7.39E+00

[1] Per SCAQMD LST Handbook (Table 2-4) NO_x to NO_2 conversion factor
[2] Conversion factor of 0.15 applied to convert from one-hour max to 24-hour average for area sources (http://www.colorado.gov/airquality/permits/screen.pdf)

Site Preparation Unmitigated

NO_2[1]

Downwind Distance	NO_2/NO_X Ratio	SCREEN3 OP	NO_2 Concentration (ug/m3)	NO_2 Concentration (ppm)
20	0.05	141.100	7.48	0.0040
50	0.06	191.500	11.30	0.0060
70	0.06	221.500	14.18	0.0075
100	0.07	252.300	18.67	0.0099
200	0.11	149.200	17.01	0.0091
500	0.26	46.840	12.08	0.0064
1000	0.47	17.090	7.98	0.0043
2000	0.75	6.376	4.78	0.0025
3000	0.90	3.707	3.34	0.0018
4000	0.98	2.569	2.51	0.0013
5000	1.00	1.948	1.95	0.0010

CO

Pounds Per day	Grams Per day	Grams Per Second	Meters squared (area)
45.96	20848.285	0.72389877	12,140.569

Screen 3 Output
6.78E+06

FINAL Concentration
4.04E+02

0.351 ppm (1-hour)
0.255 ppm (8-hour)

PM_{10}

Pounds Per day	Grams Per day	Grams Per Second	Meters squared (area)
11.8072	5355.6558	0.1860	12,140.569

Screen 3 Output
1.32E+07

FINAL Concentration
2.02E+02

PM10 Calculation

$Cx = 0.9403\ C_o\ e^{-0.0462\ x}$

C_o[2]	3.04E+01
e	0.3150575
x (meters)	25
C_x	9.00

Total PM_{10}: 9.00E+00

$PM_{2.5}$

Pounds Per day	Grams Per day	Grams Per Second	Meters squared (area)
7.4732	3389.7865	0.1177	12,140.569

Screen 3 Output
1.32E+07

FINAL Concentration
1.28E+02

PM2.5 Calculation

$Cx = 0.9403\ C_o\ e^{-0.0462\ x}$

C_o[2]	1.92E+01
e	0.3150575
x (meters)	25
C_x	5.70

Total $PM_{2.5}$: 5.70E+00

[1] Per SCAQMD LST Handbook (Table 2-4) NO_x to NO_2 conversion factor
[2] Conversion factor of 0.15 applied to convert from one-hour max to 24-hour average for area sources (http://www.colorado.gov/airquality/permits/screen.pdf)

07/24/14

15:31:33
*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Waterman Construction LST Analysis - CO

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	AREA
EMISSION RATE (G/(S-M**2))	=	1.00000
SOURCE HEIGHT (M)	=	5.0000
LENGTH OF LARGER SIDE (M)	=	110.1842
LENGTH OF SMALLER SIDE (M)	=	110.1842
RECEPTOR HEIGHT (M)	=	2.0000
URBAN/RURAL OPTION	=	URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION

BUOY. FLUX = 0.000 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN DISCRETE DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
25.	0.6775E+07	5	1.0	1.0	10000.0	5.00	45.

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	0.6775E+07	25.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

07/24/14

15:35:13
*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Waterman Construction LST Analysis - NO2 Unmitigated

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	AREA
EMISSION RATE (G/(S-M**2))	=	0.438249E-04
SOURCE HEIGHT (M)	=	5.0000
LENGTH OF LARGER SIDE (M)	=	110.1842
LENGTH OF SMALLER SIDE (M)	=	110.1842
RECEPTOR HEIGHT (M)	=	2.0000
URBAN/RURAL OPTION	=	URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION

BUOY. FLUX = 0.000 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN DISCRETE DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
20.	279.7	5	1.0	1.0	10000.0	5.00	45.
50.	379.8	5	1.0	1.0	10000.0	5.00	45.
70.	439.2	5	1.0	1.0	10000.0	5.00	45.
100.	500.4	5	1.0	1.0	10000.0	5.00	45.
200.	295.8	5	1.0	1.0	10000.0	5.00	45.
500.	92.88	5	1.0	1.0	10000.0	5.00	43.
1000.	33.89	5	1.0	1.0	10000.0	5.00	45.
2000.	12.64	5	1.0	1.0	10000.0	5.00	45.
3000.	7.350	5	1.0	1.0	10000.0	5.00	37.
4000.	5.094	5	1.0	1.0	10000.0	5.00	1.
5000.	3.863	5	1.0	1.0	10000.0	5.00	14.

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION	MAX CONC	DIST TO	TERRAIN

PROCEDURE	(UG/M**3)	MAX (M)	HT (M)
SIMPLE TERRAIN	500.4	100.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

07/24/14

15:33:24
*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Waterman Construction LST Analysis - PM10/PM2.5

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	AREA
EMISSION RATE (G/(S-M**2))	=	1.00000
SOURCE HEIGHT (M)	=	1.0000
LENGTH OF LARGER SIDE (M)	=	110.1842
LENGTH OF SMALLER SIDE (M)	=	110.1842
RECEPTOR HEIGHT (M)	=	2.0000
URBAN/RURAL OPTION	=	URBAN

THE NON-REGULATORY BUT CONSERVATIVE BRODE 2 MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION

BUOY. FLUX = 0.000 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN DISCRETE DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
1.	0.1322E+08	6	1.0	1.0	10000.0	1.00	45.

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	0.1322E+08	1.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

07/24/14

15:38:21
*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Waterman Construction LST Analysis - NO2 Mitigated

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	AREA
EMISSION RATE (G/(S-M**2))	=	0.221009E-04
SOURCE HEIGHT (M)	=	5.0000
LENGTH OF LARGER SIDE (M)	=	110.1842
LENGTH OF SMALLER SIDE (M)	=	110.1842
RECEPTOR HEIGHT (M)	=	2.0000
URBAN/RURAL OPTION	=	URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION

BUOY. FLUX = 0.000 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN DISCRETE DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
20.	141.1	5	1.0	1.0	10000.0	5.00	45.
50.	191.5	5	1.0	1.0	10000.0	5.00	45.
70.	221.5	5	1.0	1.0	10000.0	5.00	45.
100.	252.3	5	1.0	1.0	10000.0	5.00	45.
200.	149.2	5	1.0	1.0	10000.0	5.00	45.
500.	46.84	5	1.0	1.0	10000.0	5.00	43.
1000.	17.09	5	1.0	1.0	10000.0	5.00	45.
2000.	6.376	5	1.0	1.0	10000.0	5.00	45.
3000.	3.707	5	1.0	1.0	10000.0	5.00	37.
4000.	2.569	5	1.0	1.0	10000.0	5.00	1.
5000.	1.948	5	1.0	1.0	10000.0	5.00	14.

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION	MAX CONC	DIST TO	TERRAIN

PROCEDURE	(UG/M**3)	MAX (M)	HT (M)
SIMPLE TERRAIN	252.3	100.	0.

```
**************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**************************************************
```

SCREEN3 INPUTS/OUTPUTS

(GRADING)

Grading Unmitigated

NO_2[1]

Downwind Distance	NO_2/NO_x Ratio	SCREEN3 OP	NO_2 Concentration (ug/m3)	NO_2 Concentration (ppm)
20	0.05	314.100	16.65	0.0089
50	0.06	362.700	21.40	0.0114
70	0.06	391.600	25.06	0.0133
100	0.07	430.900	31.89	0.0170
200	0.11	433.700	49.44	0.0263
500	0.26	157.000	40.51	0.0216
1000	0.47	66.410	31.01	0.0165
2000	0.75	26.560	19.92	0.0106
3000	0.90	15.720	14.15	0.0075
4000	0.98	10.970	10.73	0.0057
5000	1.00	8.359	8.36	0.0045

CO

Pounds Per day	Grams Per day	Grams Per Second	Meters squared (area)
129.13	58572.383	2.03376329	40,468.564

Screen 3 Output
1.12E+07

FINAL Concentration
5.64E+02

0.490 ppm (1-hour)
0.355 ppm (8-hour)

PM_{10}

Pounds Per day	Grams Per day	Grams Per Second	Meters squared (area)
26.49	12015.662	0.4172	40,468.564

Screen 3 Output
1.94E+07

FINAL Concentration
2.00E+02

PM10 Calculation

$Cx = 0.9403\ C_o\ e^{-0.0462\ x}$

C_o[2]	3.00E+01
e	0.3150575
x (meters)	25
C_x	8.90

Total PM_{10}: 8.90E+00

$PM_{2.5}$

Pounds Per day	Grams Per day	Grams Per Second	Meters squared (area)
16.47	7470.6663	0.2594	40,468.564

Screen 3 Output
1.94E+07

FINAL Concentration
1.24E+02

PM2.5 Calculation

$Cx = 0.9403\ C_o\ e^{-0.0462\ x}$

C_o[2]	1.87E+01
e	0.3150575
x (meters)	25
C_x	5.53

Total $PM_{2.5}$: 5.53E+00

[1] Per SCAQMD LST Handbook (Table 2-4) NO_x to NO_2 conversion factor
[2] Conversion factor of 0.15 applied to convert from one-hour max to 24-hour average for area sources (http://www.colorado.gov/airquality/permits/screen.pdf)

Grading Mitigated

NO_2[1]

Downwind Distance	NO_2/NO_X Ratio	SCREEN3 OP	NO_2 Concentration (ug/m3)	NO_2 Concentration (ppm)
20	0.05	138.700	7.35	0.0039
50	0.06	160.100	9.45	0.0050
70	0.06	172.900	11.07	0.0059
100	0.07	190.200	14.07	0.0075
200	0.11	191.400	21.82	0.0116
500	0.26	69.300	17.88	0.0095
1000	0.47	29.320	13.69	0.0073
2000	0.75	11.730	8.80	0.0047
3000	0.90	6.940	6.25	0.0033
4000	0.98	4.842	4.74	0.0025
5000	1.00	3.690	3.69	0.0020

CO

Pounds Per day	Grams Per day	Grams Per Second	Meters squared (area)
94.02	42646.755	1.48079009	40,468.564

Screen 3 Output
1.12E+07

FINAL Concentration
4.11E+02

0.357 ppm (1-hour)
0.259 ppm (8-hour)

PM_{10}

Pounds Per day	Grams Per day	Grams Per Second	Meters squared (area)
10.64	4826.2228	0.1676	40,468.564

Screen 3 Output
1.94E+07

FINAL Concentration
8.04E+01

PM10 Calculation

$Cx = 0.9403\ C_o\ e^{-0.0462\ x}$

C_o[2]	1.21E+01
e	0.3150575
x (meters)	25
C_x	3.57

Total PM_{10}: 3.57

$PM_{2.5}$

Pounds Per day	Grams Per day	Grams Per Second	Meters squared (area)
6.91	3134.3233	0.1088	40,468.564

Screen 3 Output
1.94E+07

FINAL Concentration
5.22E+01

PM2.5 Calculation

$Cx = 0.9403\ C_o\ e^{-0.0462\ x}$

C_o[2]	7.83E+00
e	0.3150575
x (meters)	25
C_x	2.32

Total $PM_{2.5}$: 2.32

[1] Per SCAQMD LST Handbook (Table 2-4) NO_x to NO_2 conversion factor
[2] Conversion factor of 0.15 applied to convert from one-hour max to 24-hour average for area sources (http://www.colorado.gov/airquality/permits/screen.pdf)

09/15/14

15:21:30
*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Waterman Construction LST Analysis - CO

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	AREA
EMISSION RATE (G/(S-M**2))	=	1.00000
SOURCE HEIGHT (M)	=	5.0000
LENGTH OF LARGER SIDE (M)	=	201.1680
LENGTH OF SMALLER SIDE (M)	=	201.1680
RECEPTOR HEIGHT (M)	=	2.0000
URBAN/RURAL OPTION	=	URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION

BUOY. FLUX = 0.000 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN DISCRETE DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
25.	0.1122E+08	5	1.0	1.0	10000.0	5.00	45.

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	0.1122E+08	25.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

09/15/14

15:23:40
*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Waterman Construction LST Analysis - NO2 Unmitigated

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	AREA
EMISSION RATE (G/(S-M**2))	=	0.287711E-04
SOURCE HEIGHT (M)	=	5.0000
LENGTH OF LARGER SIDE (M)	=	201.1680
LENGTH OF SMALLER SIDE (M)	=	201.1680
RECEPTOR HEIGHT (M)	=	2.0000
URBAN/RURAL OPTION	=	URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION

BUOY. FLUX = 0.000 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN DISCRETE DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
20.	314.1	5	1.0	1.0	10000.0	5.00	45.
50.	362.7	5	1.0	1.0	10000.0	5.00	45.
70.	391.6	5	1.0	1.0	10000.0	5.00	45.
100.	430.9	5	1.0	1.0	10000.0	5.00	45.
200.	433.7	5	1.0	1.0	10000.0	5.00	45.
500.	157.0	5	1.0	1.0	10000.0	5.00	45.
1000.	66.41	5	1.0	1.0	10000.0	5.00	44.
2000.	26.56	5	1.0	1.0	10000.0	5.00	38.
3000.	15.72	5	1.0	1.0	10000.0	5.00	44.
4000.	10.97	5	1.0	1.0	10000.0	5.00	27.
5000.	8.359	5	1.0	1.0	10000.0	5.00	38.

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION	MAX CONC	DIST TO	TERRAIN

PROCEDURE	(UG/M**3)	MAX (M)	HT (M)
SIMPLE TERRAIN	433.7	200.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

09/15/14

15:22:32
*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Waterman Construction LST Analysis - PM10/PM2.5

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	AREA
EMISSION RATE (G/(S-M**2))	=	1.00000
SOURCE HEIGHT (M)	=	1.0000
LENGTH OF LARGER SIDE (M)	=	201.1680
LENGTH OF SMALLER SIDE (M)	=	201.1680
RECEPTOR HEIGHT (M)	=	2.0000
URBAN/RURAL OPTION	=	URBAN

THE NON-REGULATORY BUT CONSERVATIVE BRODE 2 MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION

BUOY. FLUX = 0.000 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN DISCRETE DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
1.	0.1942E+08	6	1.0	1.0	10000.0	1.00	45.

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	0.1942E+08	1.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

09/15/14

15:25:42
*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Waterman Construction LST Analysis - NO2 Mitigated

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	AREA
EMISSION RATE (G/(S-M**2))	=	0.127000E-04
SOURCE HEIGHT (M)	=	5.0000
LENGTH OF LARGER SIDE (M)	=	201.1680
LENGTH OF SMALLER SIDE (M)	=	201.1680
RECEPTOR HEIGHT (M)	=	2.0000
URBAN/RURAL OPTION	=	URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION

BUOY. FLUX = 0.000 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN DISCRETE DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
20.	138.7	5	1.0	1.0	10000.0	5.00	45.
50.	160.1	5	1.0	1.0	10000.0	5.00	45.
70.	172.9	5	1.0	1.0	10000.0	5.00	45.
100.	190.2	5	1.0	1.0	10000.0	5.00	45.
200.	191.4	5	1.0	1.0	10000.0	5.00	45.
500.	69.30	5	1.0	1.0	10000.0	5.00	45.
1000.	29.32	5	1.0	1.0	10000.0	5.00	44.
2000.	11.73	5	1.0	1.0	10000.0	5.00	38.
3000.	6.940	5	1.0	1.0	10000.0	5.00	44.
4000.	4.842	5	1.0	1.0	10000.0	5.00	27.
5000.	3.690	5	1.0	1.0	10000.0	5.00	38.

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION MAX CONC DIST TO TERRAIN

PROCEDURE	(UG/M**3)	MAX (M)	HT (M)
SIMPLE TERRAIN	191.4	200.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****